

LOUISIANA STATE UNIVERSITY

# COMPREHENSIVE & STRATEGIC CAMPUS MASTER PLAN

OCTOBER 2017

LSU



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# COMPREHENSIVE & STRATEGIC CAMPUS MASTER PLAN

OCTOBER 2017

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Sherwood Engineers - Stormwater Management

Sightlines - Buildings Portfolio Solution

Brailsford & Dunlavey - Dining Framework

NBBJ - Wayfinding and Signage

Affiliated Engineers - Utilities Planning



## FOREWORD



LSU is Louisiana's flagship university, tasked with carrying out a three-pronged mission of excellence in research, education, and outreach. Counted among the nation's elite 1% of universities holding the triple-designation of land-, sea-, and space-grant institution, LSU leads the charge toward solving some of the biggest challenges facing the state, the nation, and the world.

In keeping with the university's focus on leadership and excellence, LSU embarked on the Comprehensive and Strategic Campus Master Plan process in January 2016. Designed to guide physical development on campus over the next decade and beyond, and aligned with LSU's strategic plan, it will provide a practical and flexible physical framework and serve as a blueprint to advance the university's goals. In addition, the creation of an implementation and governance document to accompany this plan will greatly enhance future planning, development, and investment efforts.

Having engaged a broad cross-section of university and community stakeholders in more than 120 engagement sessions during a two-year process, the Master Plan represents the needs and aspirations of the university community. Several key principles emerged from

this inclusive and transparent process that will guide our future development.

Special thanks go to LSU students, faculty, and staff; our neighbors and community organizations; and partners across Louisiana who contributed both time and expertise toward creating LSU's Comprehensive and Strategic Campus Master Plan.

As a university stakeholder, I hope you are as excited about the future of this university as I am, and that you see the invaluable step this Master Plan represents in our continued trajectory of excellence.

Thank you for supporting LSU, and Geaux Tigers!

Sincerely,

F. King Alexander  
LSU President

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# 1.0 EXECUTIVE SUMMARY

## EXECUTIVE SUMMARY

Louisiana State University (“LSU”) is the Flagship University for Louisiana, supporting land, sea and space grant research. LSU’s mission is to ready students to meet the environmental, social, economic, scientific and educational challenges locally and globally.

The purpose of this planning effort was development of a Comprehensive and Strategic Campus Master Plan (“Master Plan”) for LSU. The Master Plan effort is concentrated on LSU’s main campus in Baton Rouge which consists of approximately 1,200 acres with 13 million square feet in over 500 buildings serving over 30,000 students.

Building upon the physical framework established during the last campus-wide master planning effort in 2003, the Master Plan took into consideration the many new developments, district level studies, and various planning efforts that have occurred since its conception. A primary goal was to identify the drivers of the academic, research and community outreach mission that are projected to change in the future and identify their impact on the facilities and infrastructure. In addition, the Master Plan considers the ways in which recent changes within higher education, as they relate to pedagogies, technology, and funding models, will impact the institution in the future.

The Master Plan is the result of more than 100 meetings with multiple internal and external stakeholders and exhaustive research on university needs, planning studies and higher education trends, and this is the basis on which aspirations for the campus are built. Early engagement exercises were conducted through multiple meetings with many internal and external stakeholders that led to the development of the Vision Statement and the following guiding principles of the Master Plan.

### MASTER PLAN VISION STATEMENT

*Respecting the culture, heritage and diversity of Louisiana State University, this Comprehensive and Strategic Campus Master Plan will provide a practical and flexible framework that sustainably guides and integrates development and capital investment on the campus and in the community over the next decade and beyond. The Master Plan will support LSU’s Flagship designation and will reinforce its status as a high performance, contemporary, research and living/learning environment....the Flagship of Flagship Universities.*

### MASTER PLAN GUIDING PRINCIPLES

#### Connect Campus and Community

- Seek partnership opportunities
- Enhance physical and programmatic campus connections to community
- Integrate campus and city edges to create seamless transitions
- Design surface parking to connect urban fabric with the campus

#### Celebrate Distinct LSU Campus and Context

- Integrate the historic fabric while designing for the future
- Respect the lowland and celebrate the bluff
- Celebrate the iconic landscape
- Utilize a diverse palette of plants that is responsive to underlying site characteristics of topography, hydrology, soil, and exposure
- Reflect the efficiency and economy of the historic character of architectural & landscape.
- Preserve LSU history and the culture of Athletics

#### Support High Performance Academic and Research

- Renovate interior academic and research space to support contemporary pedagogies
- Provide facilities that support diverse research needs

- Enhance visibility of academic programs
- Provide formal and informal spaces that inspire learning

#### **Enhance Student Life**

- Provide open spaces that accommodate flexible uses at a variety of scales.
- Create places for engagement, interaction, and student life
- Design welcoming and safe spaces
- Prioritize pedestrian movement through a safe, accessible network with a clear circulation hierarchy

#### **Promote Environmental Stewardship**

- Use resources responsibly
- Encourage sustainable travel modes as alternative to driving
- Maximize shade through arcades and tree canopy
- Integrate natural systems throughout campus by strategically incorporating landscape infrastructure
- Emphasize densification and rehabilitation over expansion and growth

Initial assumptions, necessary for planning exercise, to determine future student enrollment, space needs, program growth, as well as operational and service demands, were conceived and refined as the Strategic Plan development for LSU moved forward to inform, affirm, clarify or correct those assumptions based on the strategic direction of the institution and trends in higher education.

The Master Plan recommends strategies for enhancing existing campus facilities and infrastructure, augmenting campus outdoor

environments, and proposes new development to accommodate existing needs and future needs to accommodate the projected on-campus student enrollment of 35,565 along with an additional 235 faculty.

The Master Plan recommends a growth of about one million square feet of academic support space, which is primarily office, research, and administrative space required for right-sizing the existing academic space and to accommodate projected enrollment growth. The one million of academic support space represents the amount of square footage that the campus has capacity for and that the master plan identifies as potential long-term growth, if it occurs. Regardless of the extent to which on-campus enrollment grows at LSU, an additional two million square feet of mainly one story buildings that are in poor condition are being recommended to be replaced in the future.

The Master Plan recommended strategies are provided within a practical and flexible framework that sustainably guides and integrates development and capital investment on the campus over the next decade and beyond.



CAMPUS MASTER PLAN VISION





# 2.0 INTRODUCTION

## BACKGROUND

The 2017 Comprehensive and Strategic Campus Master Plan is developed taking into consideration the various past planning efforts, the many new developments, and district level studies since 2003. Significant investments have been made on the LSU campus over the last 14 years – going back to the 2003 Master Plan, which has provided guidance for development on the LSU campus since its creation. About \$1.4 billion have been invested in capital improvements over the past 14 years with approximately \$800 million already intended to be invested over just the next four years.

Additionally, space on the LSU campus has increased by 23 % in the past 14 years, with growth of an additional 11% already anticipated in the next four years. This growth rate exceeds what was anticipated in 2003, with most of the growth attributable to auxiliary functions.

The 2003 Master Plan was followed by several detailed district level planning efforts, approved by the LSU Board of Supervisors, as well as several other planning endeavors and studies. The most significant of these planning efforts are:

- Residential Life Master Plan 2003
- Easy Streets Phase I District Master Plan 2006
- LSU AgCenter Central Research Station Master Plan 2007
- Parking and Traffic Plan 2008
- Research and Technology District Master Plan 2008
- Veterinary Medicine District Master Plan 2008
- Way-finding Master Plan & Guidelines 2009
- Easy Streets Phase II District Master Plan 2009
- Bike Master Plan 2009
- Burden / Rural Life District Master Plan 2009
- South Campus (Innovation Park) Master Plan 2009
- Hill Farm District Master Plan 2011
- UREC Project (South Campus Drive) 2012
- UREC Project (Gourrier Lane) 2012
- Nicholson Development District Master Plan 2013
- College of Engineering Master Plan & Program Update 2013
- Easy Street Phase III District Master Plan 2014
- Campus Edge Definition and Gateway Master Plan 2014
- Nicholson Development Master Plan Addendum 2014
- College of Human Sciences & Education (Huey P. Long) Program Update 2015
- Housing Master Plan Update\* 2014
- Dining Study\* 2015
- Parking Plan Update\* 2015
- Space Assessment & Utilization Study\* 2016
- Infrastructure/Utility Assessment\* 2016
- College of Science Plan\* 2016
- Return on Physical Assets (ROPA) - 2016
- *\*Master Plan Component Studies*

The intent of the 2017 Master Plan is to not only provide a more in-depth update to the plan, but to also develop a Comprehensive and Strategic Plan as to how the campus should be developed, inclusive of parking and infrastructure support, as buildings are constructed. The phased development plan provides a more Comprehensive and Strategic Plan that not only provides direction for future development to meet campus needs, but also develops a strategic, prioritized plan that directly relates to the annual campus Capital Outlay Request.

## PROCESS

LSU, in partnership with planning firm NBBJ, embarked on developing the Master Plan in October 2015. Spanning nearly two years, the master planning process was designed around three primary phases: Discovery (data collection, visioning, needs, analysis), Concepts Development (big picture strategies, master plan options) and Final Plan Development (strategic capital plan, finalize master plan, deliverables). As seen in the campus Master Plan organizational structure diagram, the process involved development and engagement with numerous committees made up of LSU campus stakeholders, both internal and external. The process was also designed to provide opportunities for the broader campus community and public to be engaged throughout the process. Campus community and public engagement opportunities included:

- On-campus open forums and presentations
- Online surveys
- Interactive project website: <https://masterplanLSU.com>

In preparation for the master planning process, an Executive Oversight Committee for this master planning effort began meeting in July 2014 with a Working Group, comprised of campus representatives, and a Support and Facilitation committee, comprised of Facility and Property Oversight staff, being formed shortly thereafter. Additionally, the Facility and Property Oversight staff examined funding opportunities and challenges and contacted peer institutions that recently completed master plans to discuss their experiences and the important takeaways and lessons learned during their process, which in turn generated the goals driving the master planning process.

The EOC adopted the following in preparation for the master planning process:

The process for developing the Master Plan would be

- Mission-driven
- Comprehensive and strategic in focus
- Transparent
- Well-communicated to the campus community and stakeholders
- Inclusive of internal and external stakeholders
- Thorough, but expeditious

The final Master Plan recommendations that result from this process would be

- Supportive of the overall University mission and vision
- Comprehensive and strategic in focus
- Pragmatic and attainable, but with a limited number of stretch priorities for the University
- Mindful of the limited resources available (including financial, human, space, and property)
- Structured to provide sufficient guidelines and parameters for setting capital priorities in the future, but flexible enough to allow the University to take advantage of potential opportunities not contemplated in the Master Plan that may arise in the future
- Cognizant of the need for integration of sustainability into the planning process and the impact of campus development on the environmental footprint of the university

**12+** On Campus Visits

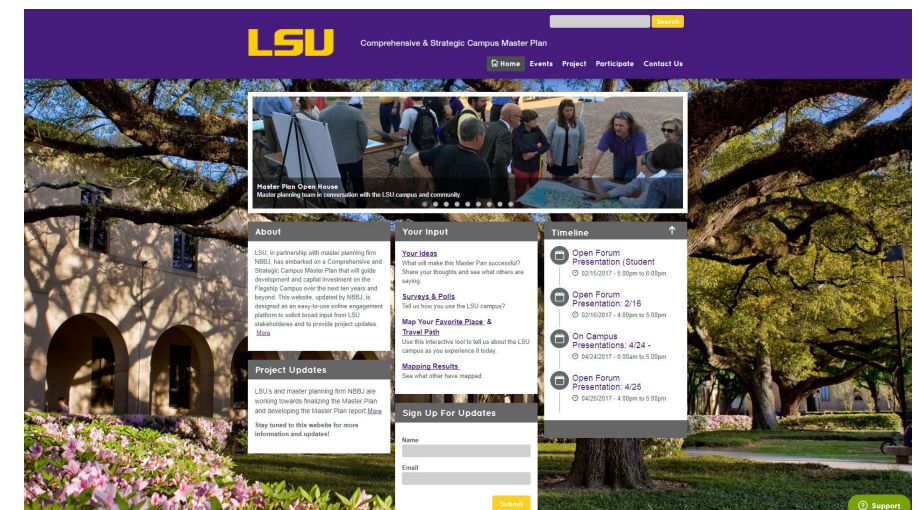
**120+** Stakeholders / Faculty / Student/ Staff / Leadership Meetings

**30+** Virtual Meetings / Interview Phone Meetings

**60+** Facilitation Team Design Workshops

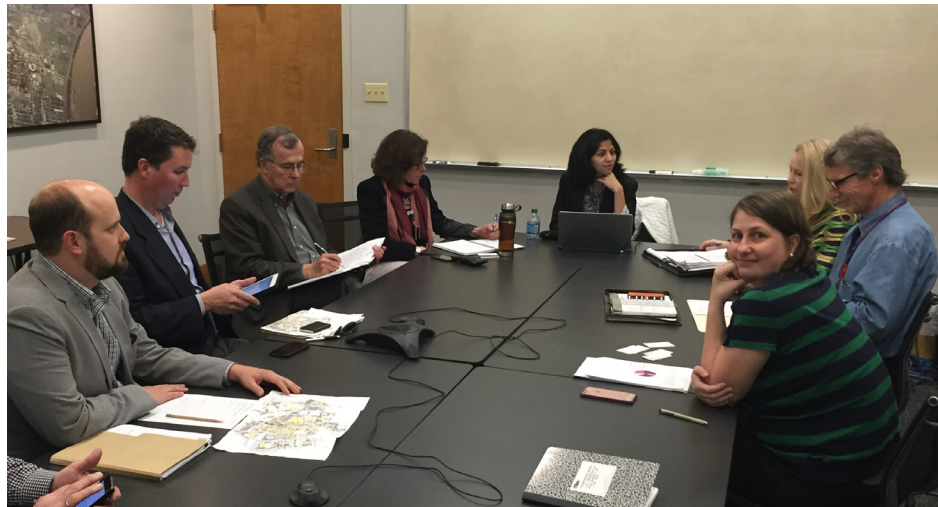
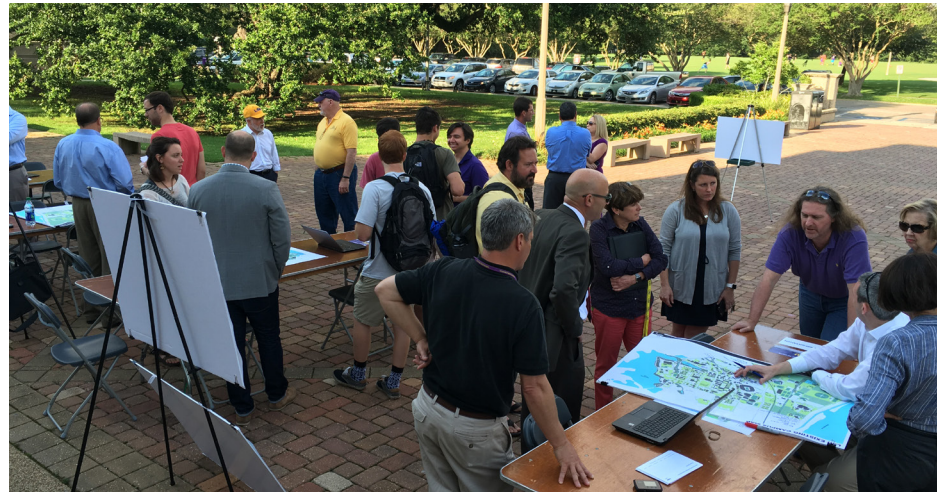
**4** Online Surveys

**+** Project Website <https://masterplanLSU.com>



CAMPUS AND COMMUNITY ENGAGEMENT

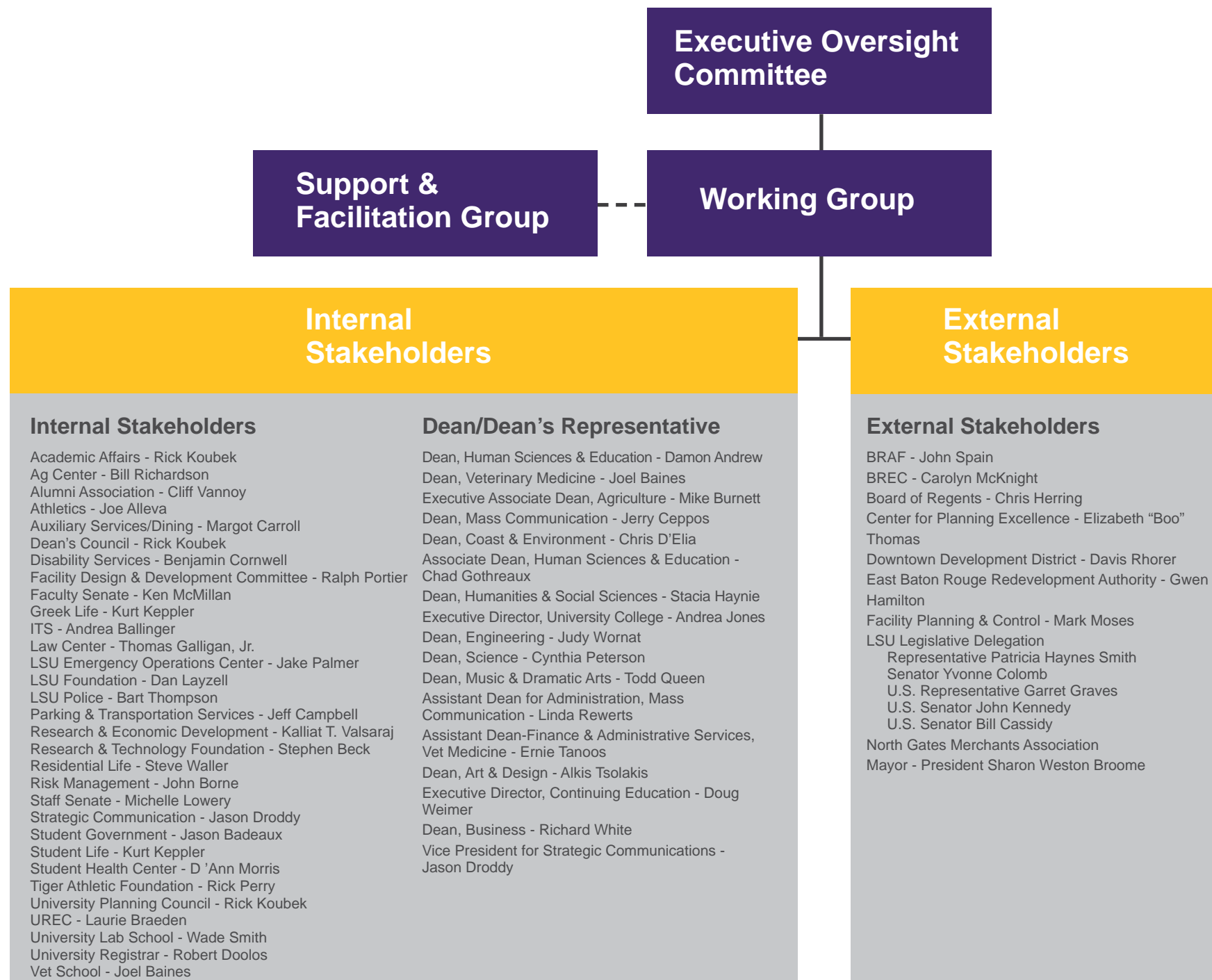
PHASE 1		PHASE 2		PHASE 3	
DATA COLLECTION, ANALYSIS, NEEDS IDENTIFICATION		CONCEPT DEVELOPMENT & TESTING		FINAL MASTER PLAN DEVELOPMENT & DELIVERY	
<p>1. Project Initiation</p> <p>2. Data Gathering &amp; Analysis</p> <p>3. Preliminary Goals &amp; Needs</p> <p>4. Revised Needs &amp; Big Picture Strategies</p>	<p><b>Key Phase 1 Outcomes:</b></p> <ul style="list-style-type: none"> <li>• Master Plan website launch</li> <li>• Stakeholder engagement</li> <li>• Master plan vision</li> <li>• Needs and goals</li> <li>• Campus 3D digital model</li> </ul> <p><i>* Check-Point – seek EOC approval before proceeding</i></p>	<p>5. Preliminary Options</p> <p>6. Refine Options</p> <p>7. Preferred Concept / Draft Master Plan</p>	<p><b>Key Phase 2 Outcomes:</b></p> <ul style="list-style-type: none"> <li>• Options evaluation matrix</li> <li>• Preferred concept / draft master plan</li> <li>• Real estate strategy</li> <li>• Draft defragmentation strategy</li> <li>• Broad brush costs</li> </ul> <p><i>* Check-Point – seek EOC approval before proceeding</i></p>	<p>8. Draft Master Plan</p> <p>9. Strategic Capital Planning &amp; Phasing</p> <p>10. Draft Report</p> <p>11. Final Master Plan &amp; Deliverables</p>	<p><b>Key Phase 3 Outcomes:</b></p> <ul style="list-style-type: none"> <li>• Comprehensive and Strategic Master Plan</li> <li>• Strategic capital plan</li> <li>• Final report</li> <li>• Renderings and fundraising material</li> <li>• Master planning website support</li> <li>• 3D digital model, animations</li> </ul>
CONCLUDES MAY 2016		CONCLUDES NOVEMBER 2016		CONCLUDES OCTOBER 2017	



CAMPUS AND COMMUNITY ENGAGEMENT

# CAMPUS MASTER PLAN

## Organizational Structure



**Executive Oversight Committee**

Executive Vice President for Finance & Administration and CFO - Dan Layzell, Chair  
 Vice Chancellor & Director of Athletics - Joe Alleva  
 Executive Vice President & Provost - Richard Koubek  
 Vice President for Student Affairs - Kurt Keppler  
 LSU Board of Supervisors - Rolfe McCollister, Jr.  
 Professor & Chair of Facility Design & Development Committee - Ralph Portier  
 Vice President for Agriculture & Dean of the College of Agriculture - Bill Richardson  
 Dean, College of Art & Design - Alkis Tsolakis  
 President, Student Government - Jason Badeaux  
 Vice President for Research & Economic Development - Kalliat Valsaraj

**Support & Facilitation Group**

Manager, Facility & Property Oversight - Derrick Angelloz  
 Assistant Vice President, Planning, Design & Construction - Roger Husser  
 Associate Vice President, Facility & Property Oversight - Tony Lombardo  
 Assist. Vice President/University Architect-Facility & Property Oversight - Danny Mahaffey  
 Associate Director, Planning, Design & Construction-Campus Planning - Mary Milles  
 Executive Director, Facility & Property Oversight - Tammy Millican, Chair  
 Assistant Director, Planning, Design & Construction-Master Planning/Site Development - Dennis Mitchell  
 Director, Golf Course and Facility & Property Oversight - Emily Smith

**Working Group**

Associate Vice President, Facility & Property Oversight - Tony Lombardo, Chair  
 Student Government, Director, Campus Affairs & Sustainability - Kevin Ellis  
 Deputy CIO and Executive Director for Information Security and Risk - John Borne  
 Director, Landscape Architecture - Mark Boyer  
 Senior Director Parking & Transportation Services - Jeff Campbell  
 Senior Vice Provost for Human Resources and Facilities Management - Jane Cassidy  
 Faculty Senate President - Ken McMillan  
 Associate Athletic Director/Facility & Project Development - Emmett David  
 Architecture Professor/University Planning Council Member - Michael Desmond  
 Director, LSU AgCenter Facilities Planning - Dale Frederick  
 Dean, Humanities & Social Sciences - Stacia Haynie  
 Assistant Professor, Architecture - Robert Holton  
 Assistant Vice President, Planning, Design & Construction - Roger Husser  
 Associate Vice Chancellor, Research & Economic Development - Stephen Beck  
 Assist. Vice President/University Architect-Facility & Property Oversight - Danny Mahaffey  
 Facility Design & Development Committee (FDDC) Chair - Ralph Portier  
 Associate Vice President, Budget & Planning - Tommy Smith  
 Staff Senate President - Michelle Lowery  
 Assistant Vice President, Residential Life & Housing - Steve Waller  
 Executive Vice Chancellor & Provost - Richard Koubek, Ex-Officio  
 Executive Vice President for Finance & Administration & CFO - Dan Layzell, Ex-Officio

CAMPUS MASTER PLAN ORGANIZATIONAL STRUCTURE



# 3.0 ANALYSIS

## OVERVIEW

The Master Plan is grounded in a comprehensive and in-depth understanding of existing campus conditions and a thorough quantitative and qualitative assessment of existing and projected needs. Early engagement exercises were conducted through multiple meetings with many internal and external stakeholders that informed the campus needs. The overall assessment of the physical campus was conducted in the context of the neighborhoods surrounding the campus and the Baton Rouge community, that LSU is a critical part of.

Specific programmatic needs are identified based on a detailed space assessment and projected programmatic growth in accordance with future academic needs as compared to space assessment and utilization results. Assessing qualitative characteristics of existing academic and research spaces to support contemporary pedagogies proved critical in determining interior space renovation needs. Administrative, campus support space, dining, student residential life, and other student life and auxiliary needs were also gathered to ensure a holistic growth strategy.

The aesthetic quality and character of the LSU campus is a cherished and highly valued resource. The historic architectural and campus

open space and landscape environments were studied to find opportunities for their enhancement. Appreciation of the historic context was important in determining principles for campus design. Physical building conditions were also assessed to gauge the condition of buildings systems and overall deferred maintenance needs.

Impact of campus stormwater management to the campus grounds and facilities and to the regional watersheds was assessed to find ways to integrate the natural blueway (canal) systems throughout the campus.

Assessment of campus-wide energy and utility capacity and performance (steam, natural gas, chilled water, compressed air, electricity, and telecommunications systems) was conducted to determine ability of these systems to meet future utility demands based on projected campus growth needs.

The need for improved mobility (pedestrian, bicycle, automobile, shuttle/transit, service, and parking) was grounded in understanding comprehensively the current mobility systems, on and off-campus, compared to existing and projected demand, campus community

preferences, mobility trends, and best practices.

Understanding the impact of campus development on the environmental footprint of the university was critical to all the above analysis and resulting recommendations. The needs and strategies are aligned with the sustainability goals and objectives established by the Campus Committee on Sustainability.

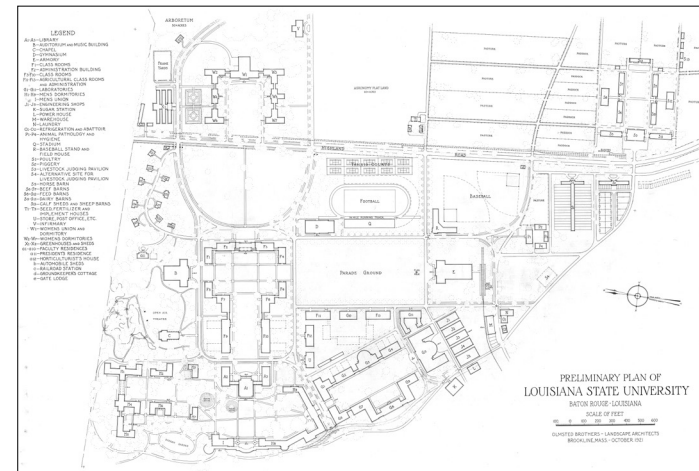


### 3.1 CONTEXT

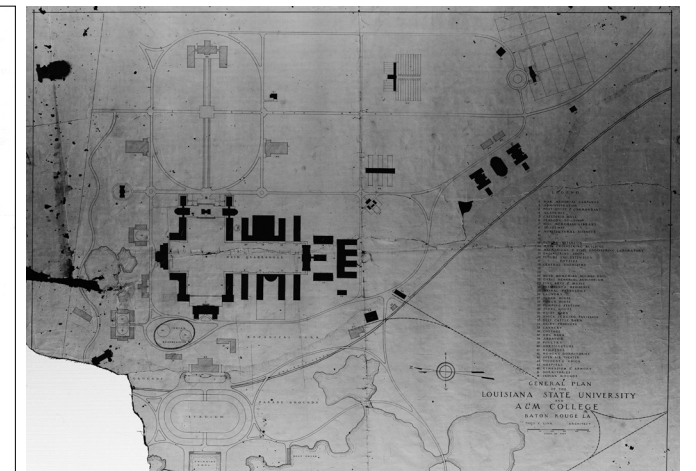
## CAMPUS EVOLUTION

The campus that we know today was relocated from downtown in 1926 following a series of surveys and planning studies by the Olmsted Brothers and Theodore Link with the ambition to prominently site the university overlooking the Mississippi River with room for future growth.

- 1910s & 20s** - The LSU campus began with the purchase of the Williams “Gartness” and Gourrier “Nestle Down” Plantations, spanning from the Mississippi River to the back swamp. The property included agricultural fields within the river floodplain, ‘rowed’ to improve drainage to existing intermittent bayous, as well as upland fields used for cattle grazing with remnant Magnolia, Oak, and Cypress groves. The two areas were separated by a distinct river escarpment landform, which informed the siting of the first campus buildings on the ‘high ground’ by the Olmsted Brothers, who completed a planning study in 1921.
- 1930s & 40s** - By the 1930’s much of the Link General Plan had been implemented, including a formal arrangement of academic buildings around a reoriented main Quad, a large sweeping parade ground, and an internal campus road network. The McIlhenny Landscape Plan from the late ‘30s established much of the Live Oak canopy that structures the campus today. A WPA era project dredged the Cypress Tupelo swamp to the east giving way to the LSU Lakes and Corporation Canal - two predominant hydrological features of the campus. Open pasture land was transformed into the campus ‘Hill Farm’.
- 1950s & 60s** - As the campus grew, it expanded to the east, while large roads and highways, like Nicholson Drive, extend south connecting the campus to downtown and beyond. Notable of this era is the addition of Middleton Library in the center of the Historic Quad, disrupting the cruciform design and creating a barrier in the main gathering space on campus.
- 1970s & 80s** - A critical mass of buildings occupy the lowland floodplain, consisting of large-scale athletic buildings, smaller support facilities, and surface parking that were sited with disregard for the original organizing feature of the escarpment, instead conforming to existing surface and road alignments.
- 1990s & 2000s** - Significant surface parking is crammed into smaller campus spaces, between buildings, and at the edges to support commuters and tailgating. Additional sports fields were developed near the levee in this decade.



1921 OLMSTED BROTHERS' PRELIMINARY PLAN

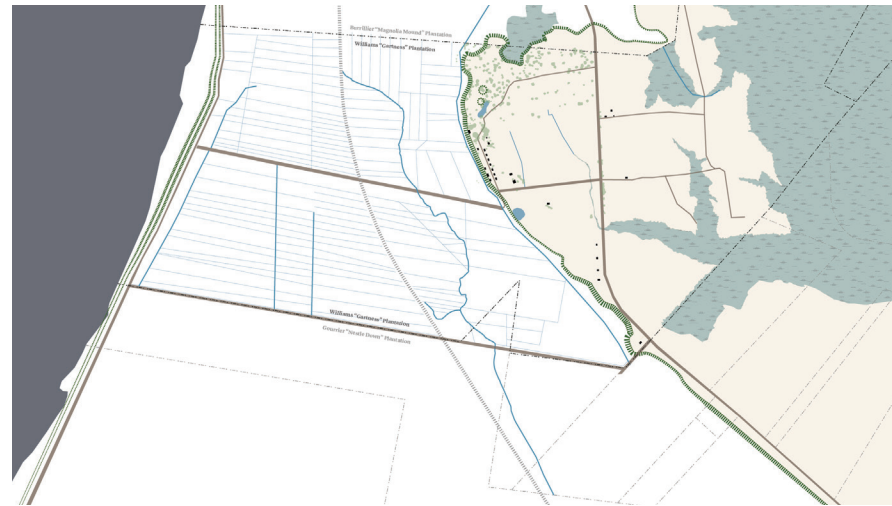


1922 THEODORE LINK'S GENERAL PLAN



(L)1938 E. A. MCILHENNY PROPOSED LANDSCAPE DEVELOPMENT PLAN; (R) BIRD'S EYE PHOTO OF THE 'RIDGE' IN THE EARLY 1930S.

## Campus Incremental Growth



1910S




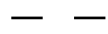











1930S



1950S

### Legend

	Mississippi River		Railroad
	Cypress Tupelo Swamp		Property Line
	LSU Lakes		Buildings Added
	Drainage Canal		Buildings Existing
	Canopy Trees		Parking
	Upland		
	Elevation Change		
	Road Network		



1970S



2000S

### 3.1 CONTEXT

## CAMPUS AND COMMUNITY

*“Engagement between the University and the communities it serves is vital to the mission of the public university.”*

- LSU Flagship 2020 Transforming Lives initiative

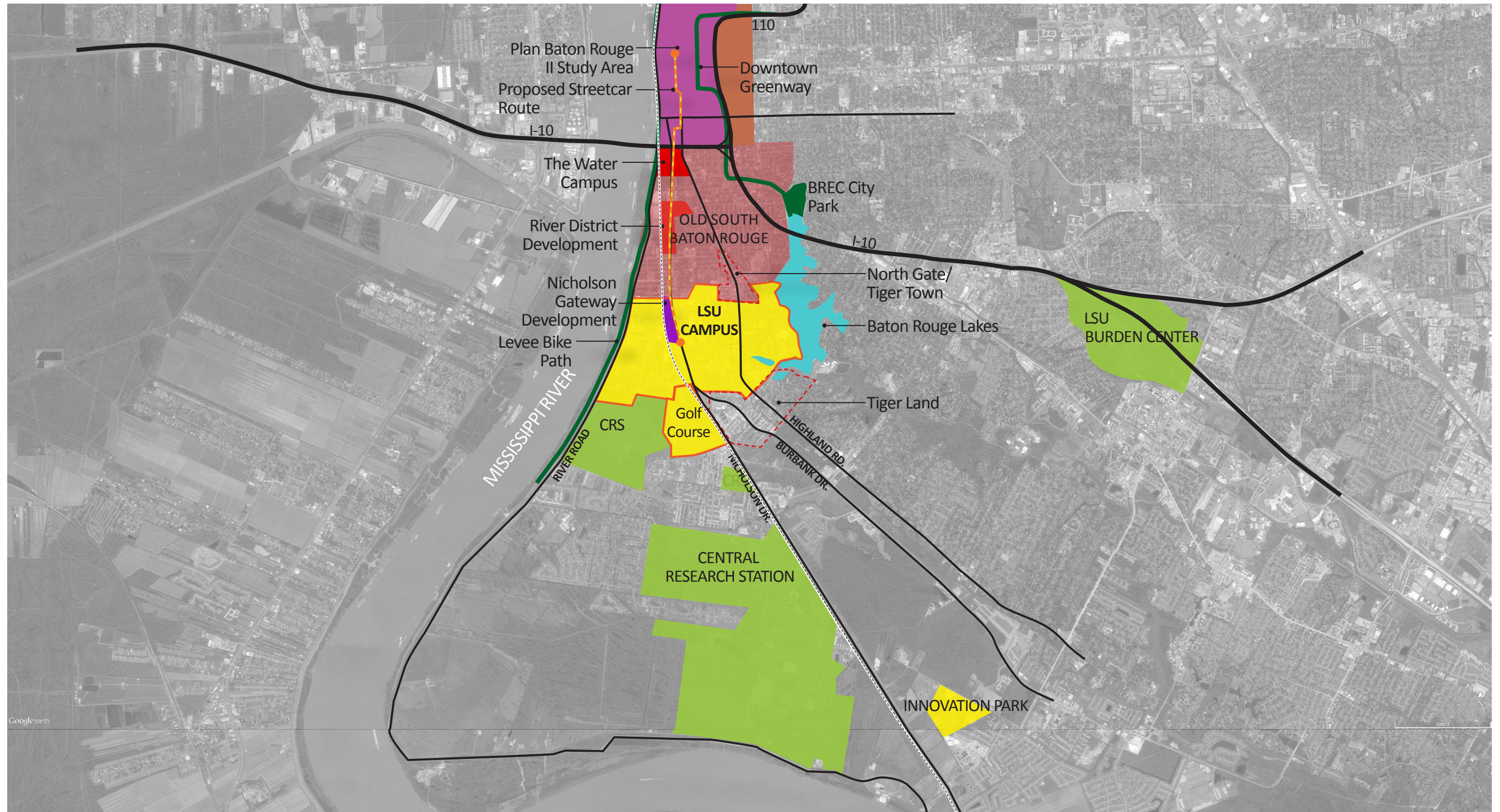
LSU’s main campus is embedded, geographically and culturally, in the Baton Rouge fabric. Occupying the most southerly natural bluff on the east bank of the Mississippi River, the 1,200 acre campus holds a uniquely prominent place in the larger riparian landscape of the river and its communities. In the 1920s the campus began with property that included agricultural fields within the river flood plain, as well as upland fields. The two areas were separated by a distinct river escarpment landform, which informed the siting of the first campus buildings on the ‘high ground’ or ‘highland’, for which Highland Road obtained its name, forming the cherished (and now historic) campus core.

Over the years, the campus has incrementally expanded outward from its core to the east (arrayed along Highland Road and University Lake) and to the lowlands in the west (across the railroad). While, this incremental campus expansion has largely disregarded the original organizing principles of the campus and has resulted in a somewhat disjointed campus fabric, it did bring the campus development physically closer to the surrounding neighborhoods and to the river. On the campus today, Nicholson Drive and Highland Road serve as major north-south urban arterial roads, connecting the campus to Old South Baton Rouge, Downtown Baton Rouge and to LSU’s own Innovation Park and the Central Research Station to the south, as well as the upcoming Water Campus to the north.

The main campus is adjacent to multiple existing community assets - Mississippi River to the west, the North Gates area to the north, the Baton Rouge Lakes to the east, and surrounding residential communities. The northern campus boundary presents immense opportunities to strengthen campus-community partnerships and furthering the vibrancy of the North Gates area. Developments to the south, including the recently built and proposed multi-story residential developments, will likely exacerbate traffic on the north-south arterials and pose infrastructural challenges for the campus, and the City at large, which will need to be mitigated.



COMMUNITIES SURROUNDING THE CAMPUS



LSU CAMPUS AND CITY CONTEXT

### 3.2 SPACE

## ACADEMIC SPACE

Currently, the University has 330 classrooms that were scheduled in the fall for 22 hours per week. The 2016 Instructional Space Utilization Study (conducted by JMZ Architects) analyzed all instructional spaces on the main campus and concluded that LSU currently has sufficient classrooms for its enrollment to increase significantly just by allowing classroom utilization to increase to the target set by the State. If the utilization was increased to the State standard of 30 hours per week, then at its current enrollment, LSU would need only 229 classrooms. This indicates that there is capacity to offer more courses in many classrooms and some class labs.

In addition to assessing the quantitative aspects of campus instructional environments, assessing their qualitative characteristics is critical. Qualitative aspects include condition of interior finishes, functional adequacy of the space, and location of the space and relative adjacencies to users. The 2016 utilization study found several instructional spaces inadequate due to configuration, environmental conditions, and acoustic issues. It also found about 18% of the space was in minimally acceptable or below acceptable levels and require improvements.

If LSU increased the square footage per station in classrooms to allow space for more flexibility in teaching and learning modes, and to provide larger, fully accessible furnishings, the available classroom space capacity would be reduced. The goal would be to implement a balanced approach - increasing classroom space utilization to State standard to meet projected needs and enrollment growth of 35,565 students while also strategically taking some classrooms offline for renovation in support of contemporary pedagogies.

Using the results of the academic space condition analysis, per the 2016 space utilization study, as a beginning point of reference and LSU's Strategic Plan as another key driver of the plan, facility needs for various academic and support programs were defined in context of existing needs and enrollment projections.

A 'space allocation model' was developed collaboratively with the University and each of the colleges, schools, centers and institutes, libraries, and the various support programs. The space allocation model helped estimate the future need for facility resources and are based, in part, on University planning assumptions consistent with the vision, mission, and Strategic Plan. The model will serve as a tool for LSU to explore changing assumptions and new scenarios and their impact on space needs.

The model was run twice using two different scenarios. Once to determine how much space the colleges should have if they were 'right sized' (calibrating the size of a room to meet its intended purpose) using the accepted space standards and guidelines. The model was run a second time to show how much space might be needed when LSU reaches an enrollment target of **35,565** students and the number of faculty were to increase by **235**. Since classroom spaces needs were separately studied, the modeled scenarios focused on non-classroom related academic space (department faculty and staff offices, class labs, research labs, academic support space etc.) The gross square feet required in the future is estimated at 988,600 GSF. The resulting needs are summarized in the table in the following page and further described in the Academic Space Study Findings (see Appendix.)



EXISTING CLASSROOM S DEPICTING SOME OUTDATED INTERIOR LAYOUTS

LSU TOTAL NASF - RIGHT-SIZED and PROJECTED V4

Tab	COLLEGES, SCHOOLS, AND RELATED PROGRAMS	A EXISTING NASF	B EXISTING NASF Minus Classrooms	C Right Sized NASF Minus Classrooms	D Projected NASF Minus Classrooms	E Additional NASF	F Net:Gross Ratio	G Additional Gross Sq. Ft.
COA	College of Agriculture	678,909	665,043	695,833	720,862	55,819	63%	88,601
CA&D	College of Art and Design	214,593	198,860	189,493	241,014	42,154	60%	70,256
COE	College of Engineering	497,499	451,217	418,695	557,812	106,595	60%	177,658
CHSE	College of Human Science and Education	221,076	213,022	241,462	255,310	42,288	63%	67,130
CHSS	College of Humanities and Social Sciences	176,404	169,014	193,138	217,444	48,430	63%	76,880
CMDA	College of Music and Dramatic Arts	128,836	116,568	133,917	133,728	17,160	65%	26,410
COS	College of Science (Cannon MP)	521,212	510,020	553,000	612,950	102,930	58%	177,470
Law Ctr	Law Center	134,792	108,134	139,124	144,063	35,929	63%	57,040
MSMC	Manship School of Mass Communication	32,994	28,900	30,821	59,496	30,596	63%	48,570
OCOB	Ourso College of Business Admin	118,894	101,132	101,632	124,798	23,666	65%	36,410
CCE	College of the Coast and Environment	121,855	119,913	116,962	118,814		60%	
SVM	School of Veterinary Medicine	285,737	278,501	336,906	375,807	97,306	60%	162,180
<b>Totals:</b>		<b>3,132,801</b>	<b>2,960,324</b>	<b>3,150,982</b>	<b>3,562,099</b>	<b>602,874</b>		<b>988,606</b>

LSU TOTAL NASF - RIGHT SIZED AND PROJECTED

### 3.2 SPACE

## ADMINISTRATIVE AND SUPPORT SPACE

Needs for LSU’s 32 administrative departments were analyzed as part of the master planning process. These departments (as listed in the adjoining table) occupy 168,518 net square feet (NSF) in 11 buildings. 25 meetings with over 40 individuals representing those administrative units were conducted.

Discussions with administrative department representatives focused on the adequacy of the existing space to support the current and future needs of each department. They were also asked to identify ideal adjacencies among their departments to work efficiently, share resources, and provide excellent service to the campus community. An overarching goal was established to identify the highest and best use of the existing buildings on the campus. The primary themes identified in administrative space programming sessions were:

#### STAFFING

- As the University seeks efficiency within its fiscal constraints, most administrative departments will not add staff in the coming years. While additional space may be needed to “right-size” administrative functions, very little space will be needed to accommodate staff growth.
- The entire University will be affected by the transition to Workday (software) and the streamlining of accounting and human resources processes. This will result in the reorganization of administrative personnel over the course of several years.

#### DEPARTMENT LOCATIONS

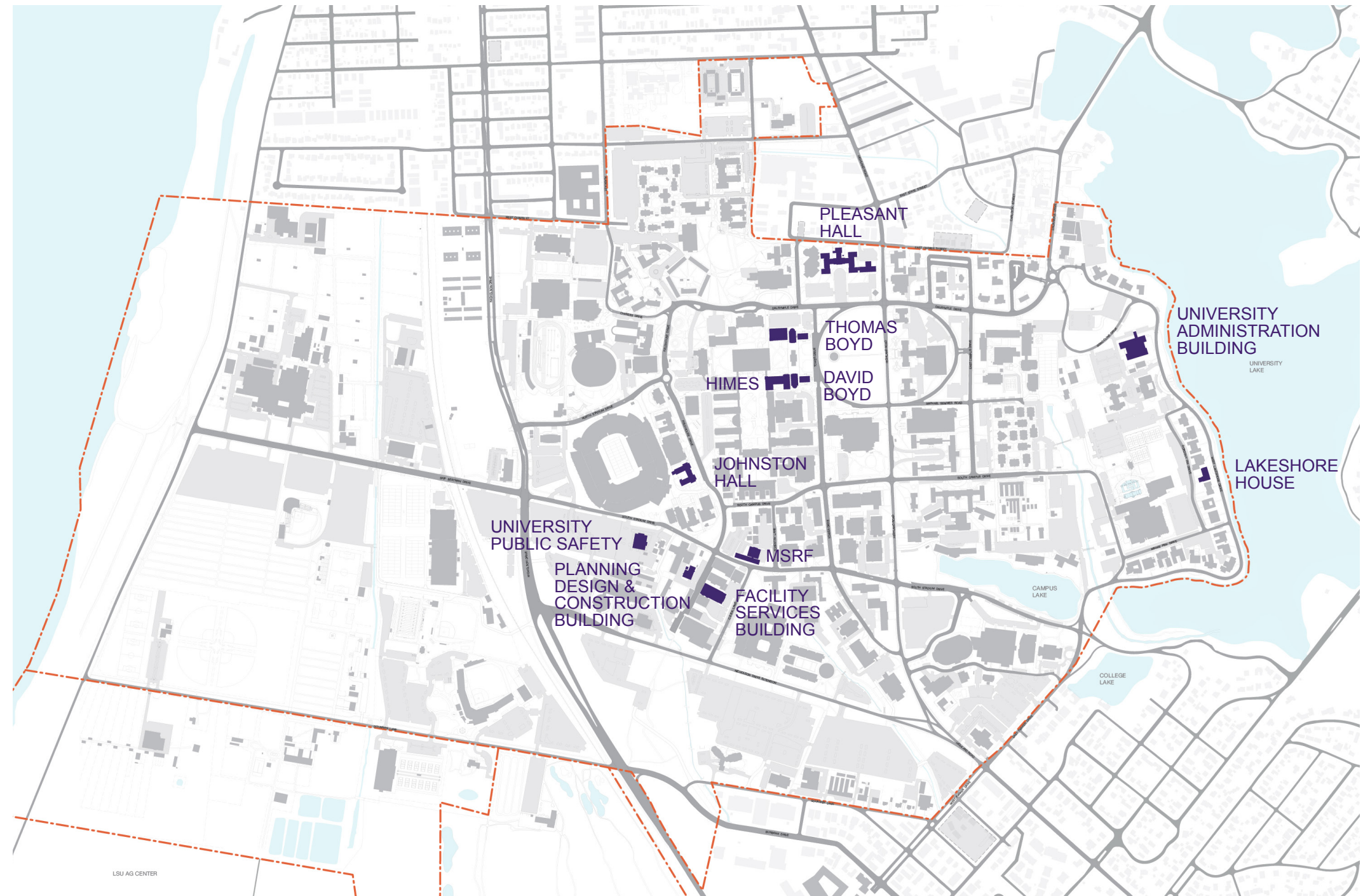
- Several departments have utilized office space in multiple buildings and have become fragmented over time. They should be consolidated to improve workflow, efficiency, and access.
- Some administrative departments currently located in the academic core of campus should be moved to make prime space available for academic functions. In contrast, the President’s Office and associated departments would benefit from moving into the campus core to be geographically and philosophically closer to students and faculty.
- A new location should be identified for Strategic Communications/Public Affairs to enable the Lakeshore House to be converted back to its original function as a Greek house.

Given the number of buildings in play and the need for administrative space to be relocated and consolidated, administrative space shifts would have to be carefully coordinated with and enabled by moves of academic departments.


Using standardized office sizes, a detailed space program was developed to reflect each department’s specific needs. While 60% of the departments require some additional space to properly meet their future needs, especially Enrollment Management and the Office of Sponsored Programs, it represents only an 8% increase (13,011 NSF) over existing net square footage. The projected needs are outlined in the adjoining table and documented in detail in the Administrative Space Study Findings document (see Appendix.)

Department	Existing NSF	Projected NSF	Delta
Academic Affairs (Jane Cassidy, Matthew Lee, and staff)	2,857	2,857	0
Budget & Planning	3,146	3,080	66
Dean - Graduate School	5,406	6,973	(1,567)
Disability Services	3,577	3,577	0
Division of Strategic Communications	11,653	10,460	1,193
Emergency Operations Center	0	620	(620)
Enrollment Management	15,529	19,605	(4,076)
Executive Vice President & Provost of Academic Affairs	1,652	1,510	142
Facility & Property Oversight	39,483	40,483	(1,000)
Financial Systems Services	1,752	1,920	(168)
First Year Experience	2,612	3,070	(458)
Governmental Relations and Institutional Advancement	1,903	2,210	(307)
Human Resource Management	6,449	6,360	89
Office of Accounting Services	14,649	14,105	544
Office of Board of Supervisors	4,353	6,735	(2,382)
Office of CIO (in D. Boyd)	3,399	1,076	2,323
Office of Diversity	2,255	2,245	10
Office of General Counsel	1,776	2,490	(714)
Office of Internal Audit	2,954	3,040	(86)
Office of Sponsored Programs (OSP)	2,854	4,230	(1,376)
Office of the President	4,429	4,930	(501)
Experience LSU	1,503	1,860	(357)
Parking and Transportation Services	2,623	3,150	(527)
Police and Public Safety	3,809	5,093	(1,284)
Procurement & Property Management	3,315	3,950	(635)
Risk Management	1,948	2,270	(322)
University Registrar	4,901	5,710	(809)
User Support & Student IT Enablement	4,912	4,912	0
Vice Chancellor - Research	3,056	3,042	14
Vice President Finance & Administration/CFO	6,284	6,230	54
Vice President for Student Affairs	1,861	1,861	0
VP of Human Resource Management & Risk Management	1,618	1,875	(257)
<b>Total</b>	<b>168,518</b>	<b>181,529</b>	<b>(13,011)</b>

ADMINISTRATIVE AND SUPPORT SPACE PROJECTED NEEDS



**Legend**

 Existing Administrative and Support Space

EXISTING ADMINISTRATIVE AND SUPPORT SPACE



### 3.2 SPACE

## DINING SPACE

LSU Dining is a robust campus dining program intended to serve the broad needs and preferences of residential students, commuter students, faculty, staff, and campus visitors. The program currently consists of two residential dining halls, conveniently situated in the center of the north and south residential communities; a main retail hub in the student center; and 11 other satellite dining platforms scattered throughout campus. The maps on the following page indicate the dining locations and demand zones.

A campus zone framework was used to project dining demand across campus. In consultation with the University, 22 proximity zones were delineated based on a mix of geographic barriers, building functions, and campus pedestrian patterns. The findings summarized below and further described in the Dining Study Findings document (see Appendix) helped identify future demand and capacity requirements (throughput).

- The campus’s current dining locations and concepts (menu and service styles) restrict LSU’s ability to capture market demand during

peak times, particularly lunch during the academic week.

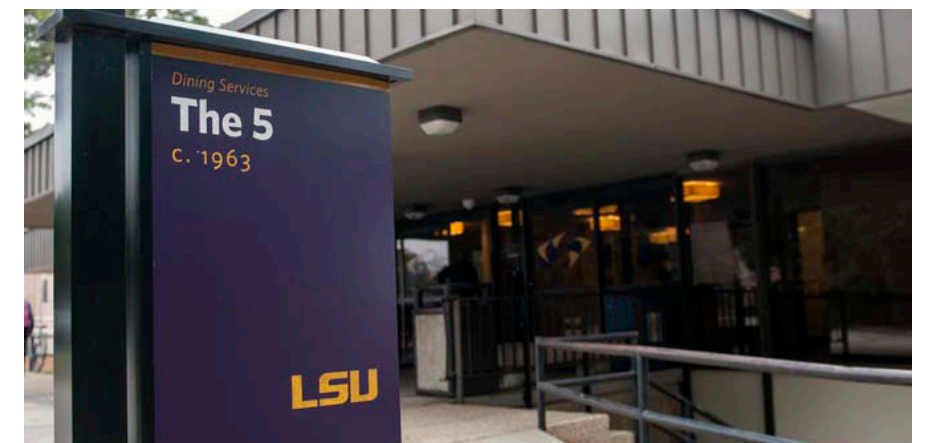
- Based on the dining demand model driven by LSU’s academic population density throughout the day and filtered by the University’s dining vision, LSU could capture approximately 4,750 lunch customers within a one-hour period (refer table below). However, LSU only captures 6.5% of the campus community during peak demand—weekday lunch between noon and 1:00 p.m. LSU has the opportunity to double capture rates by placing appealing and efficient concepts in high-density areas.

- LSU captures 12% of the total residential population between 5:00 p.m. and 6:00 p.m. (peak dinner hour). To sustain high residential student satisfaction, LSU should incrementally grow market capture of residential students at dinner.

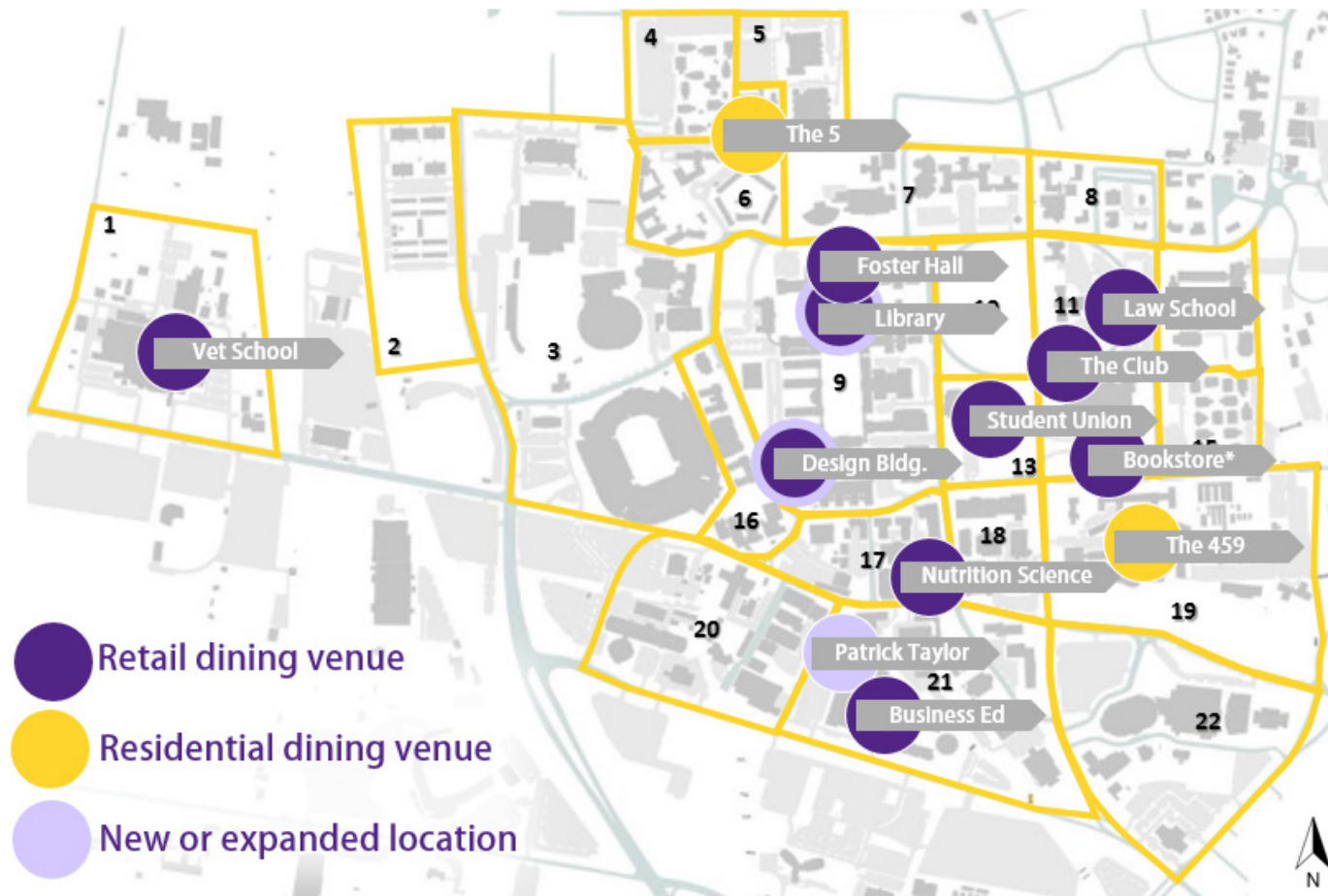
This demand analysis coupled with LSU’s housing plan to develop new beds on campus for first and second year students (non-kitchen units with required residential meal plan) projects an increase in peak-hour demand in both the north and south residential neighborhoods,

Residential Community	Zone	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021
South (The 5)	4	0	0	0	0	0	0
	5	0	0	0	0	0	0
	6	303	385	411	487	687	684
North (The 459)	19	308	389	415	467	314	470

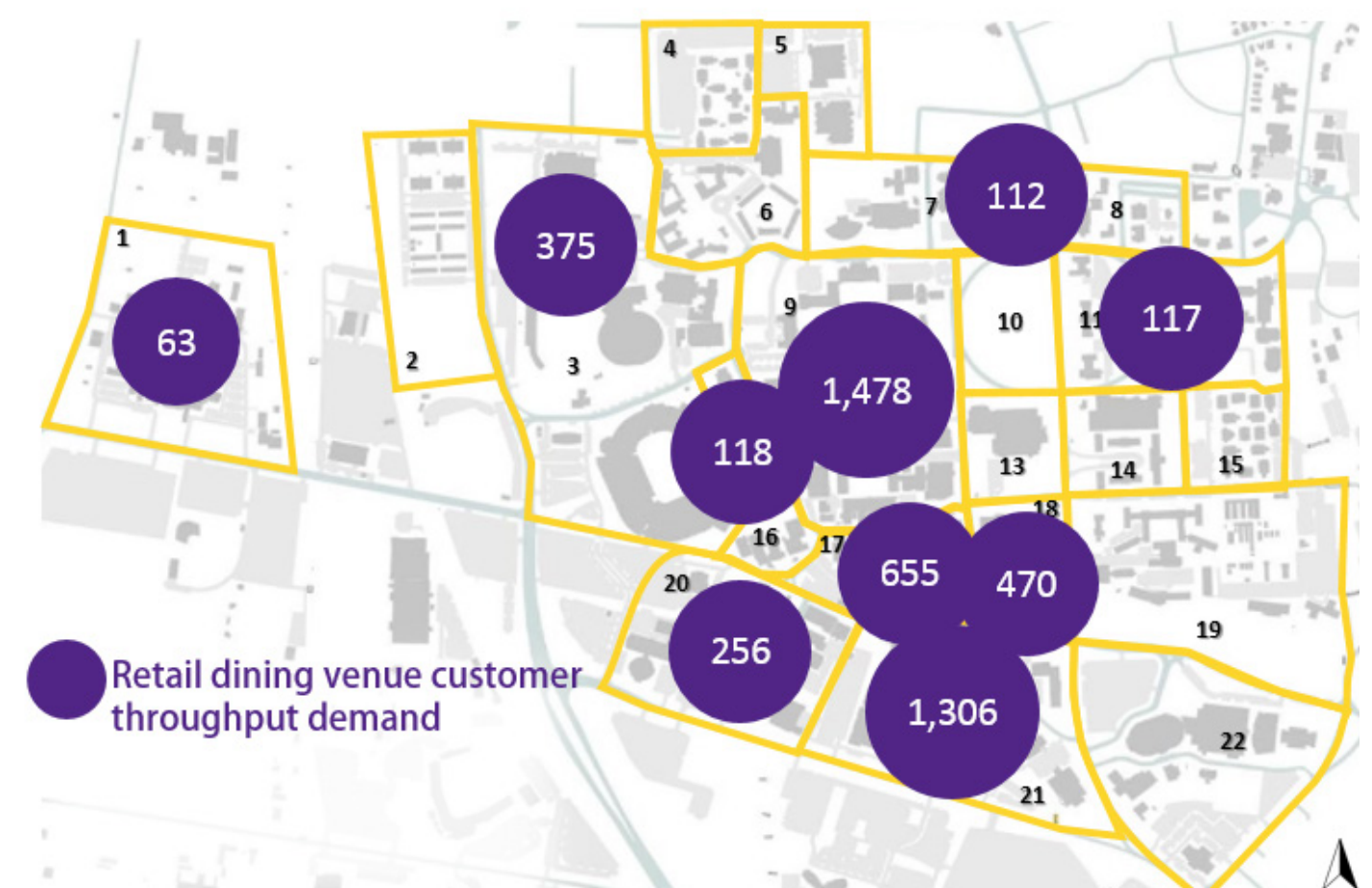
LSU’S PROJECTED RESIDENTIAL DINING DEMAND BY ACADEMIC YEAR DURING PEAK HOUR (5:00 P.M. – 6:00 P.M.)



CURRENT CAMPUS DINING SPACE



LSU DINING LOCATIONS AND CAMPUS DINING DEMAND ZONES



LSU DINING RETAIL DEMAND (THROUGHPUT) BETWEEN NOON AND 1:00 P.M. BASED ON SOUTHERN DENSITY SHIFT AND 33,000 ENROLLMENT

### 3.3 BUILDINGS

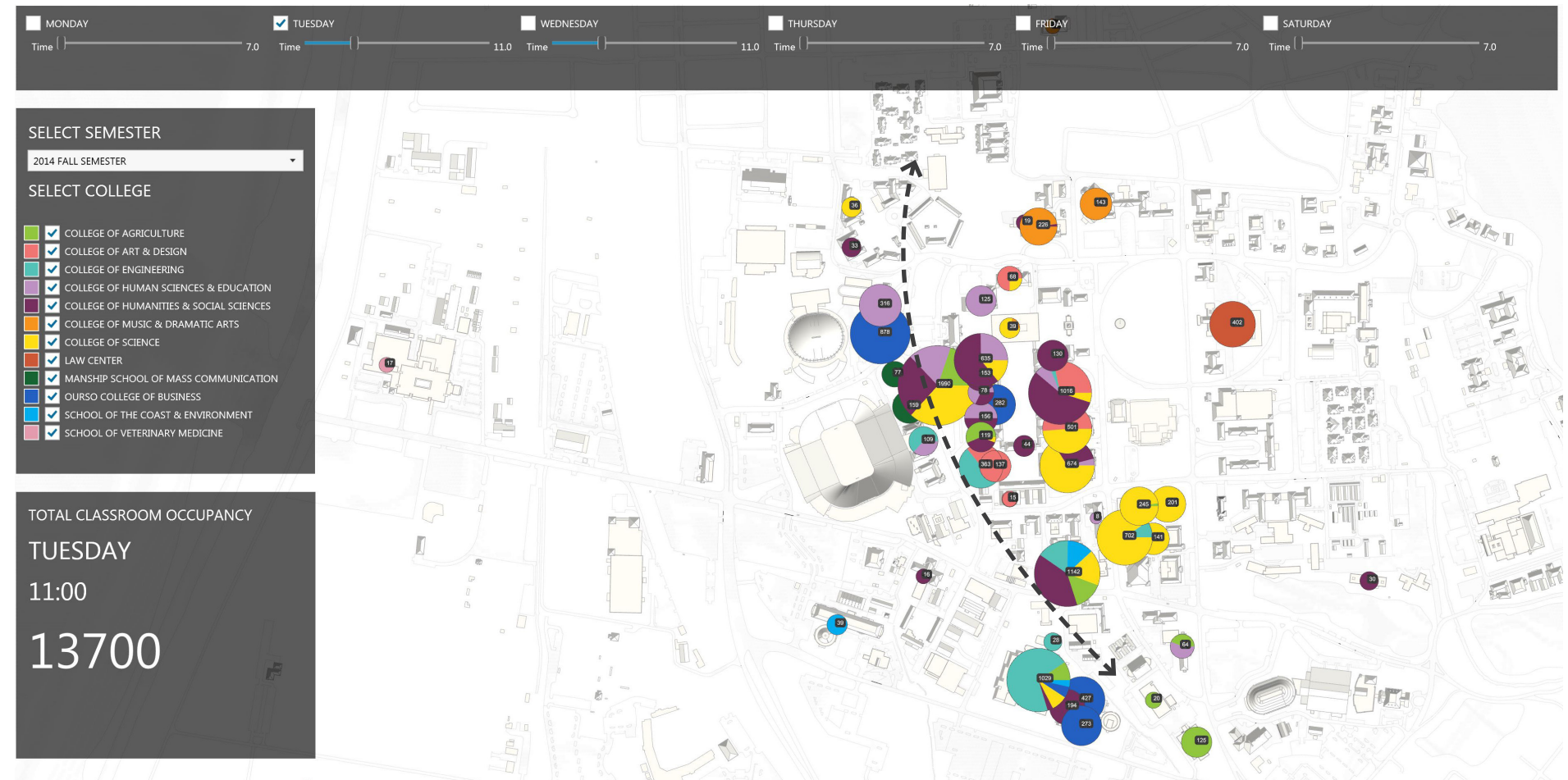
## BUILDING ASSESSMENT

Mapping the age of buildings, their historic status, and primary use reinforces the pattern of campus development over the decade and its implication on the fabric of the campus and land use. The oldest and historically significant buildings of the campus are located in the campus core and serve, primarily, academic functions. With their relatively narrow floor plans, the older core campus buildings will need to be renovated and adapted to support contemporary learning and to meet campus program needs.

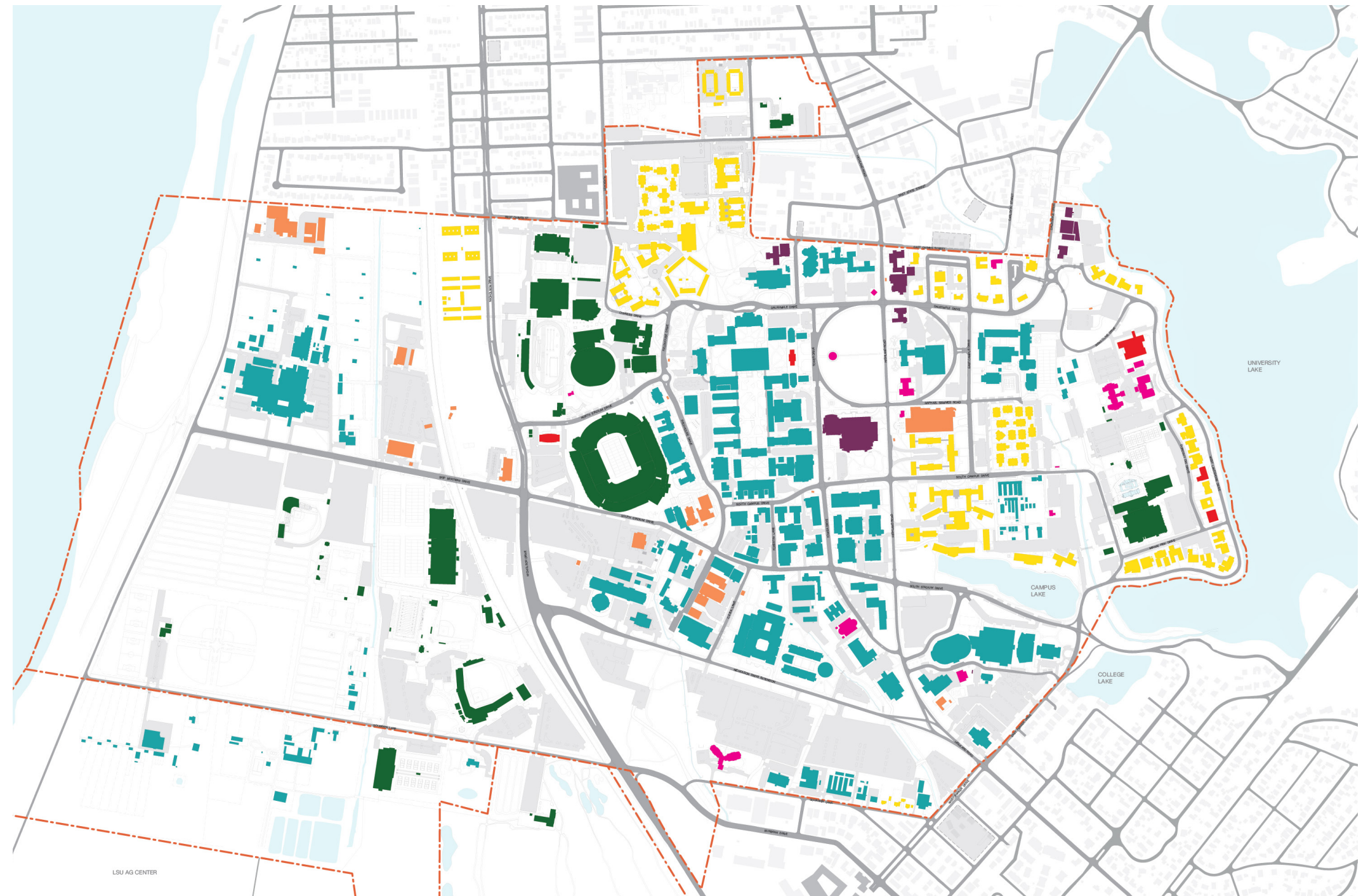
Academic and academic supporting uses also occupy buildings to the south of the historic core. The third cluster of academic use (School of Veterinary Medicine programs) is in the north-west quadrant of the campus, physically separated from the core campus by Nicholson Drive and the railroad, but in close proximity to open space lands that support specific program uses.

Residential uses are strategically located at the north and east areas of the campus in close proximity to the North Gates neighborhood, University and Campus Lakes and University recreation and athletic amenities. Athletics facilities are primarily in the north-south zone to the east and west of Nicholson Drive.

To assess the geographic implication of student activity areas, the fall semester class schedule was dynamically mapped to the campus buildings. While students traverse throughout the campus at various times of the day and week, and while there is activity in various academic zones of the campus a clear pattern of academic activity (arrayed along a north-south arc) is evident as seen in the class schedule visualization diagram. This arc pattern falls very closely the naturally occurring campus elevation change line (“the bluff”).



CAMPUS CLASS SCHEDULE VISUALIZATION

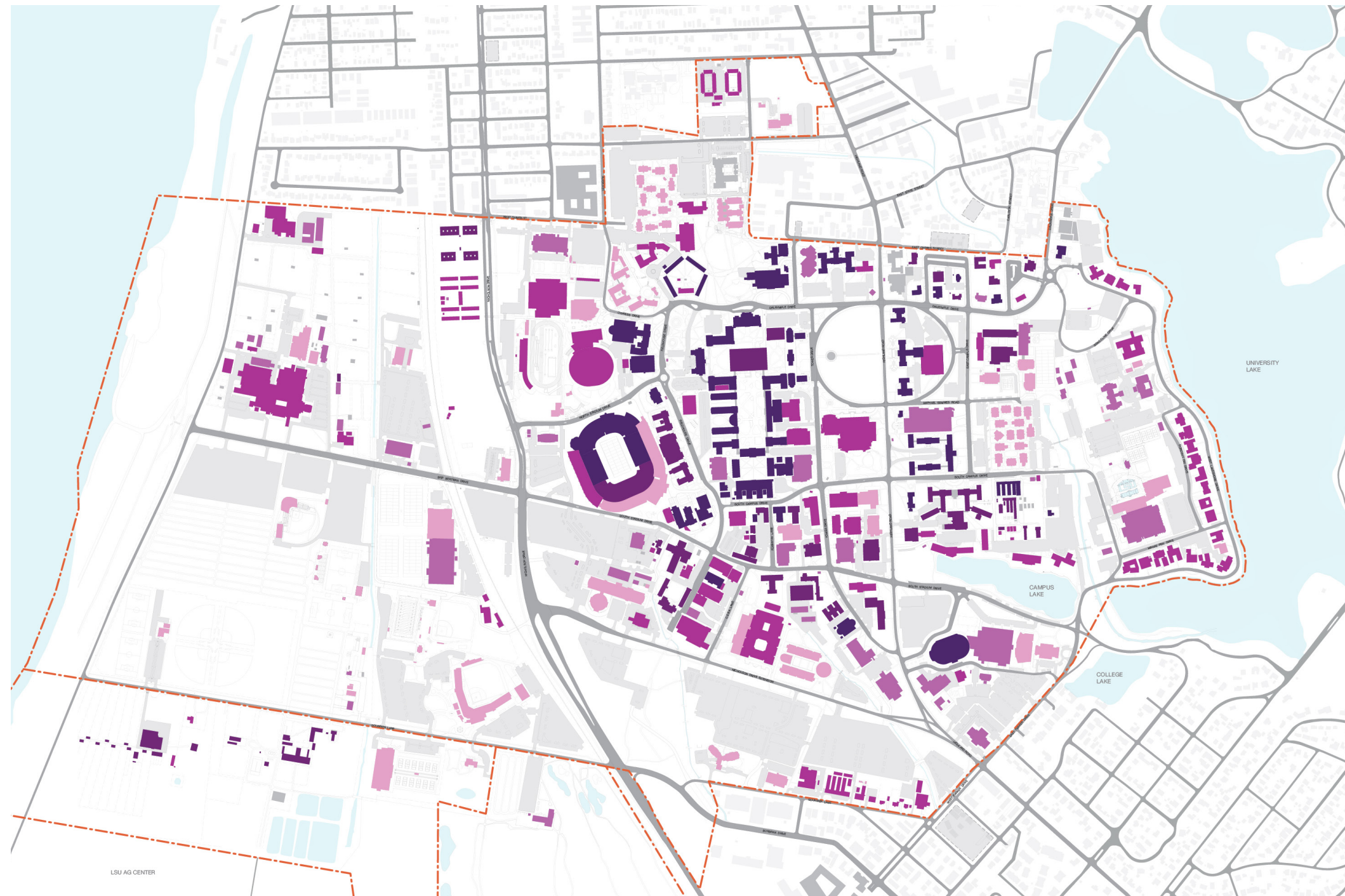


**Legend**

- Administrative & Support
- Academic / Research
- Residential
- Campus Life
- Sport / Recreation
- Facilities / Support
- Misc. Amenities
- Unknown

EXISTING BUILDING USE

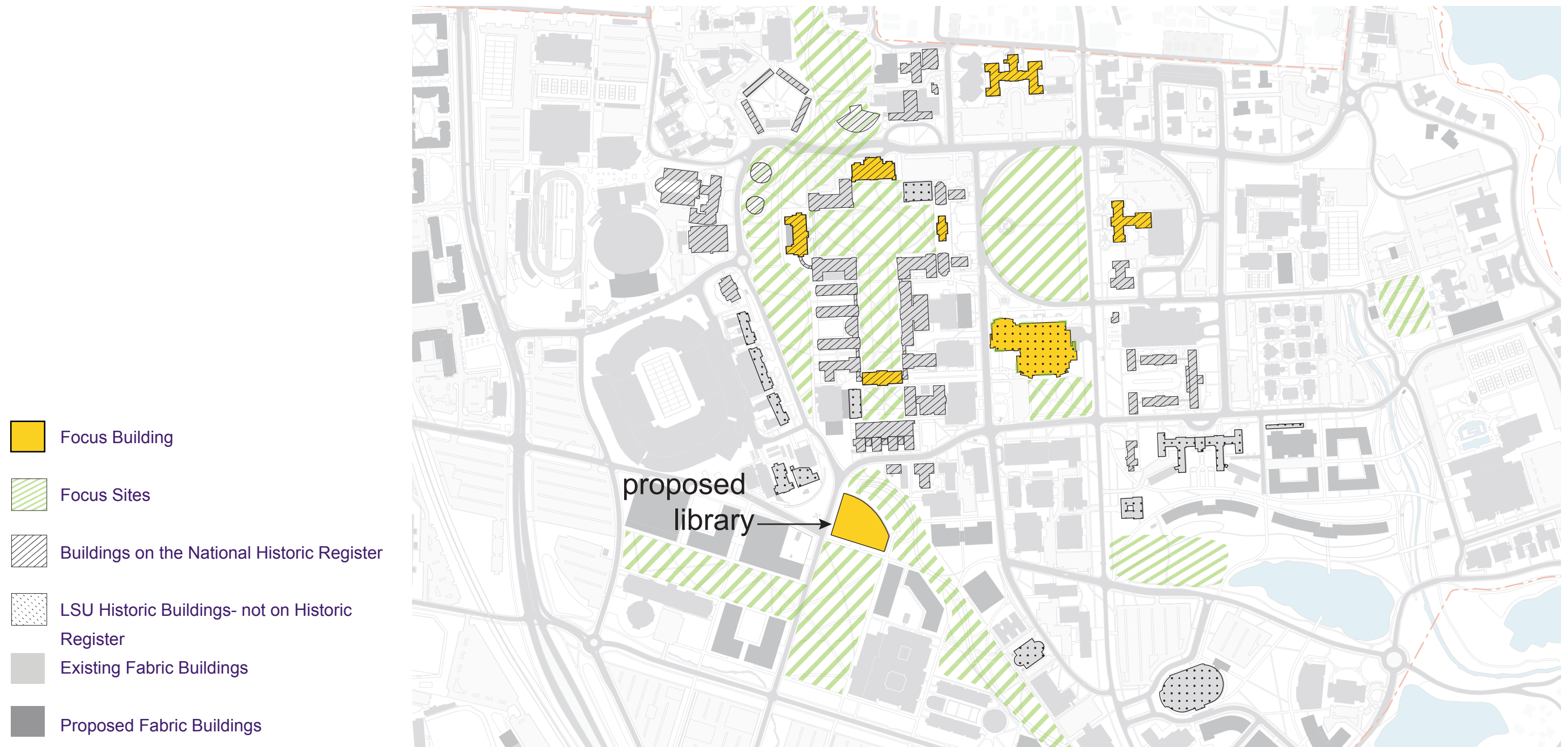




**Legend**

- 1919-1939
- 1940 -1959
- 1960 -1979
- 1980 - 1999
- 2000 - 2019
- Unknown

BUILDING AGE



HISTORIC AND FOCUS BUILDINGS



### 3.3 BUILDINGS

## FACILITIES CONDITION ASSESSMENT

Physical building conditions were assessed to gauge the condition of buildings systems and their overall deferred maintenance needs. A “buildings portfolio solutions” method was utilized in the facilities assessment wherein buildings were grouped into the following categories: buildings to keep, buildings to demolish, buildings off-campus and buildings in question.

Although some buildings were deemed to be in very poor condition, many were determined to be kept due to their historic value. The ‘buildings in question’ group was then sub-divided into categories based on their ‘Net Asset Value’. Building deferred maintenance needs generated through the “buildings portfolio solutions” were added to the assessment.

The bar chart on the following page represents total current and upcoming deferred maintenance need by year through 2026. Projects for systems or sub-systems that have already failed, are performing at decreased efficiency or that are performing at an increased cost are labeled as ‘backlog.’

Of the \$894M in identified deferred maintenance need, \$588M falls into “backlog” and represents need that is past due. The need was also examined by the following investment criteria:

- Reliability: Issues of imminent failure or compromise to the system that may result in interruption to program or use of space.
- Asset Preservation: Projects that preserve or enhance the integrity of building systems or building structure, or campus infrastructure.

- Safety/Code: Code compliance issues and institutional safety priorities or items that are not in conformance with current codes.

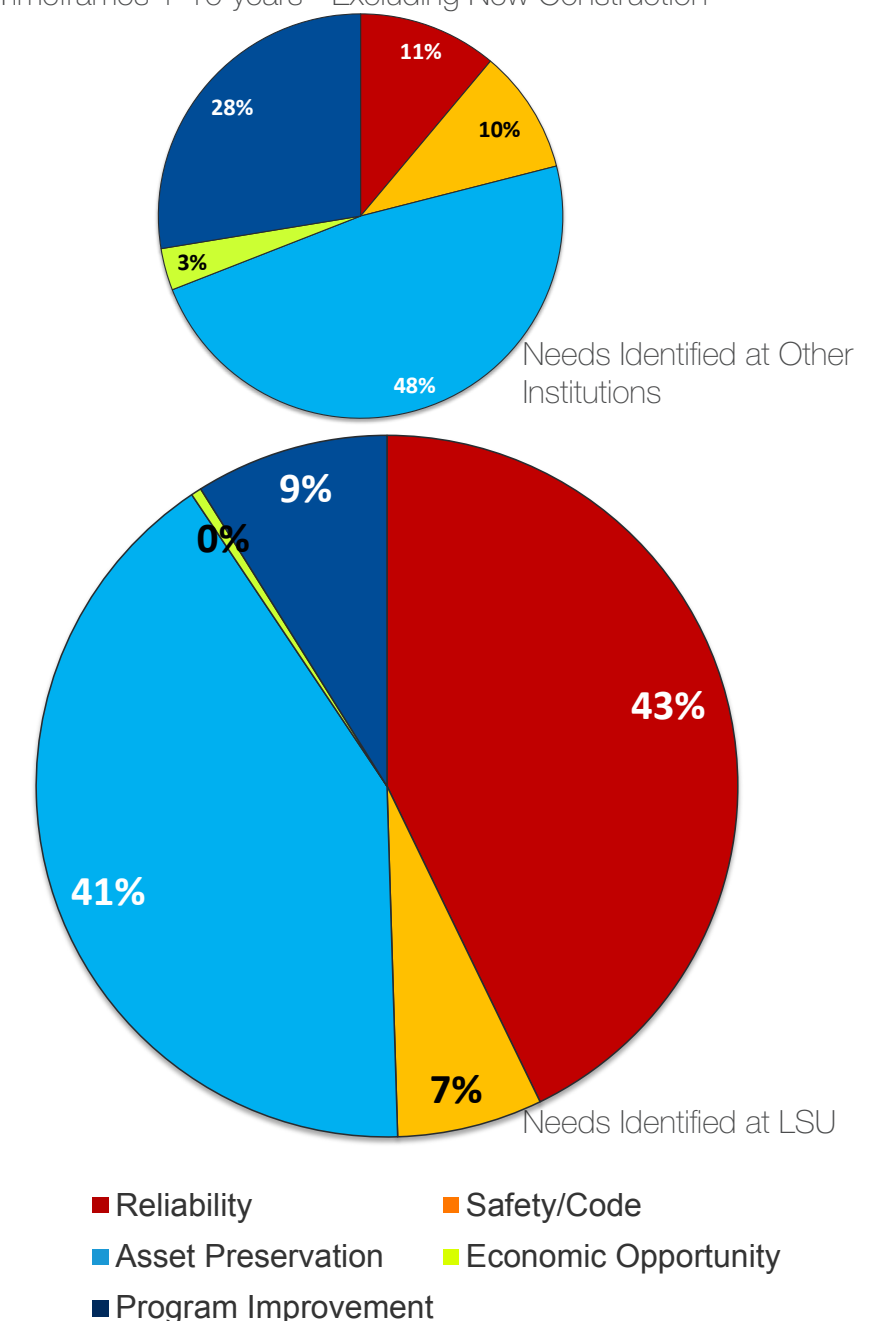
- Program Improvement: Projects that improve the functionality of space, primarily driven by academic, student life, and athletic programs or departments. These projects are also issues of campus image and impact.

- Economic Opportunity: Projects that result in a reduction of annual operating costs or capital savings.

At LSU reliability needs make up 43% of the overall need, while only comprising 11% of the overall need on average at other institutions. Reliability need looks at sub-systems that are the most critical to University operations. If these sub-systems were to fail, it would displace program or people. Refer to the Buildings Portfolio Solutions document (see Appendix) for additional identified deferred maintenance needs and their implications.

### Investment Criteria of Identified Projects

For Timeframes 1-10 years - Excluding New Construction

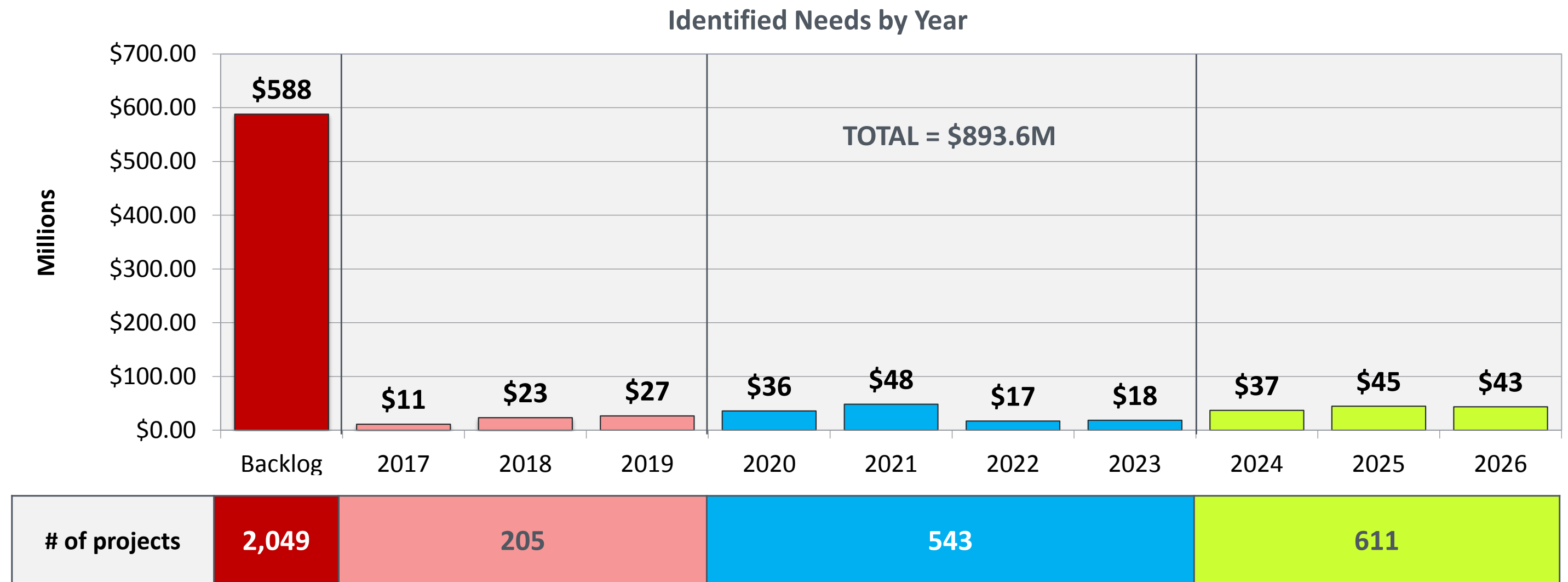


RELIABILITY NEEDS AT LSU VS. OTHER INSTITUTIONS

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## \$893.6M Identified Needs By Year: Backlog, FY17-FY26

Includes Building, Infrastructure, and Grounds Needs



DEFERRED MAINTENANCE IDENTIFIED NEEDS BY YEAR

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### 3.3 BUILDINGS

## ENERGY AND UTILITIES ASSESSMENT

The existing LSU Central Plant is located near the southeast corner of the football stadium and is the primary source of heating and cooling for most of the academic buildings and some of the athletics, residential life and auxiliary services buildings on campus. A number of the remote athletics, residential life and auxiliary services facilities have their own unitary heating and cooling equipment that is owned and operated by the respective operating unit. There is a regional chilled water plant (Highland Utility Plant) that is interconnected to the Central Plant and serves most of the southern and eastern portions of campus. There is also a stand-alone heating and cooling plant that serves the LSU School of Veterinary Medicine. Electrical power that is generated at the Central Plant and parallel utility power from the local utility is supplied to essentially all campus buildings (academic, athletics, residential life, and auxiliary services) through LSU's campus distribution system.

The primary central campus utility production and distribution systems reviewed as part of this master planning effort that are in the Central Plant and Highland Plant are summarized in the Campus Utilities Assessment Findings document (see Appendix.) The flow diagram illustrates the basic overall configuration of the Central Plant primary thermal and power equipment.

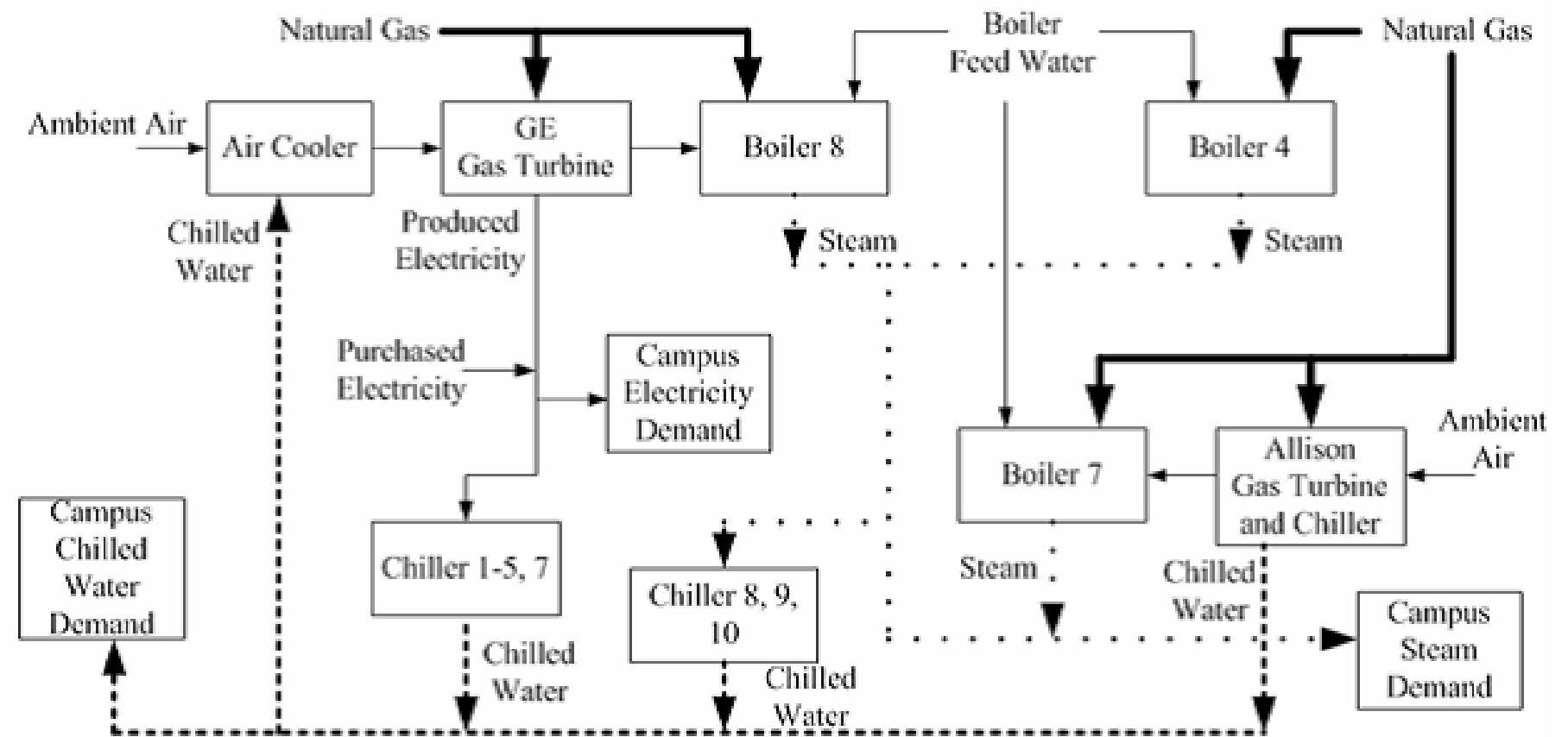
#### SYSTEM DEFICIENCIES:

The following summarizes the major deficiencies for the existing central heating, cooling and power systems that serve LSU.

- Lack of heating capacity redundancy in the event of the loss of high pressure gas service.
- Central Plant heating control system is aged and is failing.
- Lack of steam distribution hydraulic model.
- Lack of (or inaccurate) plant and building steam metering capabilities making efficient plant and building operations impossible to monitor, manage and control. There is no incentive to control or reduce demand in the buildings that are served and the plant is operated as efficiently as practical.
- Steam and condensate distribution networks are in marginal condition. Repairs and/or replacement is needed throughout the system. This should include improved distribution network looping.
- Lack of natural gas hydraulic model.
- Lack of cooling capacity redundancy in the event of the loss of the largest chiller #6. N+1 chiller redundancy is recommended.
- Many of the existing chillers are approaching or are at the end of their useful life and are in need of replacement. This includes all machines that are charged with R-11 and R-22 refrigerants which are no longer produced due to their negative environmental impacts. Variable frequency drives should be evaluated to be included with any new chillers if economically viable.
- Many of the existing cooling towers are approaching or are at the end of the useful life and need replacement. The metal packaged cooling towers associated with the electric centrifugal chillers are well beyond their useful life and need immediate replacement. Variable frequency drives should be included with any new tower cells.
- The condenser water systems in the Central Plant are piped independently such that they cannot be shared between the various chillers which greatly reduces the system operational flexibility and reliability. Interconnect/manifold the various hydraulically isolated groups of cooling towers at the Central Plant.
- Central Plant cooling control system is aged/failing and is due for replacement.
- Lack of, or inaccurate, plant and building chilled water metering capabilities frustrate the possibility of efficient plant and building operations. There is no incentive to control or reduce demand in the buildings that are served and the plant is operated as efficiently as practical.
- System Delta T's are low resulting in poor system efficiencies.
- Lack of chilled water distribution hydraulic model.
- A strategy is needed to serve the northwest precinct of campus with central chilled water. A new chilled water plant could be considered due to perceived limitations in the existing distribution system.
- The chilled water distribution network has a very high leakage and make up rate. Repair/replacement is needed throughout the system including the creation of more strategic loops in the system.
- Much of the legacy 4.16kV distribution equipment is at or reaching the end of its service life and in need of replacement. The practice of replacing this equipment and shifting the distribution to 13.8kV should continue.
- Within the legacy 4.16kV cabling distribution there has been failures with T-splices. The practice of avoiding these splices and utilizing sectionalized switches instead should continue.
- Lack of electric metering at academic buildings.
- Minor capacity concerns for feeder pairs 105/305 and 104/304.

Feeder 105/305 requires both feeders to be active when operating all electric chillers. Feeder 104/304 is approximately 70-80% loaded. These feeders should not be relied for additional load increases on campus.

- The southwest portion of campus is fed from a single electric feeder loop (1/19) on the 4.16kV distribution and is the greatest capacity concern.



CENTRAL PLANT OVERALL SYSTEM FLOW DIAGRAM

Source: Buckley, Robert, Jr., "Overview of cogeneration at LSU" (2006). LSU Master's Theses. 3559

### 3.4 MOBILITY

## CAMPUS MOBILITY NEEDS ASSESSMENT

Campus mobility is central to realizing the success of the Master Plan. Trends in staff, student and faculty travel habits shape the campus. Existing high-levels of driving have created demand for land-hungry parking that competes directly with the ability to add new buildings and challenges the campus aspiration for a walkable, safe and attractive learning environment.

By taking a pro-active role in managing campus mobility, the University can both cater to existing unmet demand for more walking, biking, transit use and carpooling and also generate new interest—

even from those that habitually drive to campus. It is an exciting time to leverage initiatives and projects in the broader community with a new Baton Rouge bikeshare system to be implemented this year, the addition of on-campus student housing, the construction of the Nicholson Gateway development, and the installation of TramLink Baton Rouge—a new tram rail service between downtown Baton Rouge and the campus. This plan seeks to build on these opportunities and create new ones.

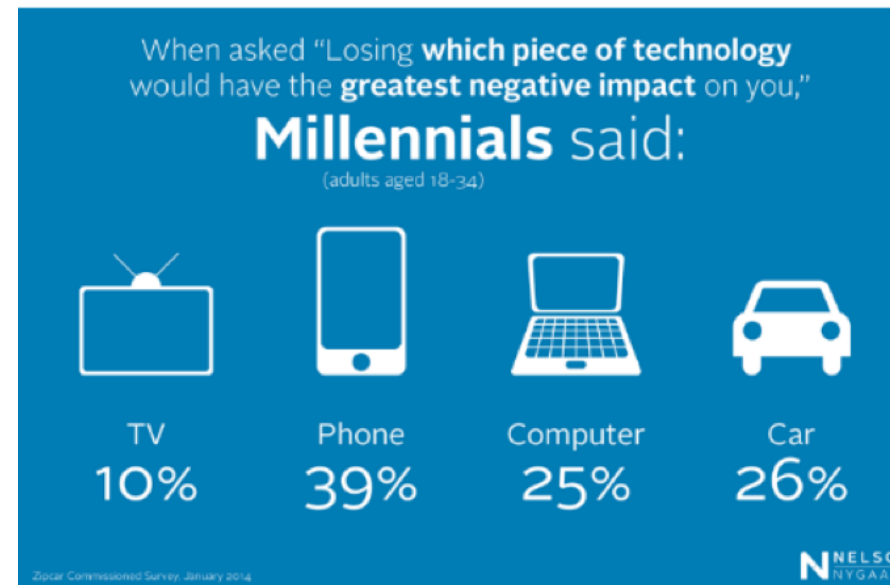
### CHALLENGES

Multiple challenges to realizing changes to LSU’s transportation system exist. An abundance of low cost parking options, which when combined with a lack of incentives for walk, bike and transit modes, incentivizes high rates of driving to campus. Constrained rights-of-way and a lack of transit-only lanes limits the effectiveness of transit to serve as an alternative to driving. A lack of bicycle lanes and limited sidewalk connectivity between off-campus student housing and campus encourages driving. Additionally, explosive growth in off-campus student housing has fueled growth in on-campus parking



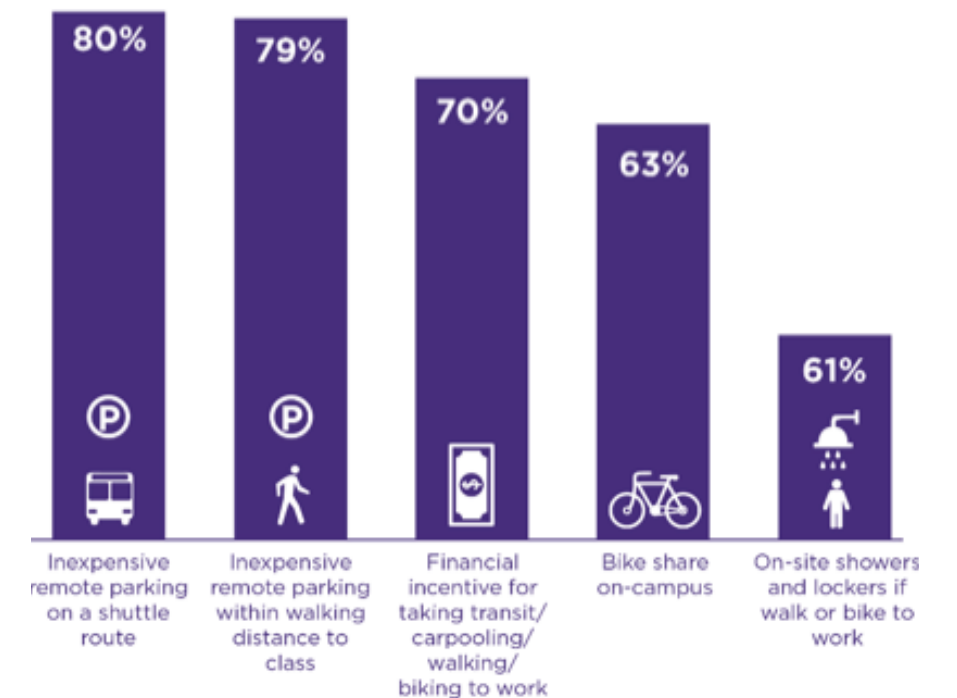
STREETCARS ARE PROPOSED TO RETURN TO BATON ROUGE WITH SERVICE BETWEEN DOWNTOWN AND LSU

Source: East Baton Rouge Parish Library



Amongst young adults, digital connectivity is more valuable than car ownership. An approach to campus mobility that focuses on changing priorities of students, staff and faculty will capture more value in the long term

Source: Zipcar commissioned survey



BASED ON THE MASTER PLAN SURVEY RESULTS, THERE IS A HIGH LEVEL OF INTEREST IN CHEAPER PARKING SERVED BY SHUTTLES AND GREATER LSU SUPPORT FOR WALKING AND BIKING

Source: LSU Master Plan Survey, 2016

demand that is unsustainable and a lack of efficient east-west transit limits effectiveness of buses to divert intra-campus trips that are currently made by car.

### Heard From the Baton Rouge Community

- LSU edges are a barrier between the University and the community
- Connectivity all around the campus is an issue the Master Plan should address
- Vast improvement in infrastructure for cycling and walking is needed
- Development along Burbank is a crisis - there are real transportation challenges
- Better connectivity between the North Gates and the campus is needed
- Make campus north edge / Chimes look better

*Source: 2016 Campus Master Plan Survey*



STUDENTS ON THE BUS, CYCLING, WALKING, AND USING THEIR PHONES TO SEE WHEN THE NEXT BUS WILL COME. EXISTING HABITS, WHICH - IF FURTHER INCENTIVIZED - WILL HELP REALIZE THE MASTER PLAN.

### 3.4 MOBILITY

## TRANSPORTATION DEMAND MANAGEMENT (TDM)

An effective campus parking and transportation system balances user prices, costs to the University and overall benefits to all users. The LSU system is currently imbalanced in favor of those who choose to drive. Parking is cheap, plentiful and the University absorbs the deficit between its costs of providing parking and its shortfalls in revenue. A more balanced system recovers costs to provide parking through higher permit fees while investing in walking, biking, transit, carpools and other more efficient and sustainable modes of travel. TDM programs are a foundational element of re-balancing the transportation system.

Over the last several years, LSU has promoted and enhanced alternative transportation infrastructure on campus including adopting new design guidelines, adding bike lanes on Tower Drive and welcoming a new bikeshare system on campus this year. However, the University lags when compared with peer colleges and universities in providing walking, biking, carpool and other transportation benefits and incentives. TDM strategies are relatively low-cost, especially when compared to the cost of building more parking. For example, providing a comparison of driving and parking costs versus the costs to travel by other modes can help student, faculty, and staff make informed and educated decisions about their commutes and choice of travel mode. The opportunities are considerable:

- A majority of LSU students and almost one third of employees live within biking and or walking distance from campus.
- LSU's relatively lean TDM offerings represent an opportunity to develop a new "TIGER TDM" program.
- Existing advocates can provide expertise; for example, there is already a healthy cycling community that can support LSU-led

bicycle initiatives.

- Many peer institutions such as the University of North Carolina and University of Tennessee offer more comprehensive TDM programs.

**Transportation Demand Management (TDM)**, is a general term for strategies that optimize available transportation services and infrastructure by incentivizing travel by more space-efficient and sustainable modes such as mass transit, bicycling and walking. This shifts trips to non-peak hours of the day (flexible schedules) or avoids vehicular trips altogether. Tools include changing costs of service, improving information, mixing together walkable land uses, and employing new technology (mobile apps, etc.).



TDM PROGRAMS CAN BUILD ON LSU'S EXISTING WALK, BIKE, AND TRANSIT CULTURE

### 3.4 MOBILITY

## TRANSIT

On major campuses across the nation, the shuttle system is the most visible part of a University’s transportation system and can have a significant impact on reducing demand for driving and supporting campus circulation. At LSU, this is no different. More than 800 passenger trips are taken on LSU shuttles each weekday during the fall and spring semesters.

The current shuttle system’s primary focus is on-campus circulation and connecting students between campus and off-campus residences. In many cases, University operated systems do not provide targeted service to private off-campus residences; however, the high number and geographic location of private student housing around LSU necessitates service. Getting to and from campus for a student in one of these complexes would be nearly impossible without transit. While the number of units and beds in a single student apartment complex may be relatively high, the concentration of the complexes is of low density and often far from campus. This pattern means that the transit operating characteristics tend to be inconvenient, which in

turn induces demand for driving and parking, reduces walking, and can ultimately degrade the density of activity and vibrancy of campus.

Specific challenges include one-way loops which limit the effectiveness of off-campus routes to provide efficient, direct service for off-campus housing complexes. Several of these one-way loops are long, serving multiple destinations, forcing riders to circle out of direction before reaching their destination. On-campus, the lack of a fast, efficient east-west transit service is limiting the ability to serve students traveling between the Lake front, the UREC Center or Veterinary School and the core of campus. Instead, many travel by car, which congests campus roadways, competes for space with buses, and creates conflicts with people walking and biking. Bus stop amenities are plentiful in some areas of campus, but they are uneven off-campus and in some cases lacking shelters, signage and lighting. Buses compete with single-occupancy vehicles on narrow, congested roadways slowing travel times, which diminishes the attractiveness of riding the bus.

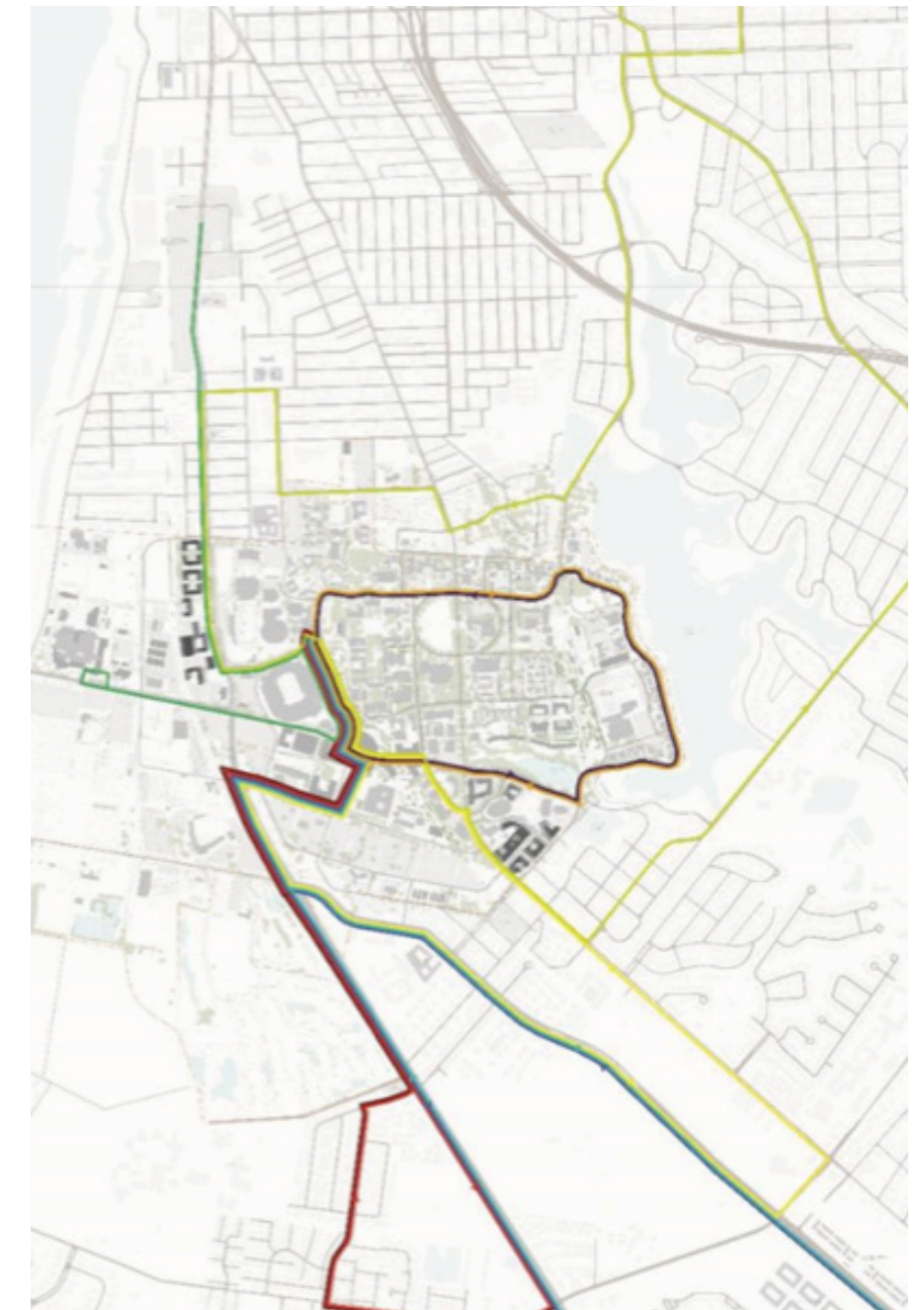


OFF-CAMPUS, MANY BUS STOPS LACK AMENITIES AND HAVE LIMITED APPEAL TO POTENTIAL RIDERS, LIMITING THE EFFECTIVENESS OF SERVICE



ON-CAMPUS BUSES HAVE A STRONG PRESENCE IN CERTAIN LOCATIONS, ESPECIALLY ON FIELDHOUSE DRIVE

### Inefficient Public Transit



EXISTING TIGER TRAILS

### 3.4 MOBILITY

## CIRCULATION AND STREET NETWORK

The core of campus is flooded with people walking and on bicycles, but existing street design supports primarily private vehicular access. Streets designed to support all forms of travel will support mobility needs of campus users. The effectiveness of the surrounding network is critical too. Regional and local roadways are congested during peak hours: I-10, Burbank Drive and Nicholson Drive have all seen more than 10% increases in volumes since 2002. Key gateways to campus, such as the Highland Gate, are also heavily congested, especially at peak commute hours. Despite this congestion, 80% choose to drive alone (based on 2016 Master Plan survey).

On-campus, the existing campus streets network lacks clear delineation for walkers, bicyclists and transit and lack of clarity between those driving, walking, biking, and riding transit leads to safety conflicts. The edges of campus such as Nicholson Drive Extension, Highland Gate and Nicholson Drive are barriers to foot

and bicycle traffic. In many cases this is because, streets and signal timing are prioritized for vehicular flows at the cost of a comfortable walking or biking environment. To reach class from the south side of campus, it is necessary to walk through a sea of parking.

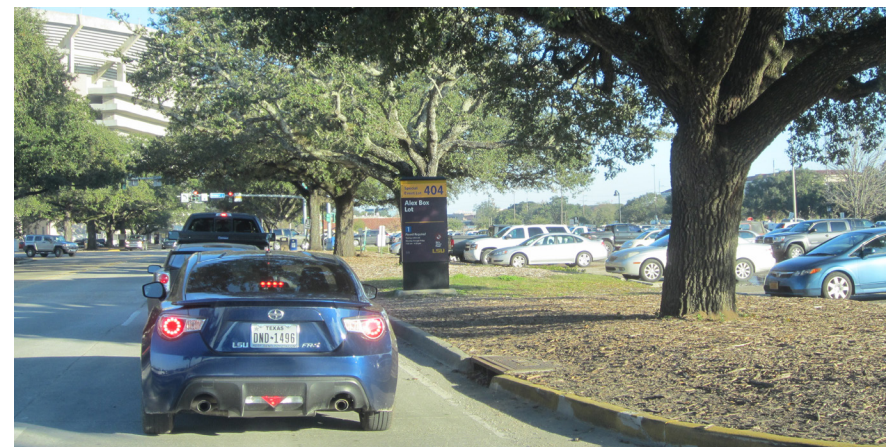
The opportunities are considerable. Where there are more people on foot, there is the opportunity to reconfigure infrastructure to prioritize foot traffic (for example along Nicholson Drive Extension, where walkers outnumber drivers). The existing street network also has sufficient connectivity and roadway width to establish a family of multi-modal, shared campus streets and a network of walking and cycling paths. Off-campus housing is within a reasonable walking, biking and transit catchment area and the East Baton Rouge City Parish initiatives and upgrades to roadways around campus such as Nicholson Drive represent an opportunity to reduce congestion and provide better multi-modal infrastructure.



INTERVENTIONS ON FIELDHOUSE DRIVE HAVE SET THE STAGE FOR COMPREHENSIVELY RETHINKING HOW RIGHT-OF-WAY IS SHARED



POINTS OF ARRIVAL AT CAMPUS EDGES ENCOURAGE A SENSE THAT IT IS A CAMPUS FOR CARS (EAST STATE STREET APPROACHING HIGHLAND ROAD)









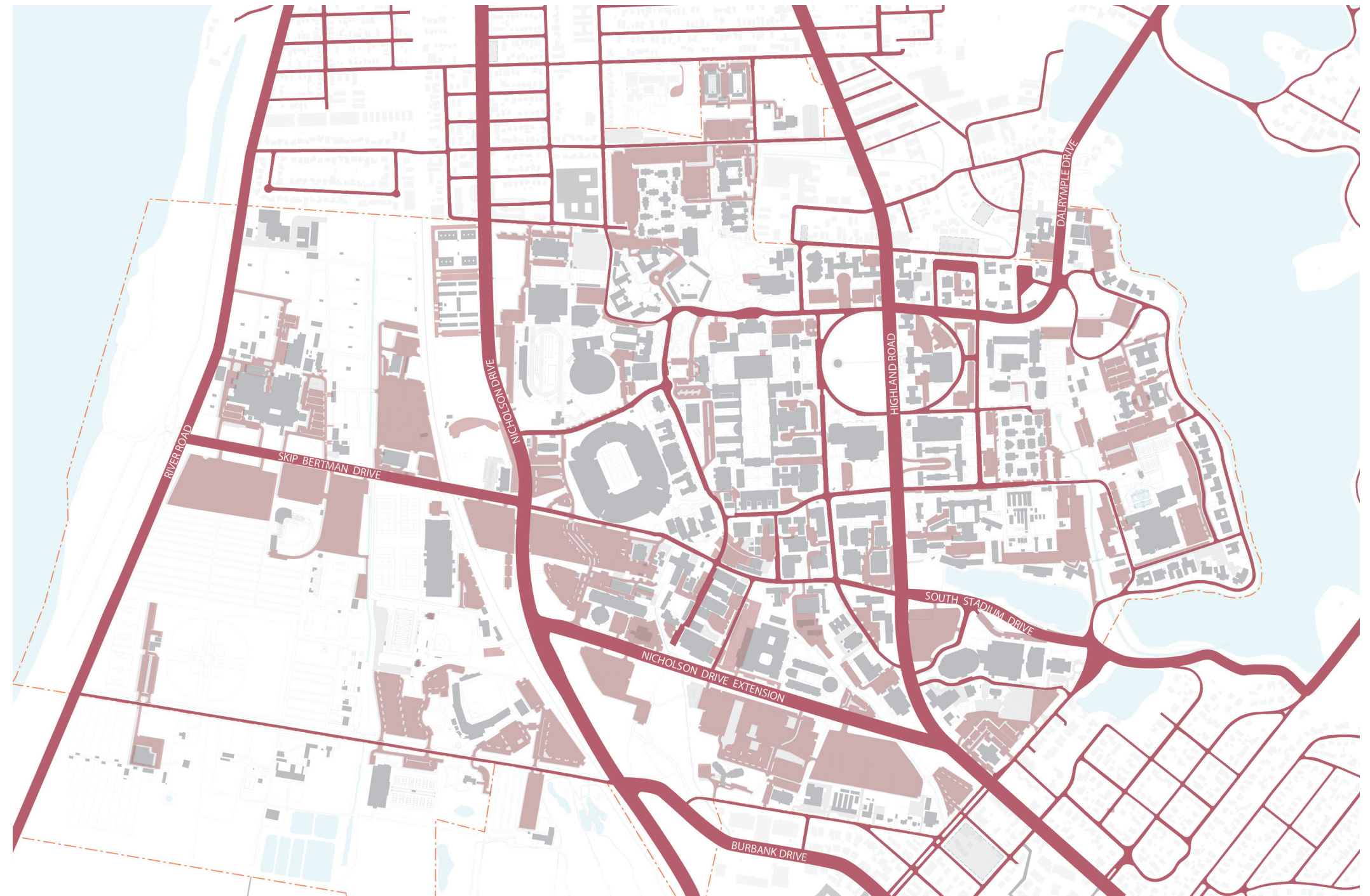
MAJOR CAMPUS GATEWAYS AND WALKING ROUTES FROM REMOTE PARKING ARE CAR DOMINATED AND UNINVITING (SKIP BERTMAN DRIVE AND NICHOLSON DRIVE)



NEW OFF-CAMPUS HOUSING HAS FUELED DEMAND FOR PARKING

**Legend**

-  Primary Roads
-  Secondary Roads
-  Campus Roads
-  Paved Parking
-  Campus Building
-  Campus Boundary



EXISTING ROADS AND PARKING





### 3.4 MOBILITY

## PARKING

Over time, parking has been added to the campus core surrounding the Historic Quad, filling in open areas as each new building was constructed. The net result is that former fields and open spaces have been paved over to accommodate parked cars. In the most historic and picturesque parts of campus where concentrations of walkers and bikers are highest, lots have been squeezed in between historic buildings. Today, the campus contains more than 28,000 parking spaces: a ratio of 0.75 parking spaces per affiliate, far ahead of similar size colleges.

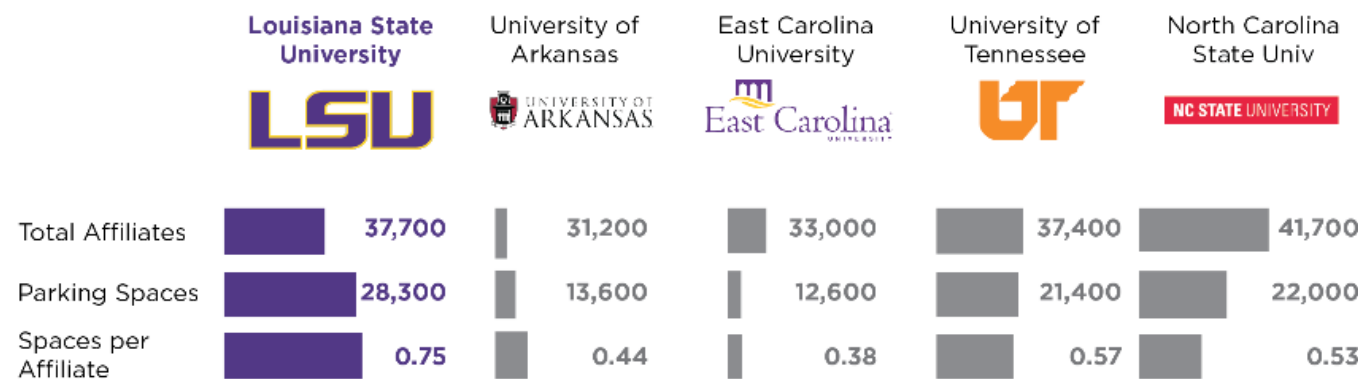
There are both perceived and real parking challenges among campus students, faculty, and staff. The reality is that parking is difficult to find in the core areas of campus during peak hours. However, even at the peak, almost half of the total campus parking supply is available. The

challenge is that available spaces are not conveniently located in the places where people most want to park.

The existing parking system is financially unsustainable. Solving parking challenges by simply building more supply is both expensive and diverts resources from other more cost-effective and sustainable modes of transportation. LSU's own recent experience with the Union Square garage is a case in point: revenue from the new parking garage is well below what was projected because cheaper options exist nearby, and debt service has eaten into the parking operations fund reserve. Revenues from visitor permits are declining and enforcement revenues are increasing, creating a punitive environment; a healthy parking system is less-reliant on revenues from enforcement.

Unabated, demand for parking will increase over time and create further pressure to replace open space with parking lots and expensive parking structures, competing with the Master Plan's vision for a denser, greener campus. Remote parking is not attractively priced in comparison to parking closer to campus; nor is it easily accessed on foot, by bike or bus and therefore is underutilized

LSU's parking supply represents a significantly underutilized asset. 45% of the parking supply or more than 14,000 parking spaces lay empty during peak demand — a vast land bank for LSU if reallocated appropriately. Parking is priced cheaply when compared to the real and perceived costs of traveling by other modes. There is room to raise parking prices in areas of high demand above the cost of transit and reduce prices in areas of lower demand.



PARKING RATIOS AT SIMILAR LARGE STATE SCHOOLS.

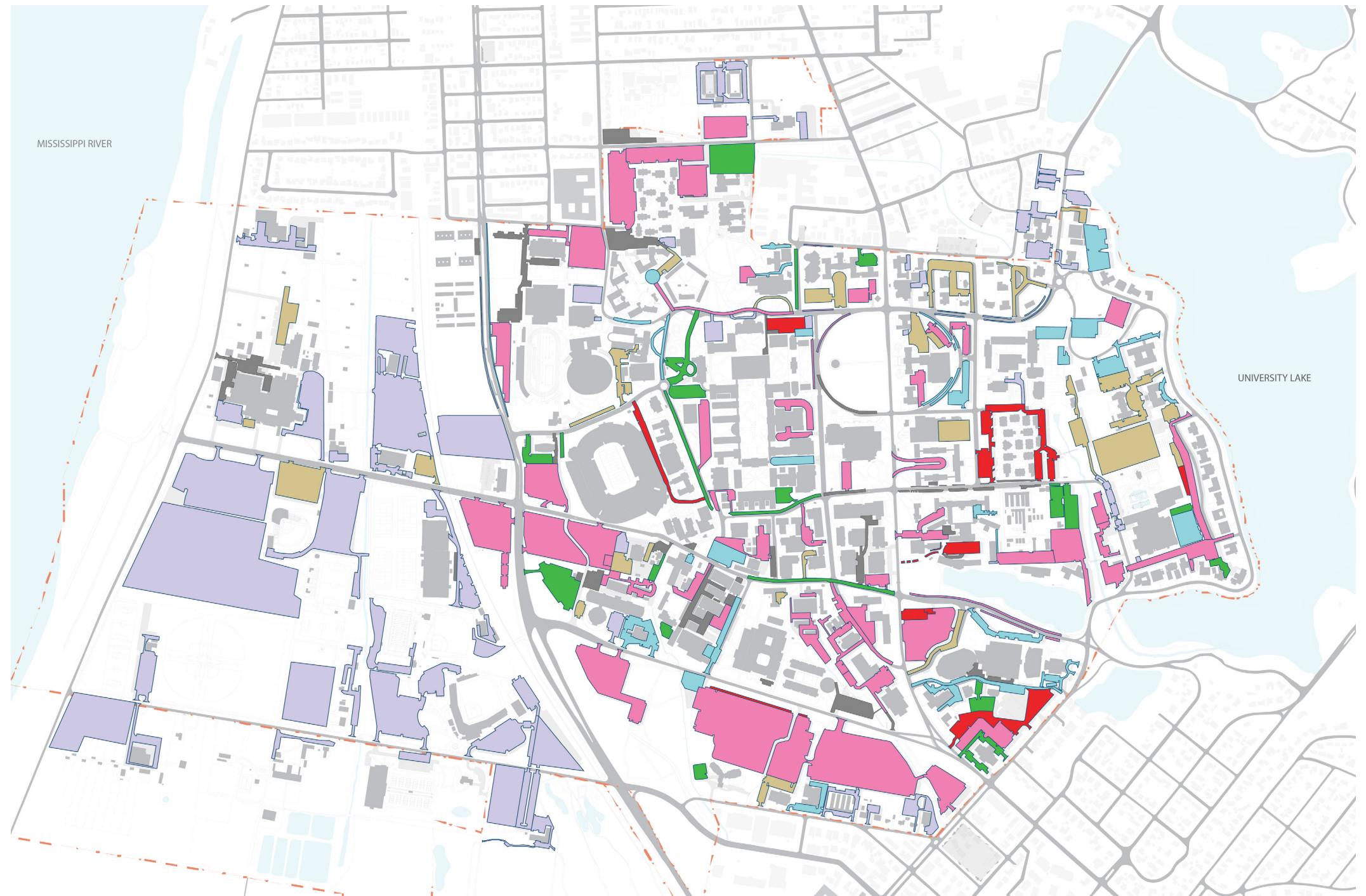
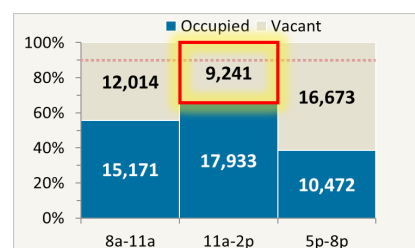
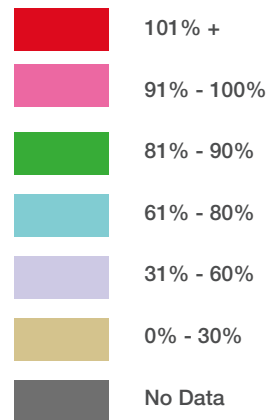


EVEN THOUGH IT IS LESS THAN HALF A MILE FROM THE STADIUM, THE LEVEE PARKING LOTS FEEL A LOT FURTHER, MAKING THEM UNAPPEALING TO PARKERS.



PARKING LINES CORE CAMPUS STREETS, MAKING PEDESTRIANS AND CYCLISTS HARD TO SEE.

**Legend**



PEAK PARKING OCCUPANCY [THURSDAY 11AM - 2PM]



### 3.4 MOBILITY

## PEDESTRIAN AND BIKE CIRCULATION

Almost a fifth (19%) of staff, students and faculty are currently traveling on foot or by bike (based on 2016 Master Plan survey) and approximately 14% are traveling by bike. Given that there are currently no dedicated bike lanes connecting to campus or on-campus (with a few small exceptions) this suggests significant potential for a more robust network of bicycle paths, on-campus amenities such as lockers and showers, repair stations and secure, weather protected bike parking. Only 5% reported walking as their primary mode of transportation to campus. Most still choose to drive. To realize the Master Plan vision the numbers of staff, students and faculty choosing to walk, for at least the last leg of their trip, will need to significantly increase.

On-campus, most streets currently lack any clear delineation to guide walkers, bicyclists, and others. A lack of comfortable walking routes

from off-campus student housing is incentivizing driving. Key cycling routes onto campus lack basic bicycle accommodations. Once on campus, the abundance of parked cars makes cycling feel unsafe. Dalrymple Drive, for example has sufficient road width to add bike lanes in each direction. Remote parking options, especially west of Nicholson Drive, are less appealing because of a lack of connecting sidewalks and lack of shade trees. Parked cars dominate the campus core even in locations where the highest volumes are of those on foot; this sends a message that the car is the primary mode of travel.

The roadway drainage system was designed prior to established crosswalks. In many cases the catch basins are located at the crosswalk and the gutter conveys a large amount of surface flow across making it impassible during a rain event. Drainage and gutter improvements considering the crosswalk design will greatly enhance

accessibility and safety while crossing the street.

Making the campus safer for pedestrians and cyclists means not only establishing a walking and biking network across campus, but also working with the City Parish to improve connections and safety off-campus. Walking and cycling improvements such as bike lanes, signage and crossing improvements, will announce to the walk and bike community that LSU is taking the lead to build a walkable, green and healthy campus. Off-campus, with growth in off-campus housing, there is an opportunity for the University to work with the City Parish to leverage private developers' dollars for non-motorized transportation infrastructure improvements—especially in major growth areas such as along Burbank Drive. On-going University collaborations with the City Parish at the campus edges and beyond can serve both parties' goals of increasing safe travel.



LACK OF BICYCLE LANES ON-CAMPUS LIMITS ABILITY TO ATTRACT NEW BICYCLISTS









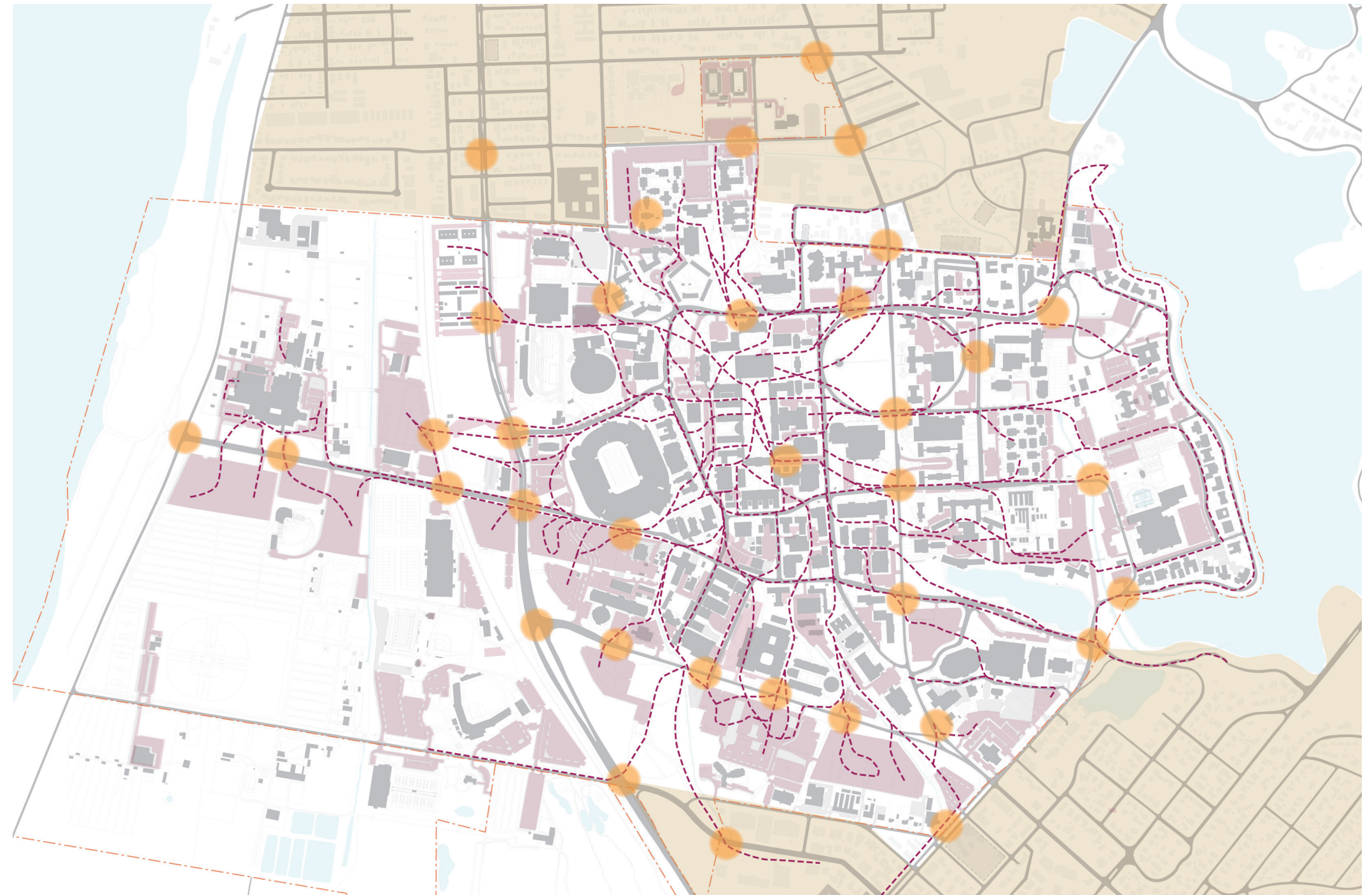
ON-CAMPUS STREETS LACK DELINEATION BETWEEN MODES



OFF-CAMPUS PEDESTRIAN INFRASTRUCTURE LIMITS THE APPEAL OF WALKING FROM HOME TO CAMPUS

**Legend**

-  Existing Major Pedestrian Routes
-  Pedestrian / Vehicular Conflicts
-  Residential Edges
-  Paved Parking
-  Campus Building
-  Campus Boundary



CHALLENGES TO PEDESTRIAN & BICYCLE CIRCULATION

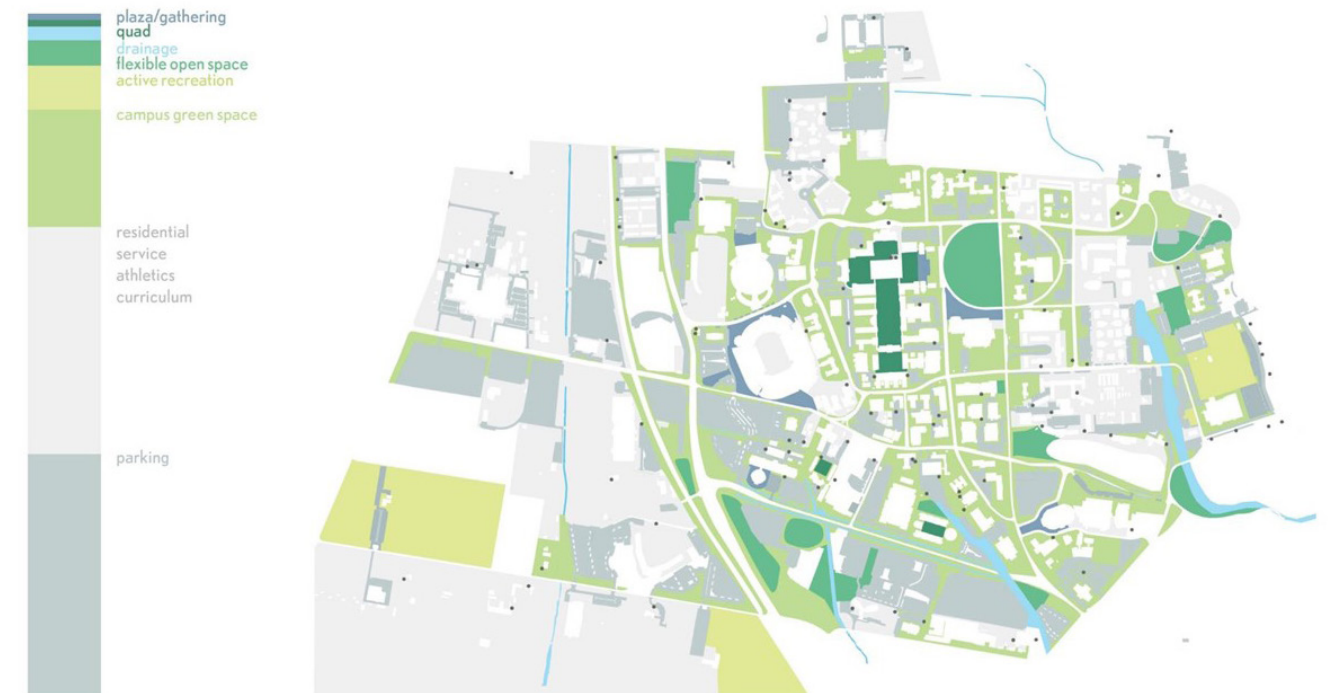


### 3.5 OPEN SPACE

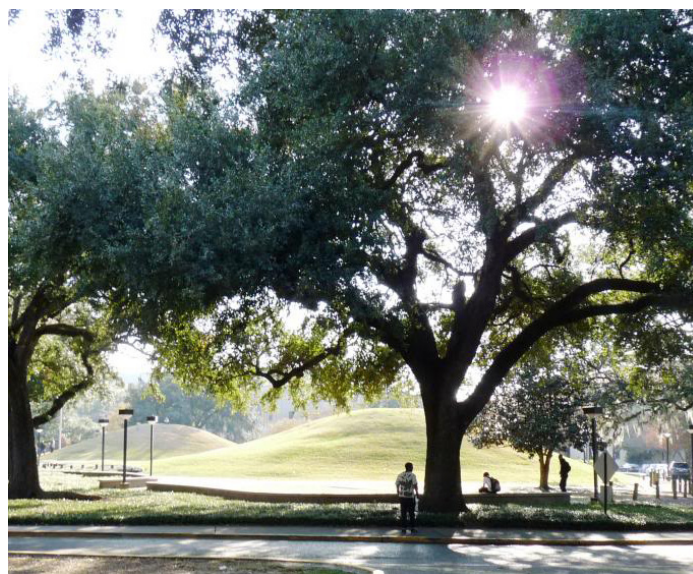
## OPEN SPACE NETWORK

The existing campus landscape consists of much campus green space, but as a network is fragmented and lacks cohesion. The network does not extend to outlying areas or campus edges, making approaches to campus unwelcoming to visitors and students. While LSU does not have a shortage of land, space is underutilized, resulting in a shortage of large flexible open space. In addition, surface parking occupies almost twice the area of open space, dominating the experience and disrupting iconic landscape spaces in the core.

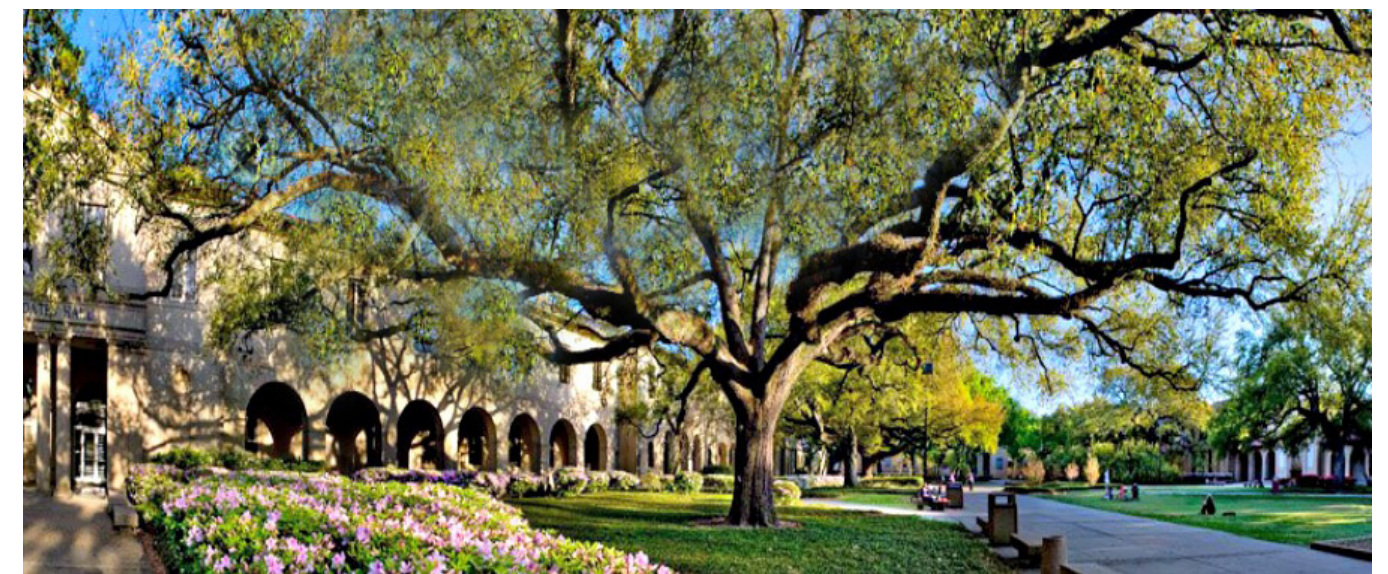
The opportunities are considerable. The availability of land provides opportunities for adding new flexible open spaces to support a range of campus activities. Making strategic open space linkages to connect spaces will support the structure of the campus. And if coordinated with bike and pedestrian circulation, an open space network that is fully integrated with circulation can be achieved.



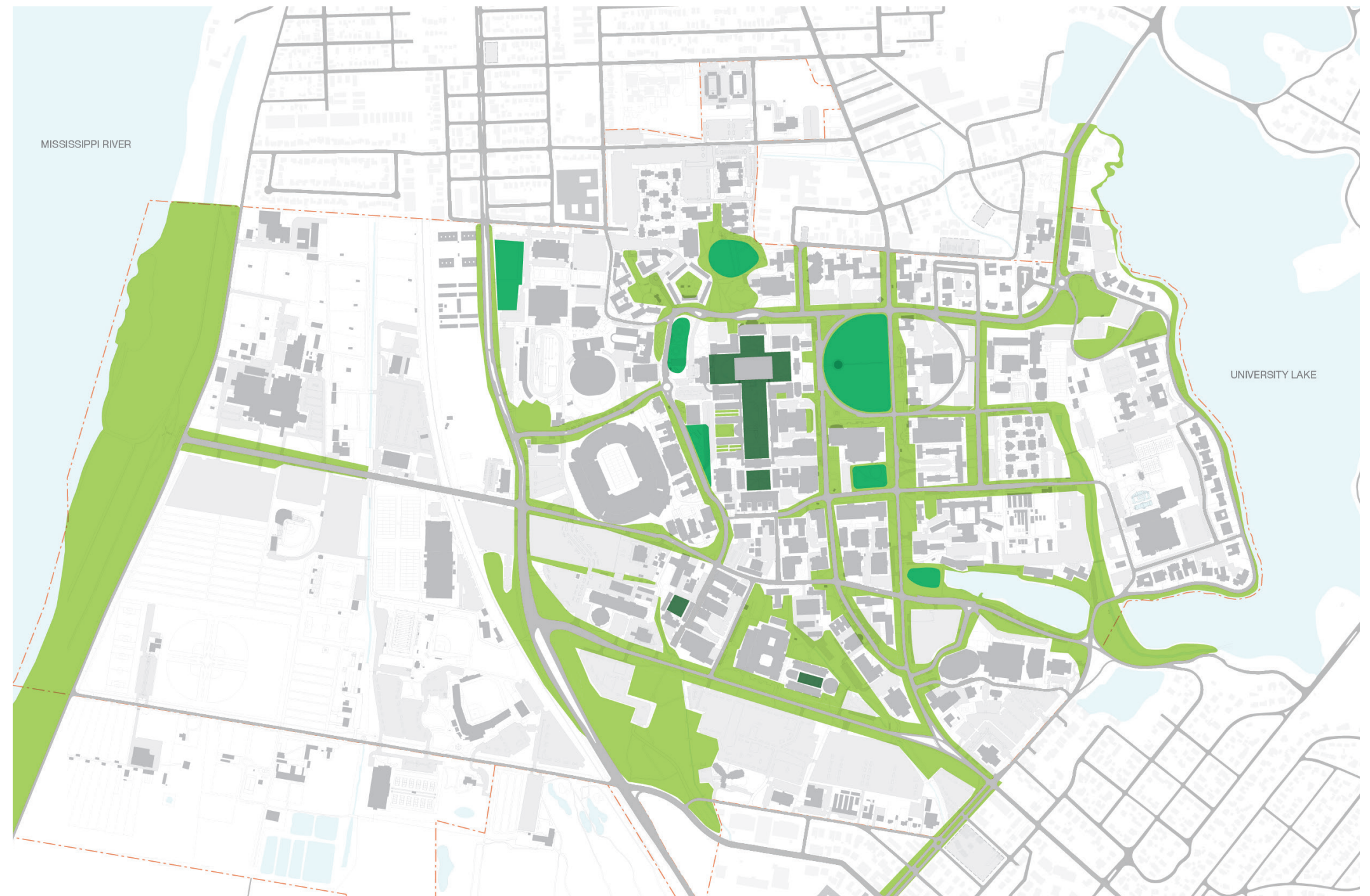
OPEN SPACE TYPOLOGIES








ICONIC CAMPUS SPACES



LSU'S HISTORIC MAIN QUAD



**Legend**

-  Quad
-  Major Open Space
-  Interstitial Open Space
-  Campus Building
-  Campus Boundary

FRAGMENTED OPEN SPACE NETWORK



### 3.5 OPEN SPACE

## VEGETATION

The campus landscape is comprised of three basic elements: canopy, lawn, and garden. The mature Live Oak canopy serves as one of the most iconic features of the LSU campus. Aside from providing much-needed shade between buildings, the canopy frames and defines important open spaces, providing a backdrop to activity on campus. The Live Oaks are synonymous to the campus aesthetic, image and identity and are often cited as one of the most beloved features of the campus. This essential element of the campus is approaching maturity and lacks the diversity to function as a resilient system. As the campus grows from the core, where canopy is dense and effective, this network of shade must be extended to reach the edges where it is currently fragmented and sparse.

The opportunity exists to extend the canopy cover to reinforce pedestrian movement, shape new spaces, and mediate building scale. Increasing the diversity by attuning campus vegetation to soil type, topography, and context will create a resilient vegetation system.

The dominance of mature live oaks over the years has caused the elimination of competing trees. Also other deciduous trees have been removed due to age or disease and have not been replaced. A variety of new plant types will avoid a monoculture, also provide variety, fall color as well as shade with an understory of healthy lawn.



MATURE CANOPY IN THE CAMPUS HISTORIC CORE



SHADED WALKS



UNSHADED PARKING



**Legend**

- Existing Major Pedestrian Routes
- Existing Major Pedestrian Routes without Shade
- Existing Campus Canopy
- Campus Building
- Campus Boundary

CONTRASTS IN QUALITY OF CANOPY & SHADE





### 3.5 OPEN SPACE

## HISTORIC CORE OPEN SPACES

Buildings in the campus core, formally arranged and sited in response to the Highland Ridge were developed on strong axis around a series of large quads and open spaces. The main Quad was the central unifying space to foster gathering, social interaction, and an exchange of ideas. But ultimately the core was modest and inward facing; parking was incorporated into the edges from early on, disregarding the potential for future expansion. Later interventions, like Middleton Library and Lockett Hall, disrupted the original form

and created barriers to circulation. The core is now host to a wide range of service and infrastructural uses, further eroding the character and form of the original plan. Most architectural additions have been poorly sited, disrupting the pedestrian movement through the central academic spaces on campus. The simple landscape language of lawn and canopy trees has lost its reading through years of discrete interventions and larger open spaces gestures are now divided by parking.



EARLY 1950S VIEW OF MAIN QUAD



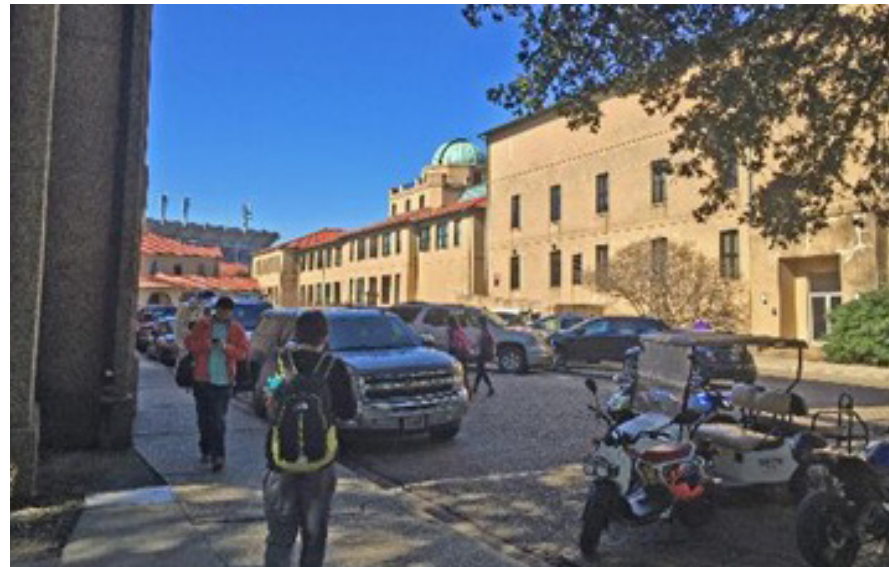
CURRENT VIEW OF MAIN QUAD



ART STUDENTS IN MAIN QUAD, 1930S



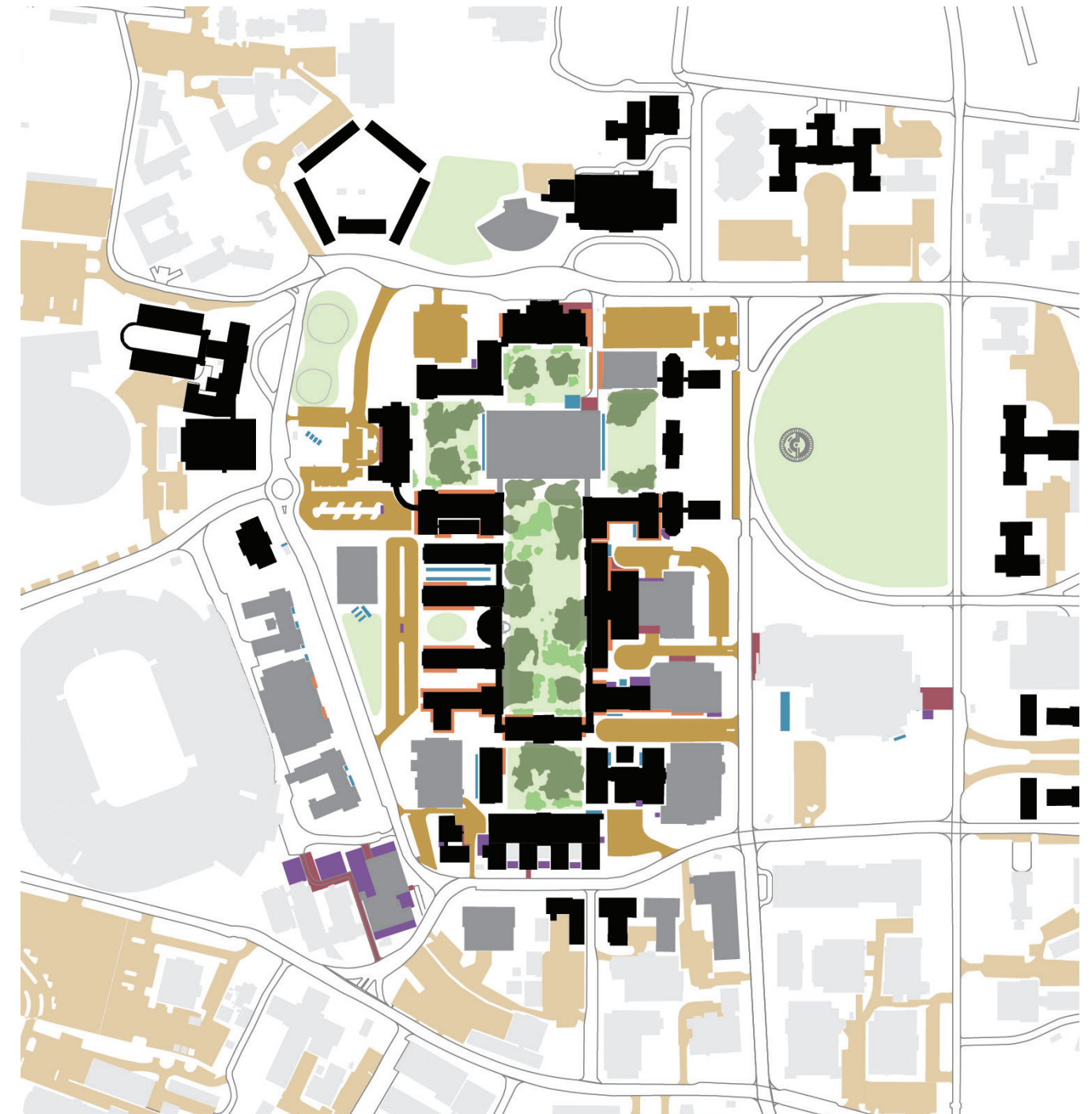
1927 AERIAL VIEW OF THE CAMPUS



EROSION OF THE CAMPUS CORE

**Legend**

- Parking Lots
- Basement Wells
- Loading Docks
- Bike Racks
- Dumpsters / Mechanical
- Quad Live Oak Canopy
- Quad Misc. Canopy
- Historic Campus Buildings



CAMPUS CORE INVENTORY

### 3.5 OPEN SPACE

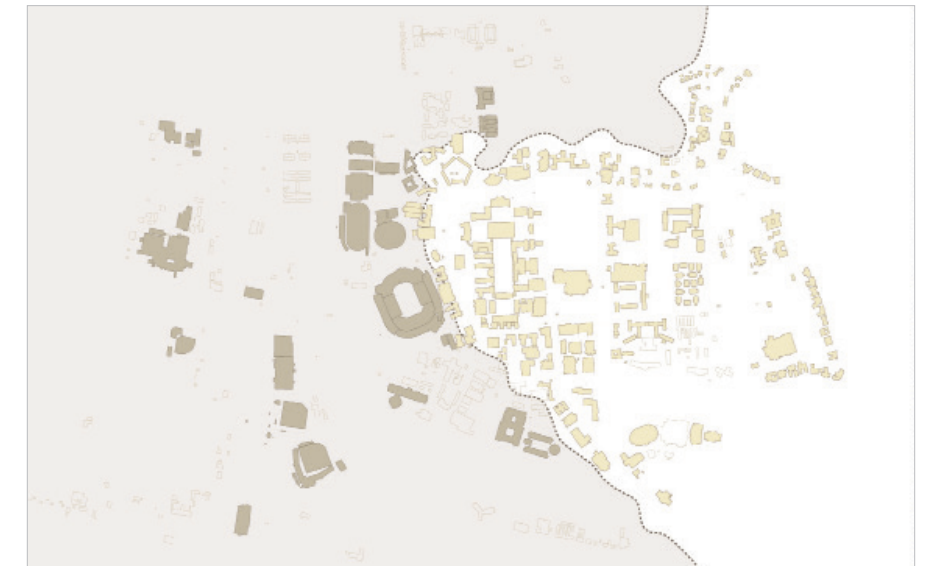
## TOPOGRAPHY AND HYDROLOGY

The Highland Ridge, or “the bluff”, is the result of a natural levee created by a historic path of the Mississippi River. This moment of significant change in elevation runs north-south through the center of campus. The historic campus core was sited and developed on the upland along the bluff overlooking the river. Buildings on the upland are smaller and are sited in more formal arrangements, while development in the lower floodplain jumps in scale, consisting of athletics fields and facilities, larger academic buildings, and large commuter parking lots. This strategy of siting “flood-able” development (parking and athletic fields) in the floodplain aligns well with the historic and present day flood mapping data. Future buildings developed in this zone must be designed to account for the possibility of flooding.

LSU’s campus is located within two significant watersheds that drain through a larger ecosystem that connects to Lake Pontchartrain. Due

to the limited change in topography along the southern and western ends of the site, these areas are naturally positioned within the 100-year and 500-year floodplain. In order to properly design for site specific stormwater issues it was fundamental to fully understand the existing topography and how the stormwater flows through and is stored on the site both currently and in the future.

Assessing the hydrology and topography helped identify opportunities to enhance and implement natural drainage and topography patterns as a framework for future development. This approach provides improved campus connectivity, increases campus resiliency for the future and promotes systems that respond and enhance natural watershed patterns.



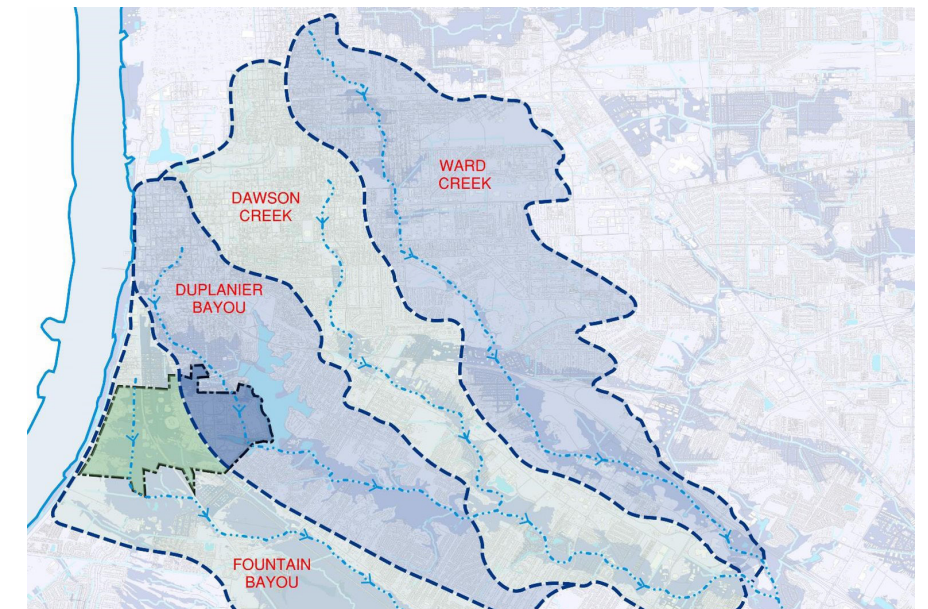
THE HIGHLAND RIDGE SEPARATES THE UPLAND AND LOWLAND FLOODPLAIN, DENOTING A CHANGE IN RELATIONSHIP BETWEEN BUILDING SCALE AND ARRANGEMENT, AND ELEVATION.



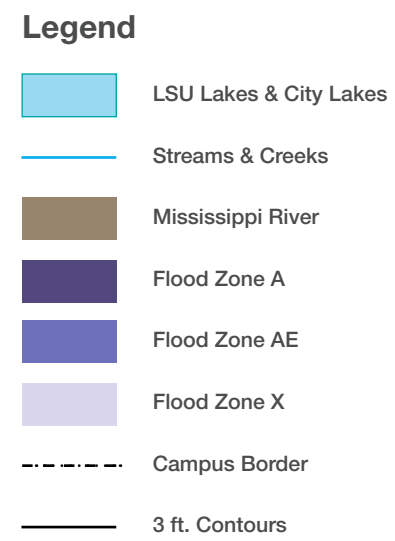
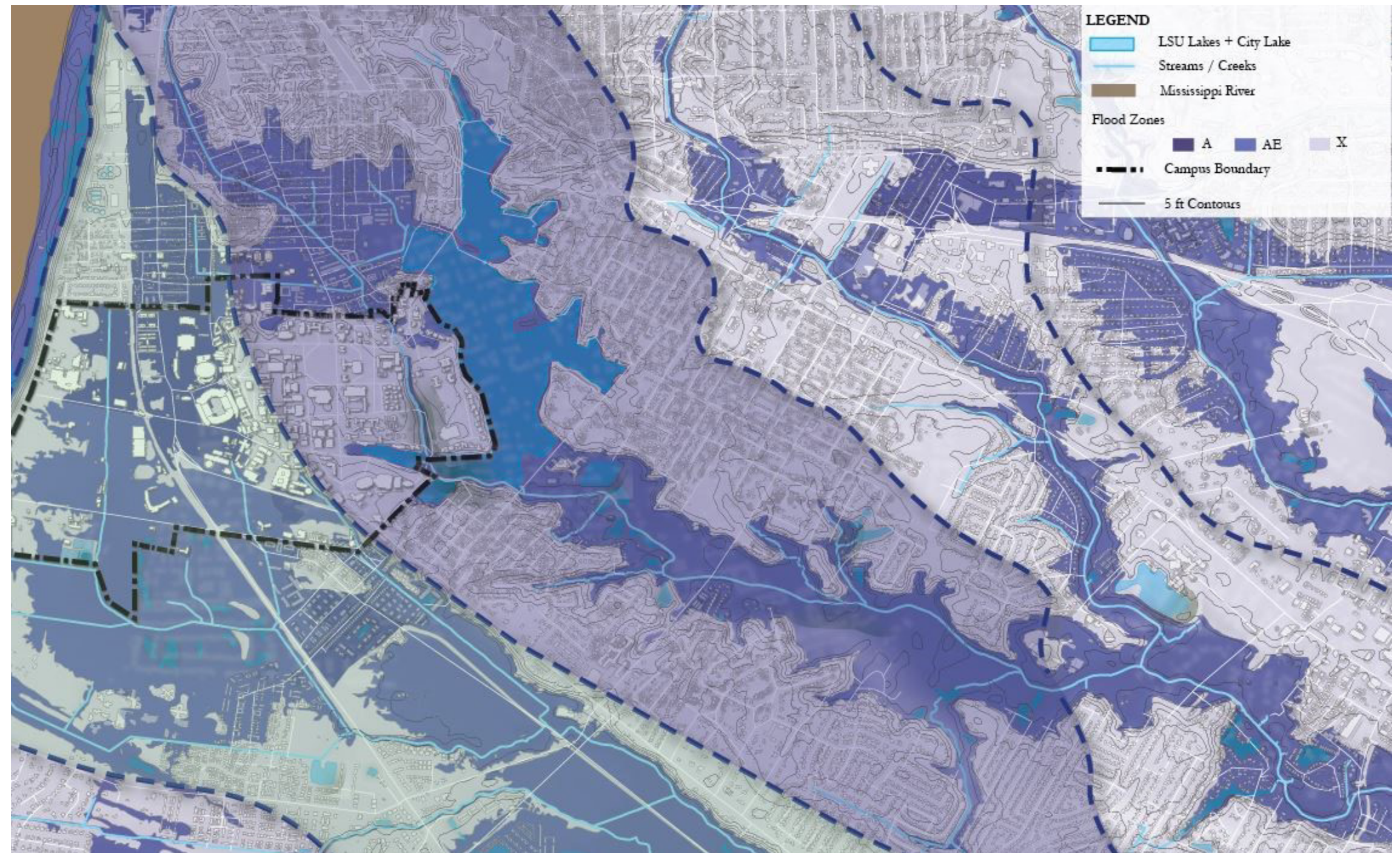
CAMPUS FLOODING AUGUST 2016



CAMPUS FLOODING AUGUST 2016



REGIONAL WATERSHEDS



EXISTING CAMPUS WATERSHEDS





# 4.0 MASTER PLAN

## OVERVIEW

The Master Plan is the result of more than 100 meetings with multiple internal and external stakeholders and exhaustive research on university needs, planning studies, and higher education trends and in keeping with the spirit of the Master Plan Vision statement.

*Respecting the culture, heritage and diversity of Louisiana State University, this Comprehensive and Strategic Campus Master Plan will provide a practical and flexible framework that sustainably guides and integrates development and capital investment on the campus and in the community over the next decade and beyond. The Master Plan will support LSU's Flagship designation and will reinforce its status as a high performance, contemporary, research and living/learning environment....the Flagship of Flagship Universities.*

Unlike other campus master plans that might focus specifically on facilities or the physical campus environment, the LSU Master Plan has purposely taken on a broad and holistic approach involving every aspect of the University from building and space assessments to future academic growth projects to a specific strategic capital plan that methodically outlines future investment in building, grounds and infrastructure over a fifteen year planning horizon and beyond.

The Master Plan recommendations, therefore, are “comprehensive” and “strategic.” As a comprehensive undertaking, the Master Plan identifies specific purposes of existing and proposed new buildings determined in accordance with specific future academic and other needs as compared to space assessment and projected growth. It also provides detailed recommendations for circulation plans and strategies throughout campus with the goal of improved mobility, including recommendations for street improvements, traffic planning, as well as more specific pedestrian and bicycle infrastructure. Recommendations for landscape improvements as well as preservation of LSU’s historic buildings, sites, and landscapes are integral to the comprehensive plan strategies.

The Master Plan also maps out a strategic capital prioritization and phasing strategy for the fifteen years, identified as the LSU Strategic Capital Plan. Buildings with major renovation needs, as well as the need for new buildings have been identified; all together with parking, site improvements, utilities and other infrastructure needs.

The following pages describe the overall Master Plan vision and recommendations, followed by specific components of the Plan and the implementation strategy. The recommendations are in keeping

with the following guiding principles (and further described in the Executive Summary.)

- *Connect Campus and Community*
- *Celebrate Distinct LSU Campus and Context*
- *Support High Performance Academic and Research*
- *Enhance Student Life*
- *Promote Environmental Stewardship*



LSU CAMPUS PROPOSED MASTER PLAN VISION

## 4.1 MASTER PLAN FRAMEWORK

### “ACADEMIC SPINE”

The natural systems of landform and watersheds indicate the significance of the north-south ridgeline (the bluff) along which the original campus buildings were arrayed. Highest concentrations of students on campus, during the busiest time of the class scheduled days, are also found along this ridgeline making this north-south arc through the campus not only a symbolic and historic element, but also a physical connector of key academic spaces.

The Master Plan reinforces the north-south “Academic Spine” by creating an accessible pedestrian promenade and bicycle corridor along this spine linking the academic buildings and the open spaces along it. A string of new open spaces are intertwined with the Academic Spine and new buildings are organized along it, thereby further reinforcing its identity. The purposeful design of the Academic

Spine make it a primary wayfinding element for the daily campus users as well as visitors.

Looking at the campus as a whole, there are a host of open spaces that need to be connected and celebrated. The Master Plan creates a series of north-south spines that builds on the existing open space systems and complements the Academic Spine. These spines are connected by a network of east-west paths. Together, these connected spines provide an organizational and connective system that stitches the campus fabric. Salient features established by the Master Plan for each of these spines are as follows:

#### THE ACADEMIC SPINE

- Connects the lowland and upland areas of campus.

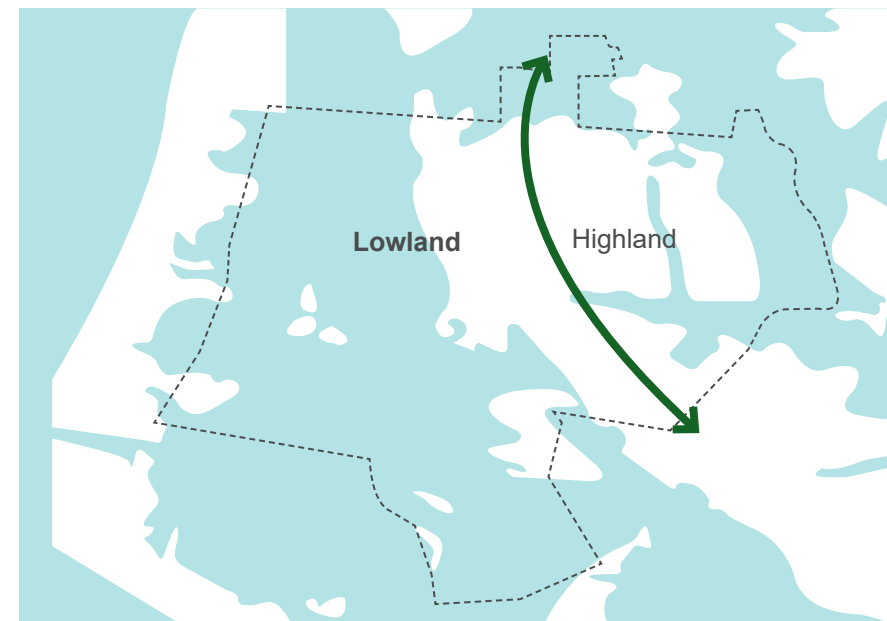
- Complements existing campus academic activity and historic development patterns.
- Links the restored Historic Quad to other key campus open spaces.
- Improves campus-neighborhood connectivity with a clear hierarchy of circulation and wayfinding.

#### WEST COMMUNITY SPINE

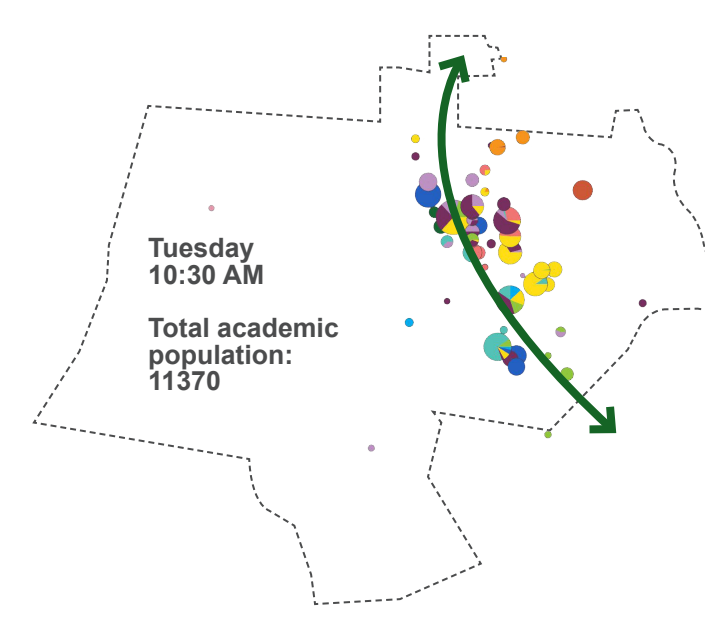
- Acknowledges the historical importance of the Mississippi River to the campus.
- Re-establishes east-west campus connections to the levee commuter path.
- Improves the overall campus environment along the western edge and draw users to it.



CELEBRATING THE HISTORIC “BLUFF”



REINFORCING THE LANDFORM AND WATERSHEDS



CONNECTING KEY ACADEMIC SPACES



### ATHLETICS SPINE

- Improves and leverages the existing channelized bayou.
- Connects campus athletic and recreational fields west of the railroad to key east-west routes.
- Enhances wildlife habitat and stormwater management capacity of the bayou.

### NICHOLSON BOULEVARD SPINE

- Improves the Nicholson Boulevard multi-modal transportation corridor.
- Creates a consistent dense urban tree canopy and pedestrian experience.
- Improves the campus entry experience by integrating the Nicholson developments into campus fabric.

### HIGHLAND ROAD SPINE

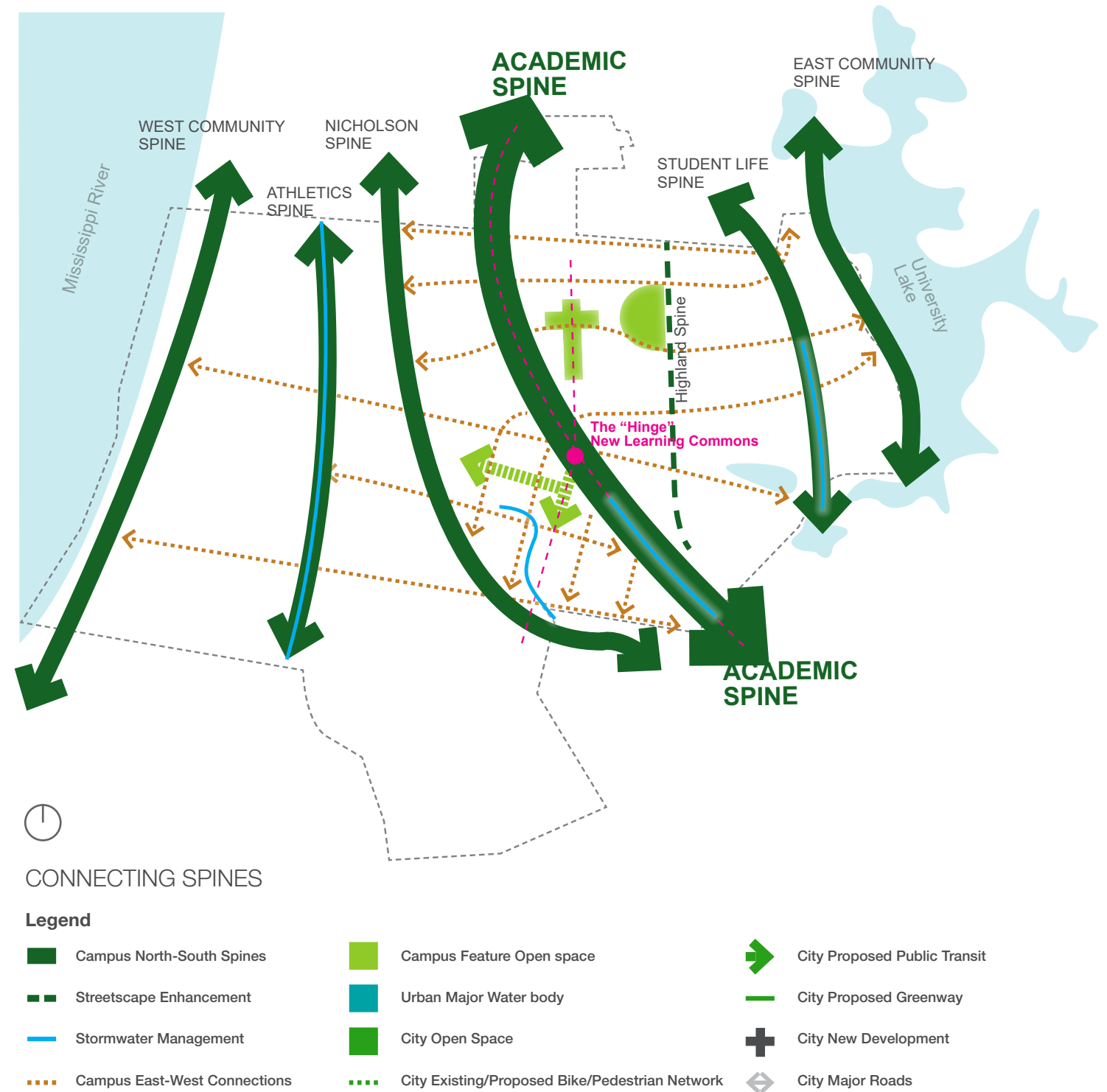
- Improves Highland Road pedestrian environment and calm traffic.
- Strengthens east-west pedestrian connections across Highland Road.
- Improves campus-neighborhood connectivity.

### STUDENT LIFE (CORPORATION CANAL) SPINE

- Connects residential life and campus to the community and to Campus and University Lakes.
- Leverages the canal corridor as an integrated green and blueway system.
- Defines a linear collection of educational, residential, passive, and recreational spaces.
- Enhances wildlife habitat and stormwater management capacity of the canal.
- Creates a campus setting appropriate for a thriving residential community.

### EAST COMMUNITY SPINE

- Enhances student and community life along University Lake.
- Builds on the programmatic recommendations of the Baton Rouge Lakes Master Plan.
- Ties into student life and University recreational amenities.



## 4.1 MASTER PLAN FRAMEWORK

# “EVOLVING CAMPUS CENTER”

Investments will continue to be made in facilities, grounds, and infrastructure across the campus in support of University mission strategic goals and mission. However, looking at areas of concentrated campus growth over the next decade, four zones of the campus become key. The existing historic campus core has many important facilities that will continue to house core academic functions. Investing in renovation and maintenance of the core campus will be important. The ongoing developments in the Nicholson Gateway and the east student housing (greenhouse site) will meet the anticipated campus student housing and residential life needs.

Opportunity for new academic and research growth will move south around Patrick F. Taylor Hall, the College of Business, and the Energy Coast & Environment building. This zone has the available land area suited for contemporary academic and research facilities and will maintain strategic adjacency to a large number of existing academic facilities. This zone of new development suggests that the “centroid” of the campus will shift in a southerly direction as illustrated on the following page. Overarching recommendations for key campus growth areas are:

### THE ACADEMIC CORE

- Preserve and enhance the historic fabric of the core campus.
- Invest in renovating and maintain existing historic facilities.
- Make efficient use of existing space; defragment scattered colleges and departments.
- Strategically infill development to accommodate growth.

### SOUTH ACADEMIC AND RESEARCH AREA

- Build new facilities to accommodate academic and research growth needs.
- Build facilities in support of high performance, contemporary research.
- Connect the Energy, Coast & Environment building to the rest of the academic areas.
- Create new formal and informal campus open spaces.

### NICHOLSON GATEWAY AND EAST STUDENT HOUSING

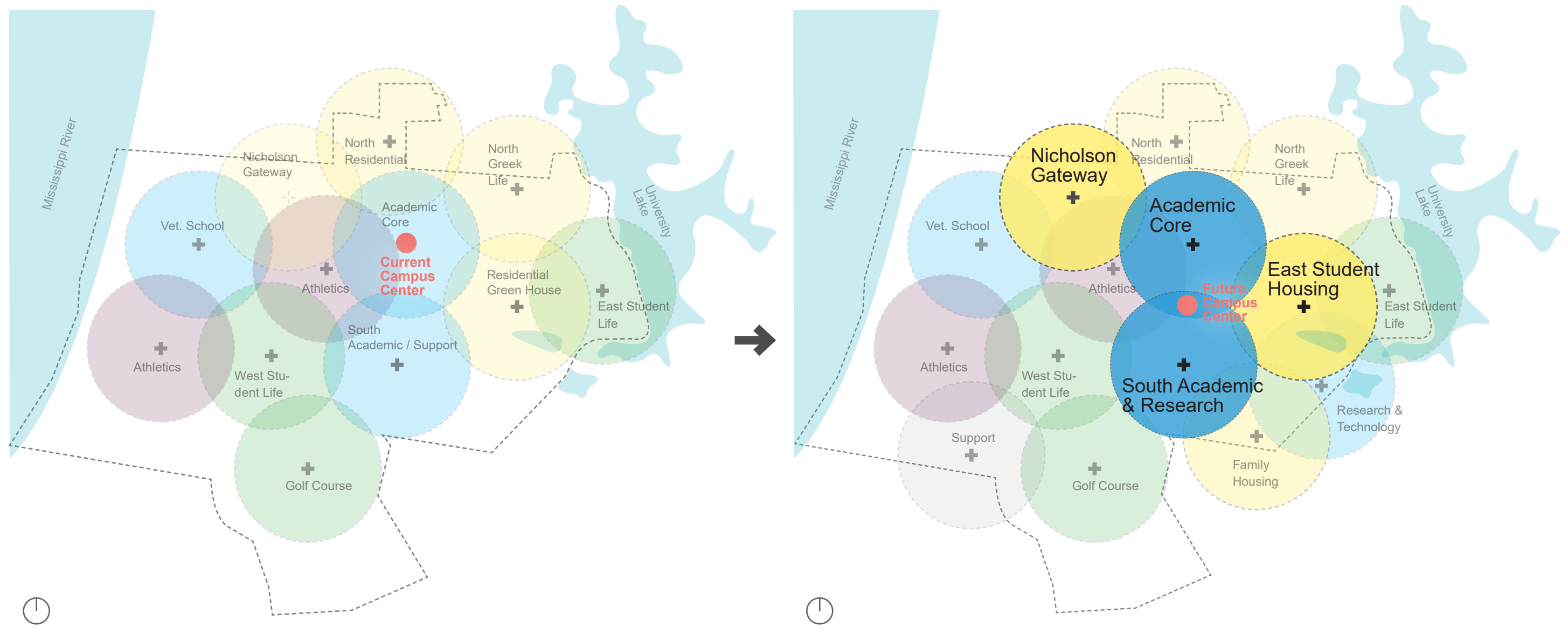
- Complete ongoing and planned development of residential life facilities.
- Ensure development is in keeping with Master Plan framework and principles.



CURRENT CAMPUS CENTER





FUTURE CAMPUS CENTER



 CURRENT CAMPUS CENTER

 FUTURE CAMPUS CENTER

- Legend**
- Academic/Research Zone
  - Residential Zone
  - Recreation Zone
  - Athletic Zone
  - Campus Support
  -  Vehicular Circulation
  -  Campus Internal Circulator
  -  City Public Transit

4.2 MASTER PLAN RECOMMENDATION

# MASTER PLAN RECOMMENDATION



LSU CAMPUS ILLUSTRATIVE MASTER PLAN

## MASTER PLAN VISION

*Respecting the culture, heritage and diversity of Louisiana State University, this Comprehensive and Strategic Campus Master Plan will provide a practical and flexible framework that sustainably guides and integrates development and capital investment on the campus and in the community over the next decade and beyond. The Master Plan will support LSU's Flagship designation and will reinforce its status as a high performance, contemporary, research and living/learning environment...the Flagship of Flagship Universities.*

**ACADEMIC AND ADMINISTRATIVE & SUPPORT**

1. New Campus Learning Commons
2. New Science Building
3. Academic Building A
4. Academic Building B
5. Academic Building C
6. Academic Building D
7. Academic Building E
8. Coates Hall Addition
9. Hill Memorial Library Addition
10. CoAD Expansion
11. Lab School Technology Center
12. Vet. Medicine Master Plan
13. Hill Farm Master Plan
14. Band Hall Expansion
15. Green House Complex
16. Support Facilities

**AUXILIARIES**

17. Research and Technology Zone
18. Child Care Center Expansion
19. Cedar Hall
20. East Student Housing
21. Nicholson Gateway Development
22. Family Housing
23. New Greek Houses
24. New Greek Houses
25. Student Health Center Expansion (Optional)
26. Future Student Health Center (Optional)
27. Multi-purpose Center
28. PMAC Addition
29. Softball Indoor Practice Facility
30. Baseball Practice Facility Expansion
31. Animal Shelter
32. Shelter Annex
33. South Parking Garage
34. East Campus Parking Garage
35. Research & Technology Zone Parking Garage
36. Nicholson Gateway Parking Garage

**Legend**

- Academic & Administrative & Support
- Auxiliaries
- Other Buildings

LSU CAMPUS ILLUSTRATIVE MASTER PLAN



**CAMPUS GROUNDS**

- 1. Historic Quad Renovation
- 2. Art Courtyard Renovation
- 3. West Campus Green
- 4. Learning Commons Terrace
- 5. South Quad
- 6. Academic Grove
- 7. Tiger Walk
- 8. Campus Lake Park
- 9. Improved Parking Lot
- 10. Reconfigured Parking Lot
- 11. New / Expanded Parking Lot
- 12. New Fields
- 13. Pasture / Event Parking
- 14. Renovate To Create Plaza
- 15. Stormwater Retention Area
- 16. Enhance Existing Canal / Stormwater Management Corridor
- 17. Research & Technology Green



## 4.2 MASTER PLAN RECOMMENDATION

# ACADEMIC SPINE

Running north-south through the center of the campus, the Academic Spine is a key element of the Master Plan. It is a corridor where higher concentration of academic activities will continue to take place. As a pedestrian promenade, the Academic Spine connects the campus and the community from north to south and provides connections between the highland (east) and the lowland (west) areas of the campus. Uses along the spine include academic and academic support buildings, research, and campus residential life. Over time, parts of the original ridgeline were degraded by development - the Master Plan recommends restoring the ridgeline through architectural and landscape interventions.

Key recommendations for the Academic Spine include:

- Eliminating a majority of daily use parking lots in the campus core to restore the historic beauty of the Historic Quad and create a car-free, safer pedestrian environment
- Renovation of existing Academic Core facilities to meet deferred maintenance needs, improve indoor environments in support of contemporary learning and collaborative environments, and allow for universal accessibility
- Removal of Middleton Library and re-establishing the Historic Quad to its historic state
- Removal of Lockett Hall and creating a new West Campus Green
- A new Library/Learning Commons at the new “centroid” of the campus, which becomes the hinge between the historic Academic Core and the new South Academic and Research District
- Retain some library functions closer to the north end of the campus in the Hill Memorial Library

- A new College of Science facility at the location of the existing Dairy Science and Tureaud Hall
- Additional new academic buildings in the South Academic and Research District
- A new student residential facility (Cedar Hall) located west of Spruce Hall
- A multi-purpose center at the north terminus of the spine could house a variety of community-facing University uses (continuing education, LSU Online, flexible event space, performing arts center, campus safety, etc.)
- A new open space at the south terminus of the spine, which enhances the existing canal and augments the campus gateway experience
- A series of connected open spaces along the Academic Spine to enhance the pedestrian and academic environment, while lending a unique identity to the Academic Spine itself
- Open spaces designed to accommodate game day and event specific parking, tailgating, and other outdoor programs



ACADEMIC SPINE

**ACADEMIC AND ADMINISTRATIVE & SUPPORT**

- 1. New Campus Learning Commons
- 2. New Science Building
- 3. Academic Building A
- 4. Academic Building B
- 5. Academic Building C
- 6. Academic Building D
- 7. Academic Building E
- 8. Coates Hall Addition
- 9. Hill Memorial Library Addition
- 10. CoAD Expansion
- 11. Lab School Technology Center
- 12. Vet. Medicine Master Plan
- 13. Hill Farm Master Plan
- 14. Band Hall Expansion
- 15. Green House Complex
- 16. Support Facilities

**AUXILIARIES**

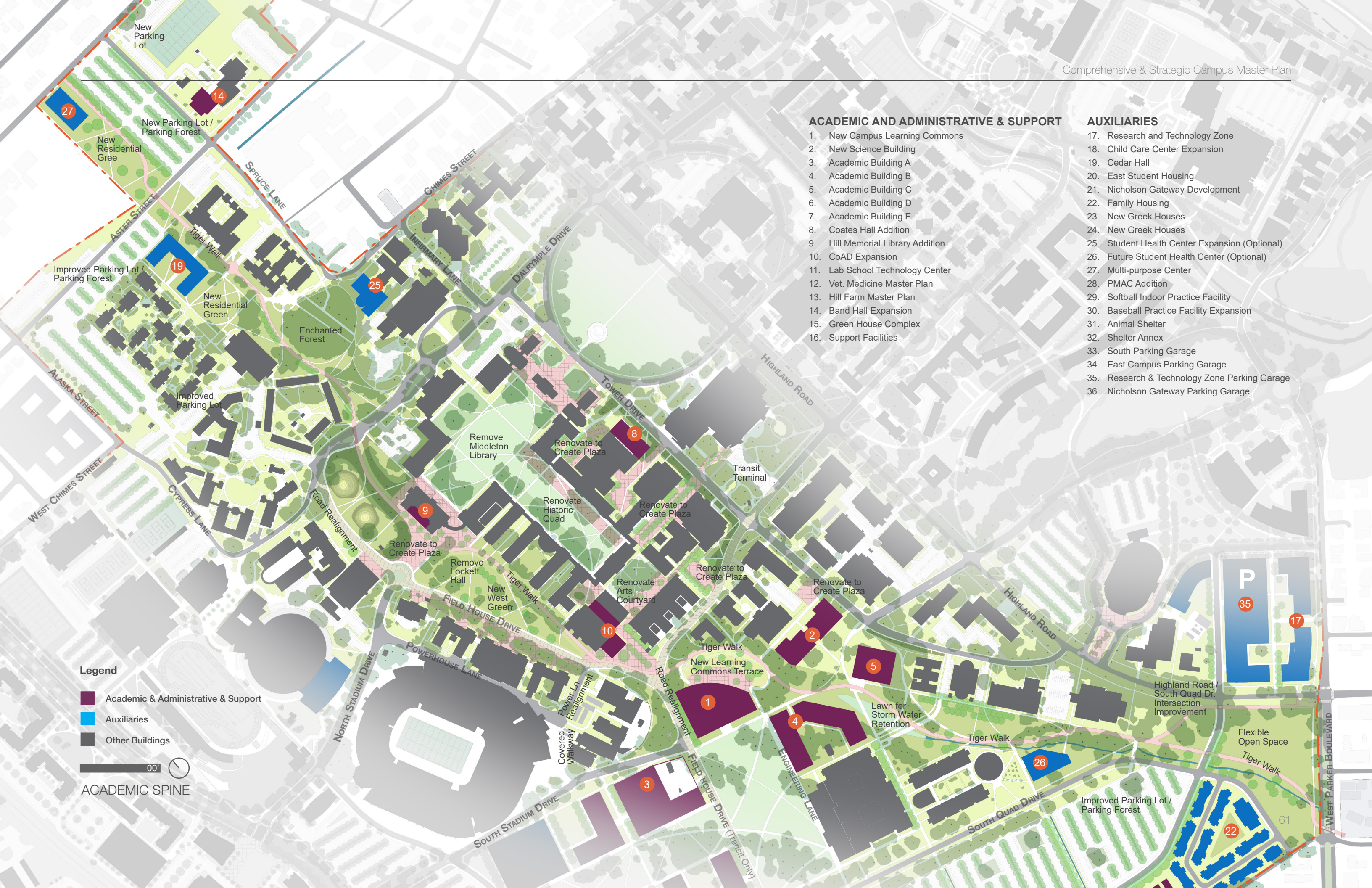
- 17. Research and Technology Zone
- 18. Child Care Center Expansion
- 19. Cedar Hall
- 20. East Student Housing
- 21. Nicholson Gateway Development
- 22. Family Housing
- 23. New Greek Houses
- 24. New Greek Houses
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- 26. Future Student Health Center (Optional)
- 27. Multi-purpose Center
- 28. PMAC Addition
- 29. Softball Indoor Practice Facility
- 30. Baseball Practice Facility Expansion
- 31. Animal Shelter
- 32. Shelter Annex
- 33. South Parking Garage
- 34. East Campus Parking Garage
- 35. Research & Technology Zone Parking Garage
- 36. Nicholson Gateway Parking Garage

**Legend**

- Academic & Administrative & Support
- Auxiliaries
- Other Buildings

00'

ACADEMIC SPINE





## RENOVATION AND DEFRAGMENTATION OF THE HISTORIC CORE

A major principle of the campus Master Plan is a commitment by the university to invest in a multi-phased renovation of buildings that constitute the historic campus core. Accompanied by improvements to the landscape and circulation of the Historic Quad, and the proposed removal of Middleton Library and Lockett Hall, the building renovations will contribute to a restoration of the original, historic campus vision. Not only do these initiatives represent stewardship of important physical and cultural assets of the university, and indeed the entire state, but the core renovations also present an important opportunity to improve the quality of the academic space within these landmark buildings.

The original buildings, while contributing to an exceptional campus environment, are not always well suited to contemporary academic needs – particularly the small footprints that limit larger, flexible, team-based classrooms that are desired today. The buildings are adequate for departmental administrative space, faculty offices and seminar rooms and do serve an important need, particularly for the many departments found in the College of Humanities and Social Sciences (HSS). However they are also in need of HVAC systems upgrades, lighting and interior finish upgrades, and restoration of the exterior building envelopes.

Programmatically, the distributed uses across the historic campus buildings presents a fragmented and inefficient pattern that often splits departmental space between multiple buildings and creates less than ideal adjacencies. This is the result of years of satisfying incremental growth without a broader space Master Plan or the opportunity to realize comprehensive renovations due to limited

funding and the lack of swing space. The fragmentation is also the product of a restructuring of the Colleges that resulted in the creation of Humanities and Social Sciences.

Through a comprehensive space needs analysis and a series of relocation/defragmentation exercises, with a focused look at the spaces occupied by the College of Humanities and Social Sciences, the strategy for defragmenting and renovating the core campus buildings is summarized by these major space shifts:

- An alignment and concentration of HSS departments on the west side of the Historic Quad, with a new home for the College and a new inter-disciplinary Humanities Center housed in Atkinson;
- The shift of miscellaneous COS and COE uses out of the historic core, and the consolidation of the Math Department in Coates;
- The conversion of miscellaneous general purpose classrooms in older buildings to accommodate academic growth, and the creation of new classrooms in a strategic addition to Coates;
- The shift of the President’s office and other central administrative uses to Foster Hall from the UAB building;
- The concentration of Academic Affairs and other administrative uses in Himes, T. Boyd, D. Boyd and the concentration of non-core administrative uses in the UAB building, and
- The consolidation of Student Service functions in Pleasant Hall.

These broader campus wide strategies will result in renovated spaces for the majority of the core campus buildings, the creation of contemporary learning environments, the repurposing of older, less flexible classrooms and a logical and more efficient consolidation

of currently scattered uses and improvements to academic and administrative departmental adjacencies. These goals will be accommodated through a phased approach summarized by the following major building moves:

### **HOWE RUSSELL:**

Relocate ECE uses to ECE building, move College of Science museum functions from Foster to Howe Russell and convert Howe Russell classrooms to accommodate Geography and Anthropology growth.

### **FOSTER:**

Available space created by museum relocation will accommodate move of President’s office and administrative space from the University Administration Building.

### **ALLEN:**

Allow growth of English and consolidation and growth of Philosophy and Religious Studies.

### **PRESCOTT:**

Move COS uses (Math) out and into Coates.

### **ATKINSON:**

Move Art & Design uses out (into expanded CA&D facility) and repurpose Atkinson for HSS Dean’s office and departmental space, a Humanities Center and potential academic support or other similar uses that are compatible with and would benefit from proximity to the proposed learning commons.

**COATES:**

Move HSS and COE uses out to accommodate principally Math and new classrooms supported by a proposed addition. In the interim, Coates will serve as a swing building to enable the HSS renovations on the west side of the quadrangle.

**HIMES:**

Move HSS uses out of Himes to accommodate Academic Affairs space.

**HODGES:**

Relocate HSS administrative space to Atkinson to accommodate Foreign Language growth.

**HATCHER:**

Relocate various academic uses to accommodate growth of Communication Sciences and Disorders and move in University College administrative space.

**JOHNSTON:**

Relocate NCBRT, Academic Affairs and Student Life/Enrollment to allow consolidation and growth of Psychology.

The majority of the core campus moves propose to defragment and create more logical adjacencies for HSS – with a focus on the west side of the core campus. Much of the anticipated right sizing and growth for these departments is accommodated through the selective repurposing of existing classrooms – many of which are not well

suited nor appropriately scaled for contemporary use given the space limitations of the older buildings.

New replacement classrooms to make up for these conversions are proposed in a strategic addition to the east side of Coates Hall as well as a potential addition to the west side of Hatcher Hall. Likewise, the conversion of Atkinson to a Humanities Center will also present the opportunity for additional general purpose classrooms. These strategies ensure that there will still be a concentration of general purpose classrooms in and near the historic core, even as Lockett Hall and Tureaud Hall are proposed to be demolished eventually. The balance of new and replacement classrooms will be in new academic buildings in the South Academic and Research District, but a distribution of classrooms across the campus remains an important goal of the Master Plan.



PMAC  
Addition

Tiger  
Stadium

Fieldhouse Drive

Tiger Walk

Hill Memorial  
Library  
Addition

Lockett Hall  
Removed

Middleton  
Library  
Removed

Historic Quad

Reinforce  
Historic Core

Renovate to  
Create Plaza

Coates  
Hall  
Addition

Tower Drive

Parade  
Ground

CoAD  
Expansion

Art Courtyard  
Renovation

Activating Nicholson Plaza

Studio Arts  
Building

Renovate to  
Create Plaza

S. Campus Drive

Transit Spine

VISION OF THE HISTORIC QUAD

The relocation of Middleton Library opens up the existing Historic Quad, allowing for re-establishment of the original cruciform and restoring the core to its historic grandeur. The spatial opening re-establishes direct visual connections between Foster Hall and Atkinson Hall and the iconic Memorial Tower and Hill Memorial Library. Improved east-west pedestrian paths through the Historic Quad strengthen connections between the Academic Core and other parts of the campus.

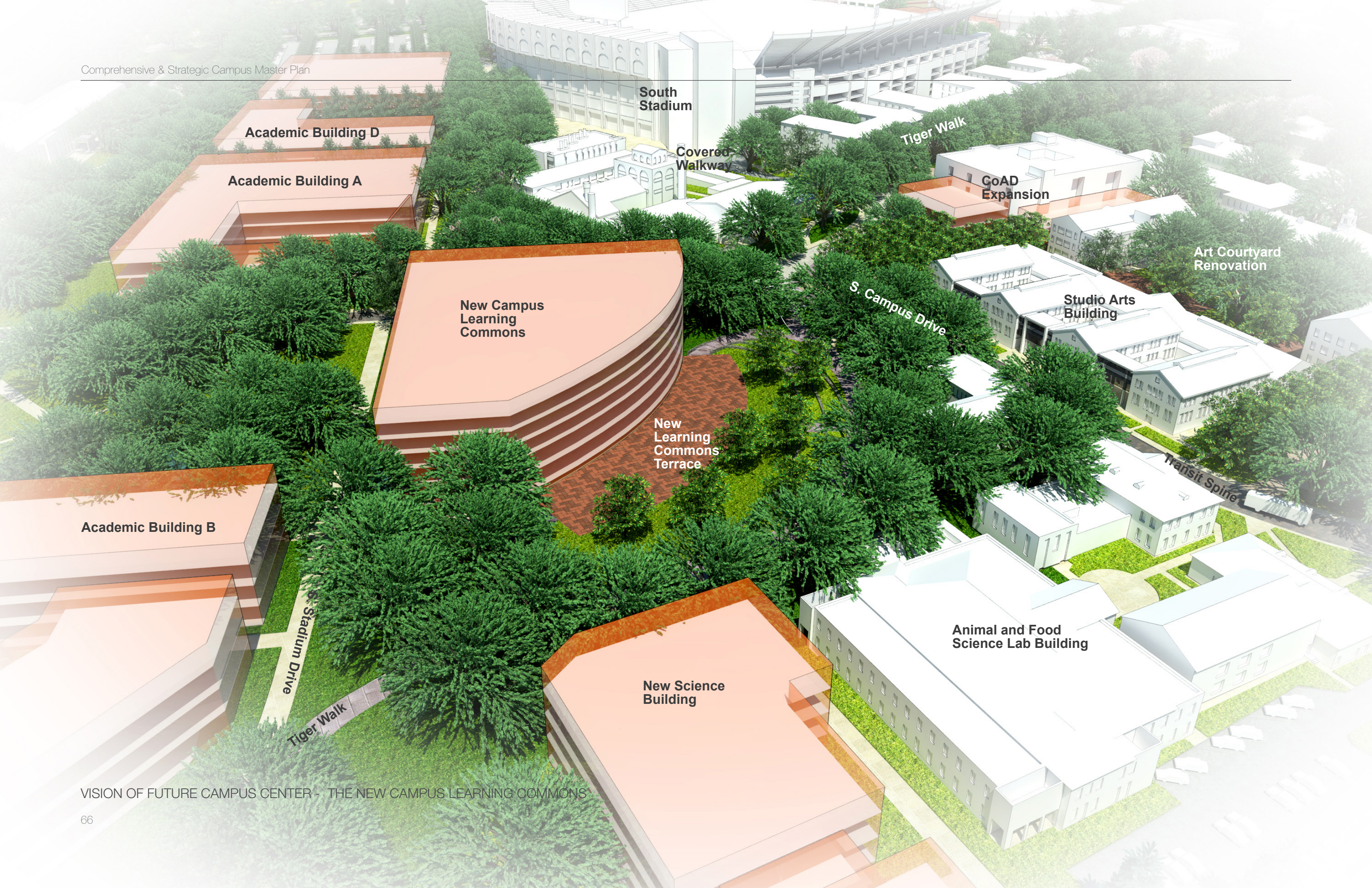


EXISTING HISTORIC QUAD

## REINFORCING THE HISTORIC CORE



VISUAL CONNECTION BETWEEN FOSTER HALL AND ATKINSON HALL



South Stadium

Academic Building D

Academic Building A

Covered Walkway

Tiger Walk

GoAD Expansion

Art Courtyard Renovation

New Campus Learning Commons

Studio Arts Building

S. Campus Drive

New Learning Commons Terrace

Transit Spine

Academic Building B

S. Stadium Drive

Tiger Walk

Animal and Food Science Lab Building

New Science Building

VISION OF FUTURE CAMPUS CENTER - THE NEW CAMPUS LEARNING COMMONS

## New Library / Learning Commons

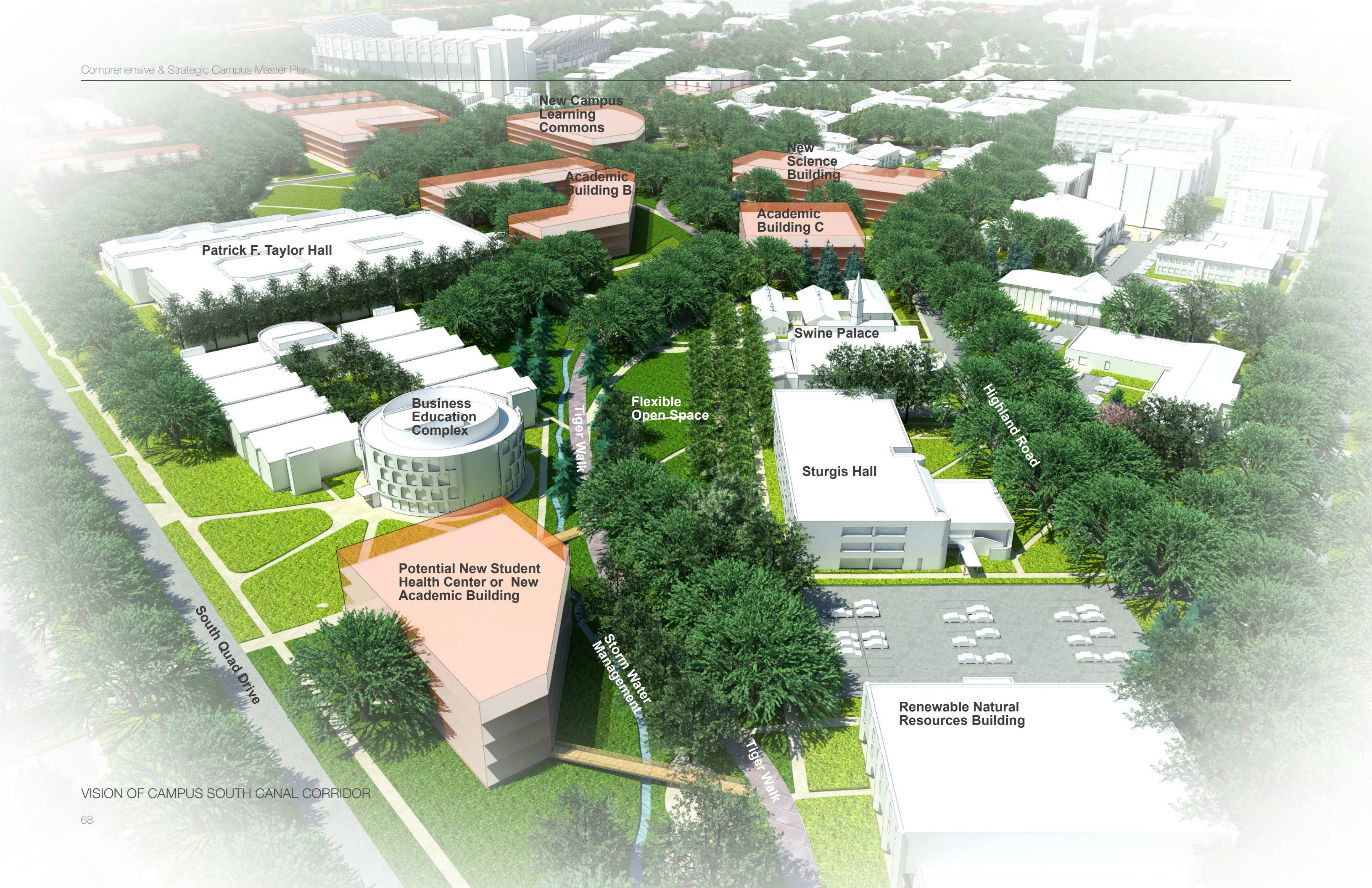
Embraced by the new campus Library/Learning Commons and the terrace seating, the new Learning Commons Terrace is an important node along the Academic Spine through which the pedestrian promenade meanders. Collaborative elements of the new Library can spill out into the Learning Commons Terrace creating a year-round seamless indoor/outdoor learning environment. The new Library/Learning Commons building has the potential to be designed to create a visual corridor through the Academic Spine and to the Learning Commons Terrace and beyond.



CURRENT CONDITION OF THE SITE



VIEW TO NEW CAMPUS LEARNING COMMONS FROM THE QUAD



Patrick F. Taylor Hall

New Campus Learning Commons

Academic Building B

New Science Building

Academic Building C

Swine Palace

Business Education Complex

Flexible Open Space

Sturgis Hall

Highland Road

Potential New Student Health Center or New Academic Building

Storm Water Management

Renewable Natural Resources Building

South Quad Drive

Tiger Walk

VISION OF CAMPUS SOUTH CANAL CORRIDOR

## Leveraging South Canal

The Academic Spine promenade meanders through the new Library/ Learning Commons plaza and along the canal near the campus gates at Highland Road. The south canal will be enhanced to create a beautiful and well-managed stormwater corridor. Pedestrian bridges across the canal and the promenade itself serve to connect buildings on opposite sides. The scenic views along the path will encourage campus users to walk and bike along the Academic Spine promenade and to connect to other place of the campus.

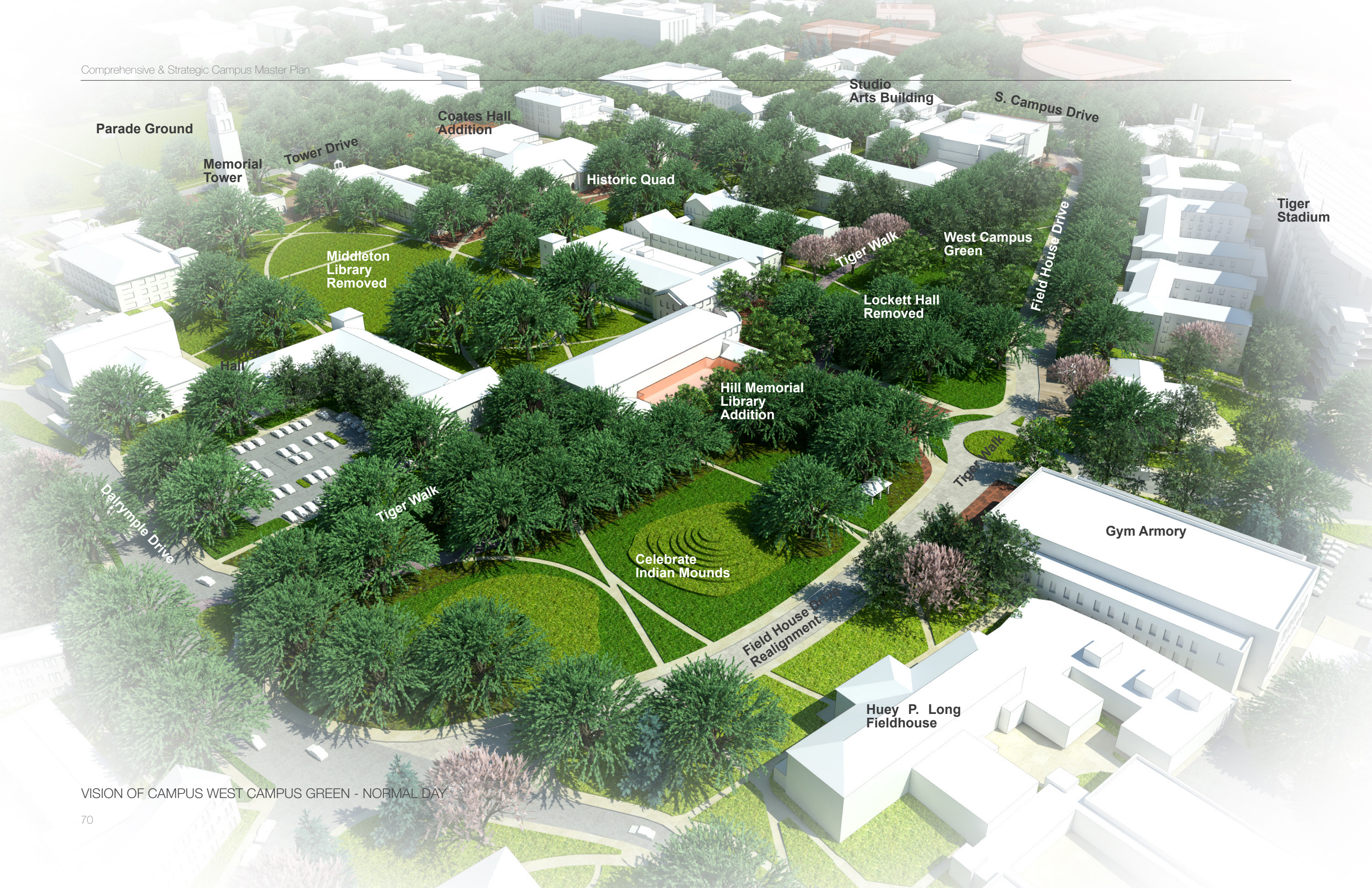


EXISTING PATH ALONG THE CANAL

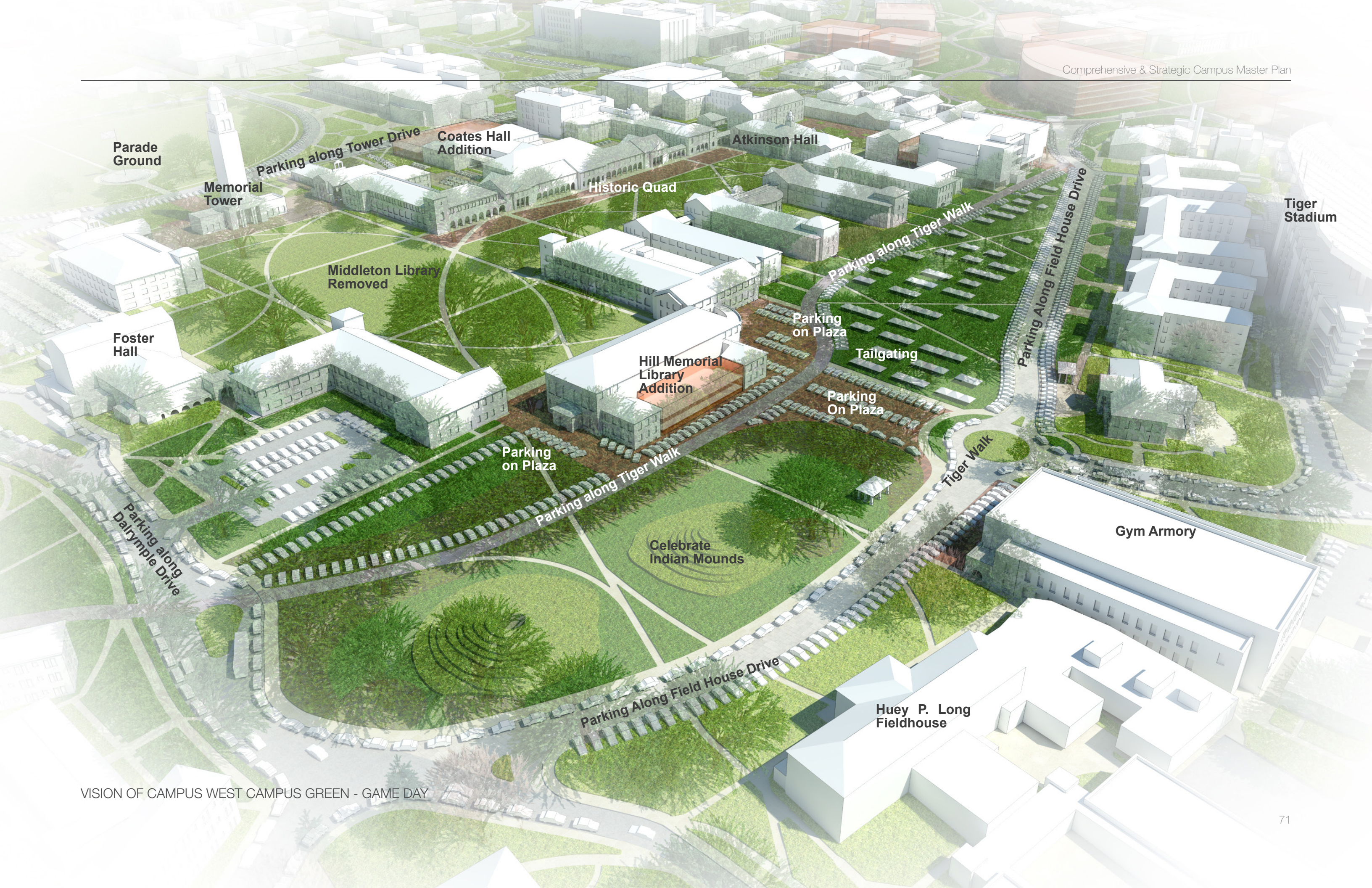


ACTIVATING THE SPACE - NEW SOUTH ACADEMIC & RESEARCH DISTRICT - TIGER WALK





VISION OF CAMPUS WEST CAMPUS GREEN - NORMAL DAY



VISION OF CAMPUS WEST CAMPUS GREEN - GAME DAY

## Transforming West Campus Green



VISION OF CAMPUS WEST CAMPUS GREEN - NORMAL DAY

Lockett Hall's removal lends the opportunity for creating the West Campus Green. With adding more green space and tree canopy, it becomes an active gathering space for campus users to learn, socialize, and relax in. The West Campus Green also connects the academic buildings to the west of the Field House Drive to academic buildings around the Historic Quad. By transforming the existing parking lot in the West Campus Green into a pedestrian and bike share promenade, the path promotes the walkability and connectivity of the campus.



EXISTING WEST QUAD PARKING LOT

The West Campus Green is designed to support a superior game day experience and includes opportunities for tailgating, game day parking, and outdoor shaded environments for fans. As depicted, the game day parking is maintained, while providing more open space for tailgating to improve the game day experience. On game day, the pedestrian promenade can be used for temporary parking along it on the grass paver paths. The West Campus Green itself can be structurally designed to allow for heavier foot traffic, tailgating, and temporary parking uses.

## Adapting West Campus Green For Game Day



VISION OF CAMPUS WEST CAMPUS GREEN - GAME DAY

## Restoring And Activating Plazas



RENOVATION OF EXISTING NICHOLSON HALL PARKING LOT TO PLAZA EXAMPLE

The Master Plan proposes repurposing existing parking lots into paved plazas and landscape spaces for flexible outdoor use. On a daily basis, these plaza spaces will be used as outdoor pedestrian and social environments. The plazas will open up east-west corridors facilitating campus users to walk or bike across campus to the Academic Core. The plaza spaces will incorporate appropriate outdoor seating and lighting to make the space more welcoming and safe. New tree canopy is introduced to provide human comfort and improve environmental and spatial quality.



EXISTING NICHOLSON HALL PARKING LOT

## Activating Restored Plazas On Game Day

The plazas to replace small areas between buildings are designed to provide flexibility in use. Specifically, they take into consideration unique campus game day needs and are designed to accommodate parking during game day and other larger events, such as commencements. With their shaded tree canopy they also afford opportunity for tailgating in a more comfortable environment for fans.



ACTIVATING NICHOLSON PLAZA ON GAME DAY (EXAMPLE)

## 4.2 MASTER PLAN RECOMMENDATION

# SOUTH ACADEMIC AND RESEARCH DISTRICT

The new South Academic and Research District will be a hub for new development in support of academic growth and trans-disciplinary research needs and creates an environment that reinforces LSU's "status as a high performance, contemporary, research" environment. The plan for this area of the campus builds on the existing investments made into Patrick F. Taylor Hall, the Business Education Complex (BEC), and the Energy, Coast & Environment (ECE) building. The new large footprint buildings in this zone are geared well for STEM programs and research functions. The planned new formal open "greens" and other diverse landscape open spaces strategically connect this part of the campus to the Academic Spine and the Historic Core.

Key recommendations for the South Academic and Research District include:

- Demolition of several existing warehouse style, inefficient, functionally obsolete, and architecturally insignificant buildings with high deferred maintenance needs
- New Academic Building "A" that wraps around the existing main sub-station to potentially accommodate several research and academic functions and graduate studios
- New Academic Building "C" north of Ingram Hall to house labs, academic growth spaces, and potentially classroom space
- New Academic Buildings "B", "D" and "E" to accommodate future academic and research growth
- A new building to the east of the BEC to potentially serve as the new Student Health Center or accommodate future academic needs
- A new 1,500 space parking garage to meet campus daily parking

needs and game day/event parking needs

- A new South Quad south and east of the new Library/Learning Commons that connects the ECE building and Patrick F. Taylor Hall
- New outdoor landscape spaces that serve multiple needs including outdoor learning, student recreation, and stormwater management
- Restrict use of South Quad Drive and redesign it as a paved plaza providing a safer, seamless walking connection between the south parking lots and campus
- Gourrier Lane will become the primary access point for the south parking lots
- Beautify the south parking lots by adding trees and landscape areas and reconfigure them to increase functionality



SOUTH ACADEMIC AND RESEARCH DISTRICT

**ACADEMIC AND ADMINISTRATIVE & SUPPORT**

- 1. New Campus Learning Commons
- 2. New Science Building
- 3. Academic Building A
- 4. Academic Building B
- 5. Academic Building C
- 6. Academic Building D
- 7. Academic Building E
- 8. Coates Hall Addition
- 9. Hill Memorial Library Addition
- 10. CoAD Expansion
- 11. Lab School Technology Center
- 12. Vet. Medicine Master Plan
- 13. Hill Farm Master Plan
- 14. Band Hall Expansion
- 15. Green House Complex
- 16. Support Facilities

**AUXILIARIES**

- 17. Research and Technology Zone
- 18. Child Care Center Expansion
- 19. Cedar Hall
- 20. East Student Housing
- 21. Nicholson Gateway Development
- 22. Family Housing
- 23. New Greek Houses
- 24. New Greek Houses
- 25. Student Health Center Expansion (Optional)
- 26. Future Student Health Center (Optional)
- 27. Multi-purpose Center
- 28. PMAC Addition
- 29. Softball Indoor Practice Facility
- 30. Baseball Practice Facility Expansion
- 31. Animal Shelter
- 32. Shelter Annex
- 33. South Parking Garage
- 34. East Campus Parking Garage
- 35. Research & Technology Zone Parking Garage
- 36. Nicholson Gateway Parking Garage

**Legend**

- Academic & Administrative & Support
- Auxiliaries
- Other Buildings



SOUTH ACADEMIC & RESEARCH ZONE







S. Campus Drive

Tiger Walk

Academic Building C

New Science Building

Academic Building B

Patrick F. Taylor Hall

South Quad Drive (Limited Access)

South Campus Parking

New Learning Commons

South Quad

Transit Spine

Academic Building A

Academic Building E

Academic Building D

ECE Building

Tiger Stadium

South Stadium Drive

Parking Garage

Academic Grove

NEW SOUTH ACADEMIC GROVE



NEW SOUTH QUAD

## 4.2 MASTER PLAN RECOMMENDATION

# RESEARCH AND TECHNOLOGY DISTRICT

The Research and Technology District (Parker Coliseum district) is the area of campus bound by South Stadium Drive, Highland Road, and East Parker Drive. The plan for this area of the campus builds on the 2009 Research and Technology Foundation Master Plan (by Sasaki Associates) with the goal of “supporting the commercialization of research and the development of new businesses close to the university campus.” The 2009 study builds on the success of the Louisiana Emerging Technology Center which “is the first new building and is one of three wet-lab business incubators in the entire State of Louisiana.” The Digital Media Center is a recent addition to this area. The Master Plan incorporates the following recommendations of the 2009 study:

- Demolition of the Livestock Exhibit building
- Adaptive renovation of Parker Coliseum for use either as the Louisiana Food Innovation Center (as suggested by the 2009 study) or other future research and technology needs and maintaining current functions
- Four new emerging technology and research buildings
- A new 1,100 space garage
- Long-term investment (major renovation or replacement) of the Agricultural Chemistry Building and Efferson Hall for the same or changed uses. Uses displaced by any of these recommendations would have to be housed appropriately within this district or elsewhere on campus

A critical departure from the 2009 study is in the area north of Parker Coliseum, where the 2009 study called for two new academic buildings to be located. Since the Master Plan accommodates anticipated

and future academic growth in the South Academic and Research District, the sites (where the 2009 study shows the two new academic buildings) are recommended to be used for parking. The existing parking lot to the north of the Coliseum will support parking needs for the new East Student Housing (green house site) development. The Master Plan further recommends building a new parking lot to the east of the existing lot to also serve the East Student Housing needs.



RESEARCH AND TECHNOLOGY ZONE



**ACADEMIC AND ADMINISTRATIVE & SUPPORT**

1. New Campus Learning Commons
2. New Science Building
3. Academic Building A
4. Academic Building B
5. Academic Building C
6. Academic Building D
7. Academic Building E
8. Coates Hall Addition
9. Hill Memorial Library Addition
10. CoAD Expansion
11. Lab School Technology Center
12. Vet. Medicine Master Plan
13. Hill Farm Master Plan
14. Band Hall Expansion
15. Green House Complex
16. Support Facilities

**AUXILIARIES**

17. Research and Technology Zone
18. Child Care Center Expansion
19. Cedar Hall
20. East Student Housing
21. Nicholson Gateway Development
22. Family Housing
23. New Greek Houses
24. New Greek Houses
25. Student Health Center Expansion (Optional)
26. Future Student Health Center (Optional)
27. Multi-purpose Center
28. PMAC Addition
29. Softball Indoor Practice Facility
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31. Animal Shelter
32. Shelter Annex
33. South Parking Garage
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36. Nicholson Gateway Parking Garage

**Legend**

- Academic & Administrative & Support
- Auxiliaries
- Other Buildings



**RESEARCH AND TECHNOLOGY ZONE**

#### 4.2 MASTER PLAN RECOMMENDATION

## STUDENT LIFE (CORPORATION CANAL) SPINE

Corporation Canal provides an excellent opportunity to create a new, significant and beautiful campus open space corridor while integrating important stormwater infrastructure with it. This corridor will provide unique outdoor educational and recreational opportunities for the campus and with the many existing and planned student residential life facilities along it, it forms the campus Student Life Spine.

Key recommendations for the Student Life (Corporation Canal) Spine include:

- Widened banks to slow stormwater, increase stormwater volume, and create more efficient drainage
- Replace existing surface parking along the canal with flexible open space, circulation, and vegetation
- New, east-west walking paths and bridges over the Corporation Canal to serve the UREC, new east student housing proposed at the former greenhouses site and the campus core.
- A new parking garage south of the Lod Cook Alumni Center to serve multiple needs including the Alumni Center, UREC, Greek Life, and Student Residential Life.
- Four new Greek Houses located in close proximity to existing Greek Life facilities



STUDENT LIFE (CORPORATION CANAL) SPINE

**ACADEMIC AND ADMINISTRATIVE & SUPPORT**

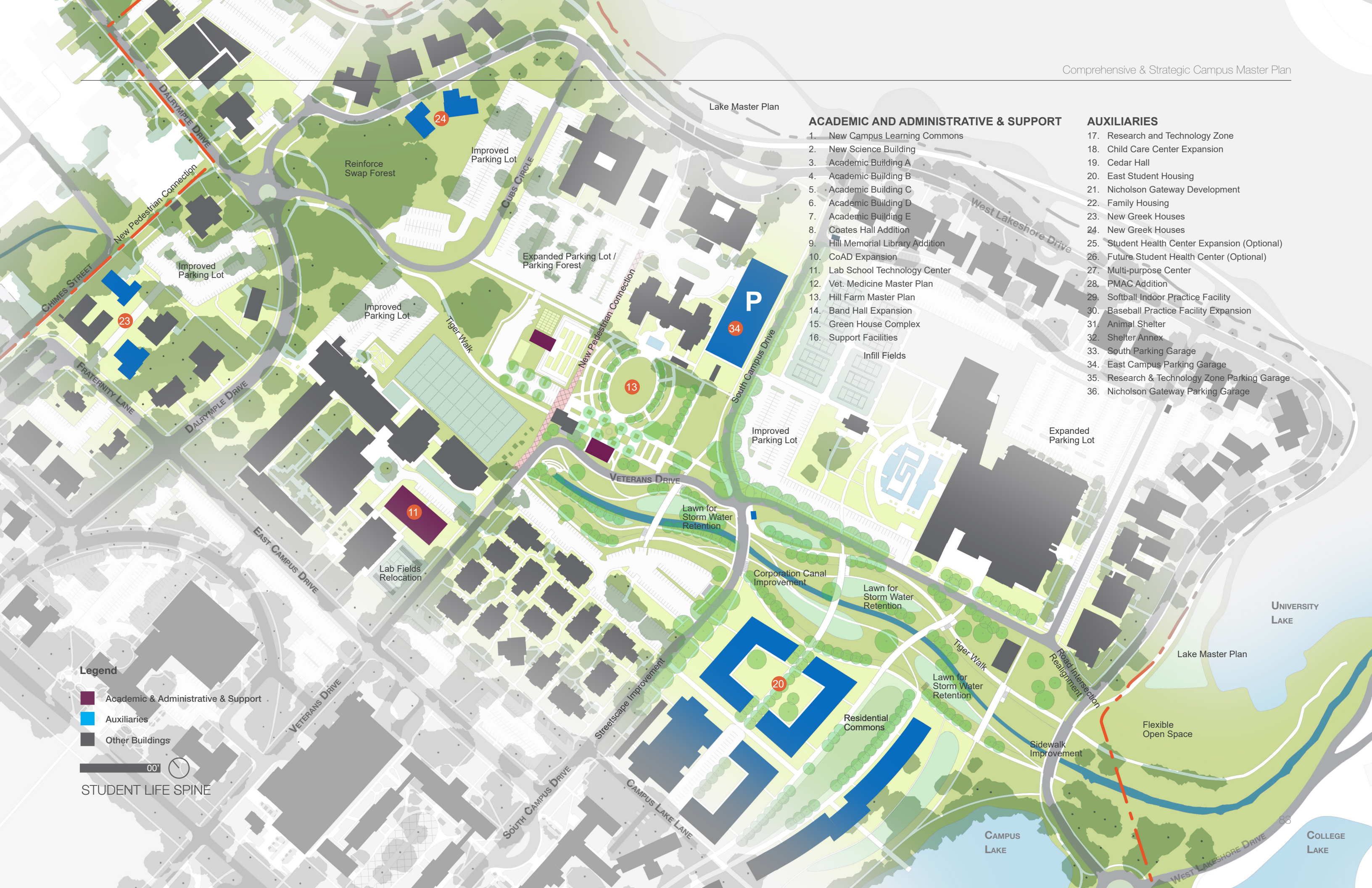
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- Legend**
- Academic & Administrative & Support
  - Auxiliaries
  - Other Buildings

00' **STUDENT LIFE SPINE**



## 4.2 MASTER PLAN RECOMMENDATION

# EAST STUDENT HOUSING ZONE

The greenhouse site, west of Corporation Canal and south of South Campus Drive, is slated for new student residences. In alignment with the LSU Residential Life needs and programmatic recommendations suggested by the 2015 Housing Master Plan Update, the Master Plan recommends a development framework within which development can be accommodated.

Key recommendations for the East Student Housing zone include:

- McVoy, Miller, Herget, and Blake Halls are proposed to be demolished in the long-term and returning the sites to restorative campus open space.
- Development of this site to leverage the setting, views, and recreational opportunities afforded by the improved and beautified Corporation Canal
- Dredge and enhance Campus Lake as recommended by Baton Rouge Lakes Master Plan
- Development of this site to maintain the multiple east-west pedestrian circulation paths recommended by the Master Plan, including the central “residential commons” landscaped open space corridor



EAST STUDENT HOUSING ZONE

**ACADEMIC AND ADMINISTRATIVE & SUPPORT**

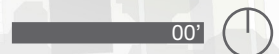
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**AUXILIARIES**

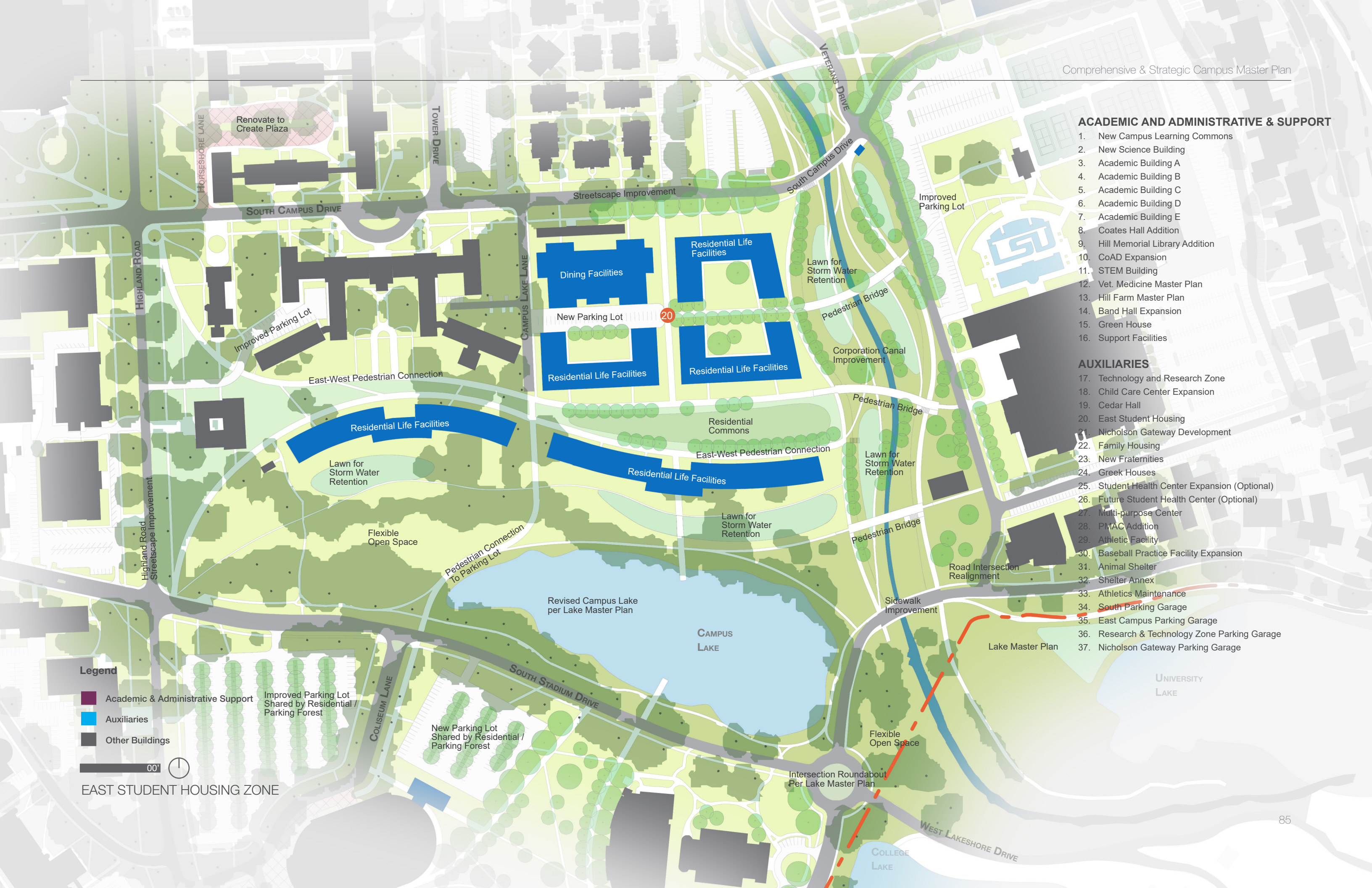
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27. Multi-purpose Center
28. PMAC Addition
29. Athletic Facility
30. Baseball Practice Facility Expansion
31. Animal Shelter
32. Shelter Annex
33. Athletics Maintenance
34. South Parking Garage
35. East Campus Parking Garage
36. Research & Technology Zone Parking Garage
37. Nicholson Gateway Parking Garage

**Legend**

- Academic & Administrative Support
- Auxiliaries
- Other Buildings
- Improved Parking Lot Shared by Residential / Parking Forest



**EAST STUDENT HOUSING ZONE**







Highland Road

Technology Building

Lab School

E. Campus Drive

Veterans Drive

Student Housing

Dining Facility

S. Campus Drive

Hill Farm Master Plan

Student Housing

Student Housing

Residential Commons

Student Housing

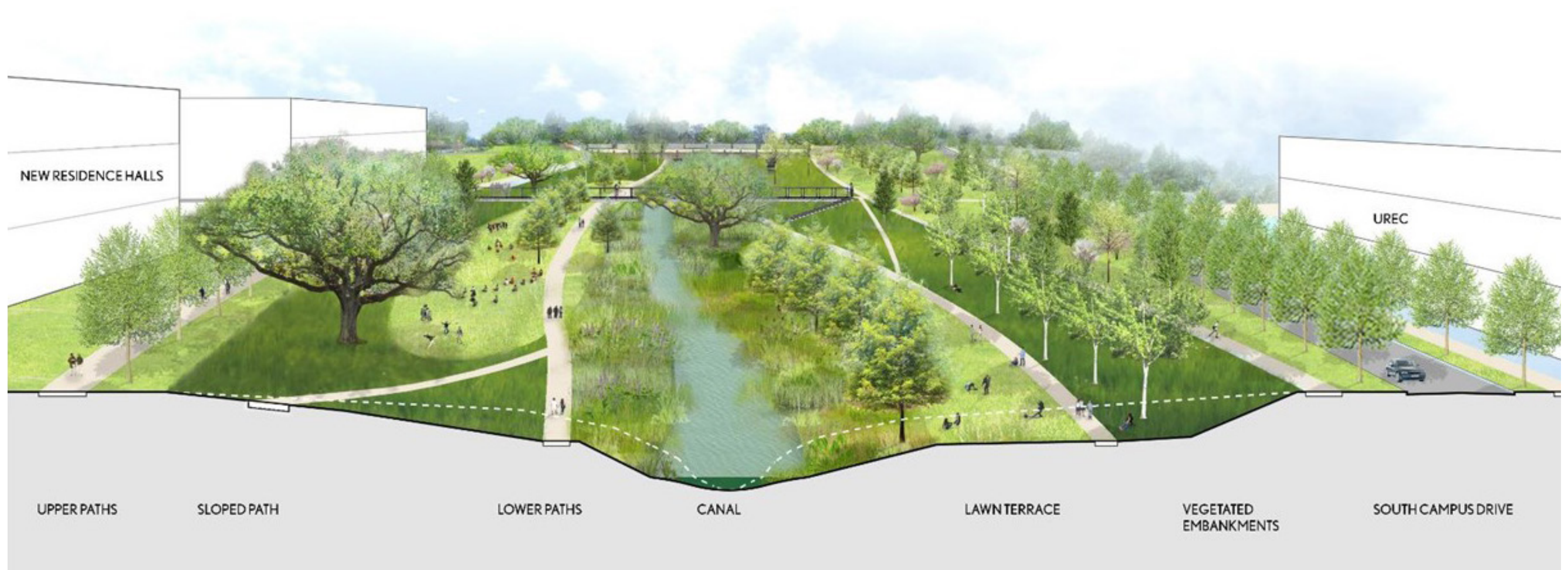
Corporation Section

Corporation Canal

Campus Lake

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VISION OF EAST STUDENT HOUSING ZONE



CORPORATION CANAL SECTION

## 4.2 MASTER PLAN RECOMMENDATION

# NICHOLSON BOULEVARD SPINE

The recommendations for the Nicholson Boulevard Spine area align with the ongoing Nicholson Gateway Development and planned infrastructure and intersection improvements. The Master Plan recommendations aim to improve the campus entry/exit experience along Nicholson Boulevard and to mitigate the divide between east and west campus caused by it.

Key recommendations for the Nicholson Boulevard Spine include:

- Incorporate the TramlinkBR plan and necessary roadway adjustments and streetcar stop adjacent to the Nicholson Gateway Development
- Incorporate existing initiatives and upgrades to Nicholson Boulevard which will reduce congestion and provide better multi-modal infrastructure.
- Create a consistent dense urban tree canopy along the road, adjoining open spaces, and in the parking lots to the east and west of Nicholson Boulevard
- Create multiple safer pedestrian/bike connections across Nicholson Boulevard to improve campus east-west connectivity, particularly easier pedestrian access to and from “remote” parking west of Nicholson Boulevard
- Construct a new driveway and pedestrian connection between the Athletics area and South Academic and Research District
- Reconfigure Burbank Drive intersection with Nicholson Boulevard



STUDENT LIFE (CORPORATION CANAL) SPINE

**ACADEMIC AND ADMINISTRATIVE & SUPPORT**

- 1. New Campus Learning Commons
- 2. New Science Building
- 3. Academic Building A
- 4. Academic Building B
- 5. Academic Building C
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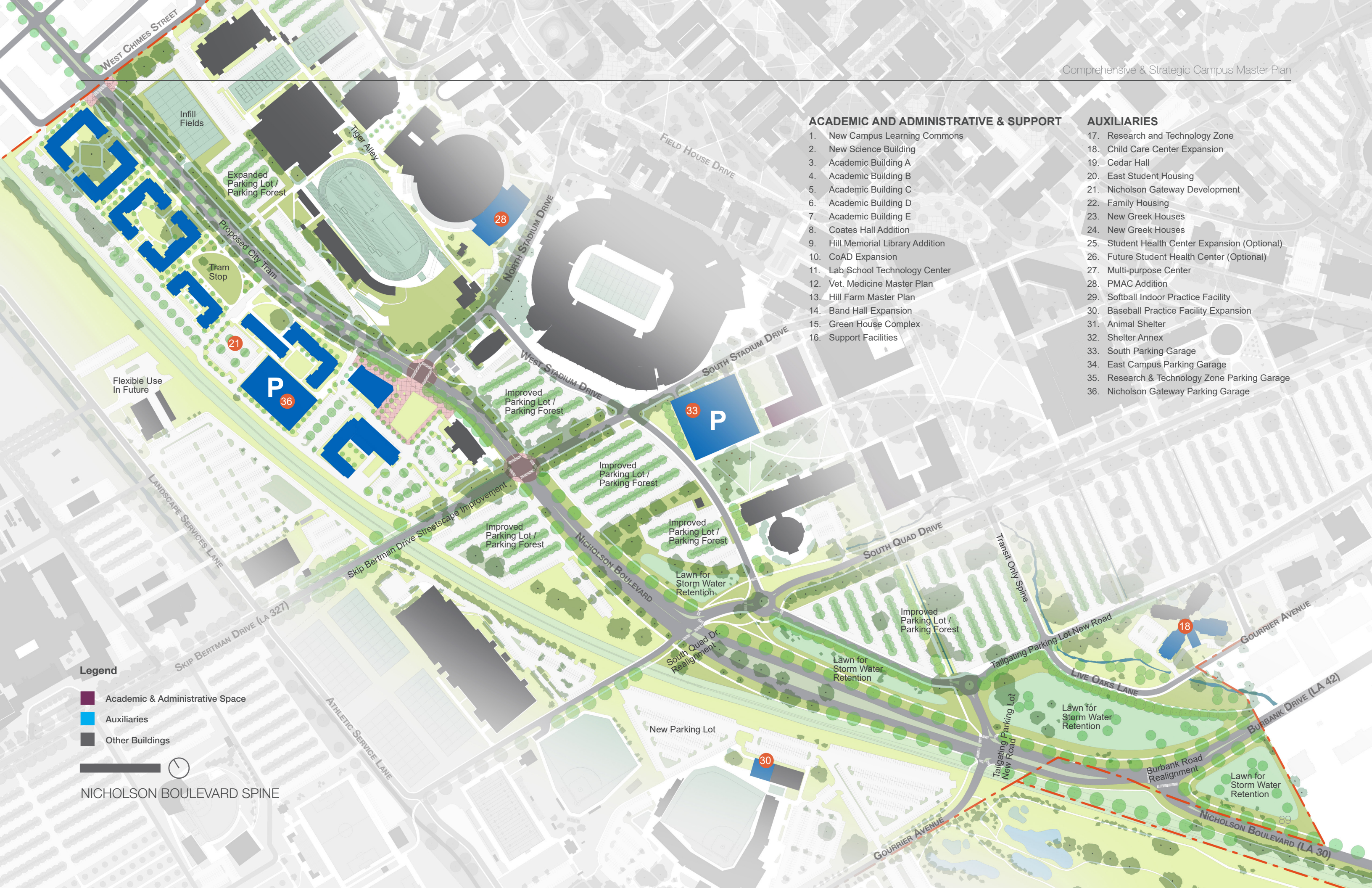
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- 36. Nicholson Gateway Parking Garage

**Legend**

- Academic & Administrative Space
- Auxiliaries
- Other Buildings



NICHOLSON BOULEVARD SPINE



## 4.2 MASTER PLAN

# WEST CAMPUS ZONE

The West Campus Zone is the “lowland” area of the campus, west of Nicholson Boulevard and the railroad. This area is home to the College of Veterinary Medicine, Athletics facilities, campus recreational fields, and former Dairy Science facilities. Unique to this zone is the availability of vast amounts of institutional land including large reservoirs of surface parking, pasture land, former Dairy Sciences property and the LSU Golf Course. The uses in the West Campus are integral to the University. The Master Plan recommends improvement of the overall west campus environment to make it feel connected to the rest of the campus and encourage more campus users to it.

Key recommendations for the West Campus Zone include:

- Incorporate the recommendations of the 2007 Comprehensive Facilities Master Plan for the Veterinary Medicine District
- Redesign Skip Bertman Drive to two lanes of travel with dedicated bike lanes, sidewalks, and bioswales for stormwater management
- Enhance the “remote” parking lots with added vegetation, lighting, and pedestrian connectivity
- Improve and leverage the existing channelized bayou in support of better stormwater management and enhanced wildlife habitat
- Create east-west campus connections to the levee commuter path
- Relocate support facilities (Facilities Services, Landscape Services, Athletics maintenance, ECE support facilities, remote storage) to the new location South of Gourrier Lane
- Build a new Animal Shelter and Annex South of Gourrier Lane
- The golf course currently serves an academic need for students in Kinesiology and a recreational purpose for students, faculty,

staff and the public. It is recommended that the golf course be maintained to support these existing uses until another future need for this land is identified and the academic uses satisfied.



WEST STUDENT HOUSING ZONE

**ACADEMIC AND ADMINISTRATIVE & SUPPORT**

- 1. New Campus Learning Commons
- 2. New Science Building
- 3. Academic Building A
- 4. Academic Building B
- 5. Academic Building C
- 6. Academic Building D
- 7. Academic Building E
- 8. Coates Hall Addition
- 9. Hill Memorial Library Addition
- 10. CoAD Expansion
- 11. STEM Building
- 12. Vet. Medicine Master Plan
- 13. Hill Farm Master Plan
- 14. Band Hall Expansion
- 15. Green House
- 16. Support Facilities

**AUXILIARIES**

- 17. Technology and Research Zone
- 18. Child Care Center Expansion
- 19. Cedar Hall
- 20. East Student Housing
- 21. Nicholson Gateway Development
- 22. Family Housing
- 23. New Fraternities
- 24. Greek Houses
- 25. Student Health Center Expansion (Optional)
- 26. Future Student Health Center (Optional)
- 27. Multi-purpose Center
- 28. PMAC Addition
- 29. Athletic Facility
- 30. Baseball Practice Facility Expansion
- 31. Animal Shelter
- 32. Shelter Annex
- 33. Athletics Maintenance
- 34. South Parking Garage
- 35. East Campus Parking Garage
- 36. Research & Technology Zone Parking Garage
- 37. Nicholson Gateway Parking Garage

**Legend**

- Academic & Administrative & Support
- Auxiliaries
- Other Buildings

WEST CAMPUS ZONE



## 4.3 COMPONENT PLAN

# ACADEMIC SPACE RECOMMENDATIONS

### ACADEMIC SPACE PROJECTIONS

The academic programming component of the campus Master Plan was developed and refined through an iterative process throughout the duration of the Master Plan. The principal drivers for the demand for additional space are undergraduate and graduate student enrollments and faculty growth projections that were informed by the University’s Strategic Planning process conducted in parallel with the campus Master Plan. The effort to develop projections for academic growth and the corresponding demand for space was conducted through the following efforts:

- Review of previous strategic academic plans for each college
- Interviews with each of the college Deans to gain an understanding of space needs, enrollment, and faculty projections
- Interview with Academic Affairs and the Provost to discuss general growth trends
- Draft enrollment and faculty projections furnished to the planning team by the Deans
- Refined enrollment and faculty projection furnished to the planning team by Academic Affairs as informed by the Strategic Planning process.
- Review and refinement of final growth and space projections by each college Dean and Academic Affairs

While enrollment and faculty growth were the main driver for the projected space needs, other factors contributed to the proposed space projections including:

- An analysis of existing academic space and a comparative exercise

in right sizing using benchmarks and contemporary academic space standards

- An overarching recognition and goal that the University will continue to conduct more research in the future and that faculty hires and an increase in graduate students will create demand for additional research space to serve contemporary needs
- A strategic goal by the university to encourage and enable a greater degree of inter-disciplinary research with joint grant funding between colleges, departments and disciplines
- Replacement space for buildings proposed by the Master Plan to be demolished – principally in the South Academic and Research District
- Strategic demolition projects to enable important Master Plan landscape, circulation and campus improvement initiatives – particularly Middleton Library and Lockett Hall

In order to convert the academic growth projections into actual space needs, the team developed a space projection model, which is delineated and explained in more detail in Academic Space Study Findings (see Appendix) and generates space needs as a function of the following factors:

- Projected faculty hires per college and the anticipated need for office and support space
- Projected funded graduate students per college and the anticipated need for office and research space
- Projected Doctoral, Post-Doc and PhD students per college and the anticipated need for office, research and support space
- Assumptions about the percentage of research active faculty

per college and the anticipated need for research space, research assistant space and support

- Anticipated need for additional instructional labs and other specialized instructional space based on undergraduate and graduate enrollment

The space requirements were adjusted for the particular needs of each college with, for example, science and engineering lab requirements adjusted to factor for more space as compared to research space for humanities and social science and other non-STEM disciplines. In addition, the assumptions of the percentage of faculty members engaged in active research was adjusted for each college, with input from the Deans and Academic Affairs.

A summary of the total projected academic space requirements is as follows:

- Space required per the Right-Sizing of existing facilities:  
313,550 gross sf (190,650 net sf)
- Space required per projected enrollment and faculty increases:  
681,450 gross sf (414,350 net sf)
- Sub-Total Projected New Academic Space:  
995,000 gross sf (605,000 net sf)

### REPLACEMENT OF DEMOLISHED ACADEMIC SPACE

The proposed Master Plan demolition includes buildings that are in strategic locations on campus and are generally in need of significant capital investment. Most of these buildings are service facilities or are obsolete, one story buildings located in South Academic and Research District where the Master Plan envisions expansion over the next

decade and beyond. While the planning made every effort to avoid removing academic facilities, there are some that the plan proposes to demolish. These facilities are generally small and in need of investment and represent significant deferred maintenance needs. In addition, there are three academic facilities that are also planned for demolition because of their strategic location and condition – Middleton Library, Lockett Hall, and Tureaud Hall. While these are the only core campus buildings proposed to be removed, the list of the south campus academic buildings proposed for demolition are:

- Agricultural Engineering Shop
- Agricultural Metal Building
- Dairy Science
- E.B. Doran
- Electrical Engineering Building
- Engineering Lab Annex Building
- Engineering Research and Development Building
- Manship Research Facility
- Military Science – Aero Studies Building
- Old Forestry

- Wetlands Building
- Sea Grant Building, Storage and Shop Buildings

Space Required to Replace Demolished Academic Space:

1,058,000 gross sf (690,000 net sf)

Total Projected Academic Space Needs:

2,053,000 gross sf (1,295,000 net sf)

The table below provides a summary breakdown of right sized and projected space needs broken down by college.

**GENERAL PURPOSE CLASSROOMS:**

There is an opportunity for LSU to improve the utilization and efficiency of its general purpose classrooms. The findings of the classroom utilization study suggest that LSU can absorb the projected undergraduate enrollment increase within the existing campus classroom inventory with improved utilization and higher occupancy. Recognizing that the inventory may also benefit from some right sizing to better align with projected class sizes, there is an opportunity with new and renovated projects to create new classrooms that are better suited to ideal class sizes. The Master Plan also recognizes that, although the number of classrooms is adequate to sustain growth,

many classrooms are not well suited to current pedagogies that emphasize project-based and team learning models. The proportion, square footage per station size, as well as technology and general age and condition of many classrooms suggest the need for renovations.

There is also an opportunity to construct new classrooms within new academic buildings in order to take older spaces offline and repurpose for other uses. The proposed defragmentation/renovations of the historic core campus buildings also relies on repurposing some existing classrooms to accommodate departmental growth needs. These classrooms should be replaced either in new academic buildings or in the proposed strategic classroom addition to Coates Hall in the interest of keeping classrooms close to the core campus. Regardless of the timing of the gradual renovation and replacement of existing classroom, which will bring the overall quality of the learning environments of the university to contemporary standards as well as optimize use and efficiency, the current inventory can accommodate the projected enrollment growth. The details of this analysis are explained in greater detail in the Academic Space Study Findings report found in the Appendix.

Tab	COLLEGES, SCHOOLS, AND RELATED PROGRAMS	A EXISTING NASF	B EXISTING NASF Minus Classrooms	C Right Sized NASF Minus Classrooms	D Projected NASF Minus Classrooms	E Additional NASF	F Net:Gross Ratio	G Additional Gross Sq. Ft.
COA	College of Agriculture	678,909	665,043	695,833	720,862	55,819	63%	88,601
CA&D	College of Art and Design	214,593	198,860	189,493	241,014	42,154	60%	70,256
COE	College of Engineering	497,499	451,217	418,695	557,812	106,595	60%	177,658
CHSE	College of Human Science and Education	221,076	213,022	241,462	255,310	42,288	63%	67,130
CHSS	College of Humanities and Social Sciences	176,404	169,014	193,138	217,444	48,430	63%	76,880
CMDA	College of Music and Dramatic Arts	128,836	116,568	133,917	133,728	17,160	65%	26,410
COS	College of Science (Cannon MP)	521,212	510,020	553,000	612,950	102,930	58%	177,470
Law Ctr	Law Center	134,792	108,134	139,124	144,063	35,929	63%	57,040
MSMC	Manship School of Mass Communication	32,994	28,900	30,821	59,496	30,596	63%	48,570
OCOB	Ourso College of Business Admin	118,894	101,132	101,632	124,798	23,666	65%	36,410
CCE	College of the Coast and Environment	121,855	119,913	116,962	118,814		60%	
SVM	School of Veterinary Medicine	285,737	278,501	336,906	375,807	97,306	60%	162,180
<b>Totals:</b>		<b>3,132,801</b>	<b>2,960,324</b>	<b>3,150,982</b>	<b>3,562,099</b>	<b>602,874</b>		<b>988,606</b>

LSU TOTAL NASF - RIGHT SIZED AND PROJECTED



## 4.3 COMPONENT PLAN

# ADMINISTRATIVE AND SUPPORT SPACE RECOMMENDATIONS

The Master Plan recommends the following plan for the relocation and right-sizing of administrative and support departments.

### THOMAS BOYD, DAVID BOYD, AND HIMES HALL FOR KEY ADMINISTRATIVE OFFICES

- Thomas Boyd to house Academic Affairs, Accounting Services, Auditors, Budget & Planning, Financial Systems Services, the Office of Diversity, Finance & Administration, Risk Management, and Student Affairs. Storage currently located in Thomas Boyd will be moved to new remote storage facilities which will free up space for administrative offices.
- David Boyd to be dedicated to Research & Economic Development, Graduate School, and the Vice Chancellor of Research.
- Himes Hall to be used to accommodate the Office of Sponsored Programs, Testing, the Faculty and Staff Senates, Research (ORED), Graduate School, and other faculty support growth needs.

### PLEASANT HALL FOR STUDENT SERVICES DEPARTMENTS

Continuing Education and the NCBRT to move out of Pleasant Hall, providing space for the following student-focused departments to be collocated for improved efficiency and ease of access:

- Bursar
- Disability Services
- Enrollment Management
- First-Year Experience
- Experience LSU
- University Registrar

### FOSTERHALLFORPRESIDENTANDRELATEDDEPARTMENTS/ FUNCTIONS

The President's Office to be relocated to Foster Hall, the symbolic head of the Historic Quad. Other related departments to be relocated to Foster Hall include:

- Board of Supervisors offices, meeting rooms, and Board Room
- General Council
- Governmental Relations & Institutional Advancement
- Strategic Communications/Public Affairs
- Vice President of Human Resources Management & Risk Management

### UNIVERSITY ADMINISTRATION BUILDING (UAB) FOR NON-CAMPUS CORE DEPARTMENTS

Several departments that have a need for public access and convenient parking should be moved to the UAB once the President moves to Foster Hall:

- Human Resource Management
- Procurement
- The Emergency Operations Center. The nearby Lod Cook Conference Center will be used in emergencies to house first responders and other essential personnel associated with the EOC.

### NEW BUILDINGS

The new Support Facilities (south of Gourrier Lane) will provide an opportunity to consolidate support facilities and will free up their

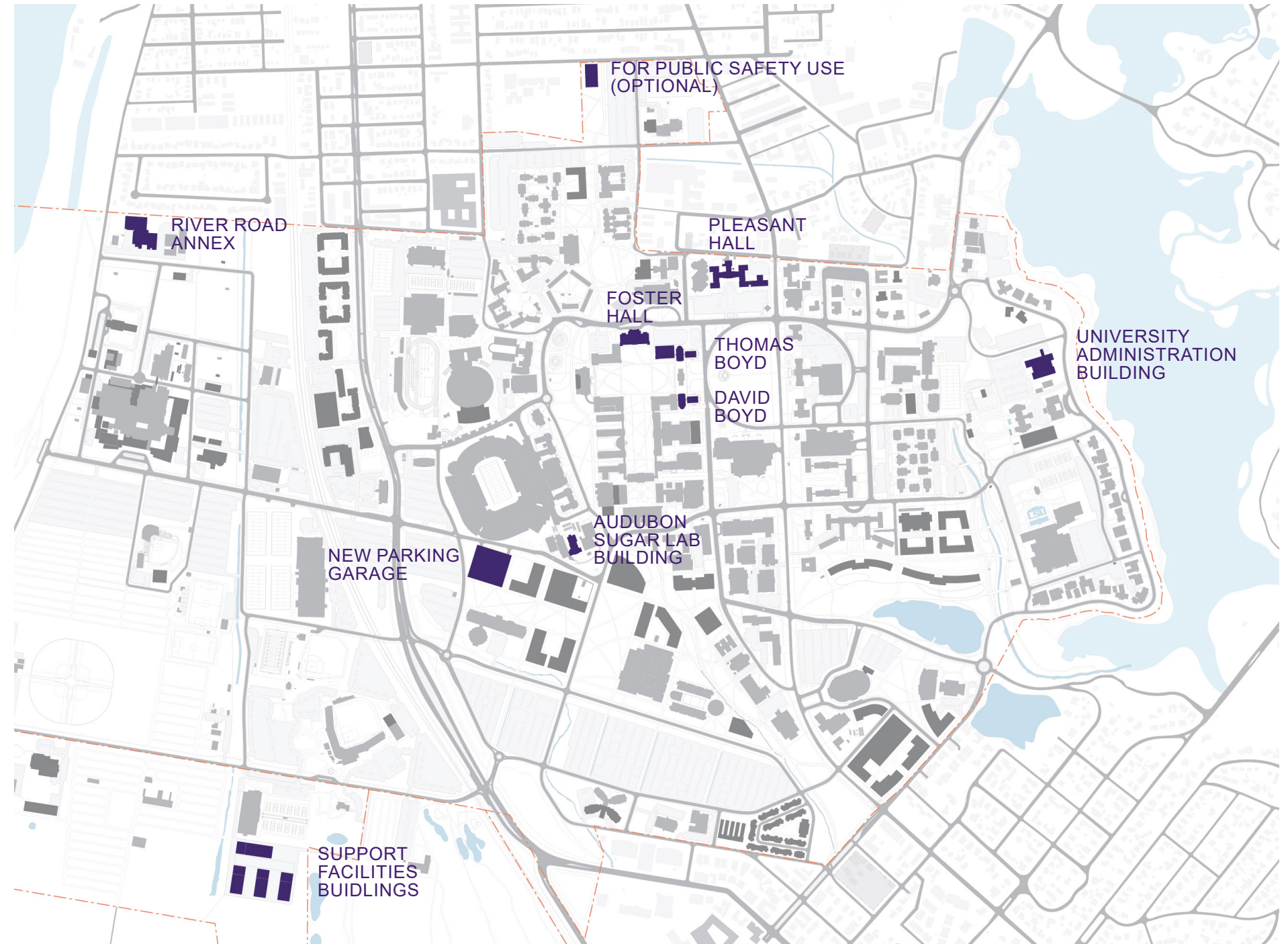
current location for new academic and research space.

Relocating University Public Safety, preferably to the edge of the campus, will provide a more effective facility for the Police & Public Safety and Parking & Transportation departments. Moving Police & Public Safety out of the core of campus will also shift them away from the stadium and game day traffic, thus facilitating their ability to respond to duty calls.

Proposed department moves and space reallocations are captured in the table and map on the following page.

Proposed Building	Department	Existing Building
David Boyd	Dean - Graduate School	David Boyd
	Director of Economic Development's Office	Himes
	Vice Chancellor - Research	David Boyd
	Vice Chancellor - Research	Himes
Fred Frey	Office of CIO/Telecommunications	David Boyd
Foster Hall	Board of Supervisors	UAB
	General Council	UAB
	Governmental Relations & Institutional Advancement	UAB
	President's Office	UAB
	Strategic Communications/Public Affairs	Lakeshore House
Himes Hall	VP Human Resources Management & Risk Management	UAB
Himes Hall	Office of Sponsored Programs	Himes
	User Support & Student IT Enablement	Himes
Support Facilities Buildings	Administration	Facility Services Building
	Building Services	Facility Services Annex
	Facilities Planning & Facilities Maintenance	Facility Services Building
	Facilities Finance & Accounting	Facility Services Annex
	Planning, Design, & Construction	Facility Services Building
New Parking Garage	Parking & Transport	University Public Safety
New Public Safety Building	Police & Public Safety	University Public Safety
Pleasant Hall	Bursar	Thomas Boyd
	Disability Services	Johnston Hall
	Enrollment Management	Pleasant Hall
	Facilities Maintenance (Storage)	Pleasant Hall
	First Year Experience	Johnston Hall
	Experience LSU	Johnston Hall
	University Registrar	Thomas Boyd
Support Facilities Building	Financial Systems Services (Storage)	Thomas Boyd
	Procurement Storage	Thomas Boyd
	VP Finance - Administrative Storage	Thomas Boyd
Thomas Boyd	Academic Affairs	Thomas Boyd
	Accounting Services	Thomas Boyd
	Budget & Planning	Thomas Boyd
	Executive VP & Provost of Academic Affairs	UAB
	Financial Systems Services	Thomas Boyd
	Internal Audit	MSRF and UAB
	Office of Diversity	Thomas Boyd
	Risk Management	University Public Safety
	VP Finance & Administration/CFO	Thomas Boyd
	VP for Student Affairs	Thomas Boyd
University Administration Building	Emergency Operations Center (EOC)	University Public Safety
	Human Resource Management	Thomas Boyd
	Procurement	Thomas Boyd

PROPOSED DEPT. MOVES AND RELOCATIONS



ADMINISTRATIVE AND SUPPORT SPACE RECOMMENDATIONS



## 4.3 COMPONENT PLAN

# DINING

The findings and recommendations summarized in the Needs Assessment section of this report and detailed in the Dining Study Findings document (see Appendix) shaped and supported the dining demand projection and recommendations.

### RECOMMENDATION: SHORT TERM

- Work with LSU’s auxiliary staff and dining partner to evaluate demand gaps and integrate on-going concept planning efforts to meet the needs of underserved areas of campus.
  1. Consider creative service styles to meet high customer demand (throughput) in the academic core.
  2. Likely locations to consider future dining based on demand gaps include:
    - Future development on the south end (library building, academic buildings, etc.).
    - Potential expansion, renovation, or replacement of the 459, particularly considering traffic generated by UREC activity. However, the dining venue should remain proximate to the primary users in the residential area.
- Monitor the impact of the dining expansion in the Library and College of Art & Design building and the new dining platform in Patrick Taylor Hall and recalibrate demand if necessary.

### RECOMMENDATIONS: LONG TERM

- As LSU plans new buildings, particularly on the southern end of campus, revisit the demand projections and integrate dining to address demand gaps to better serve campus needs. Refer to the maps on the following page.
- Continue to work closely with LSU’s dining partner to ensure the

appropriate back and front-of- house planning for new facilities. Early planning and collaboration allows the necessary space, menu, service style, and overall adaptability and flexibility for dining platforms to evolve with student preferences.

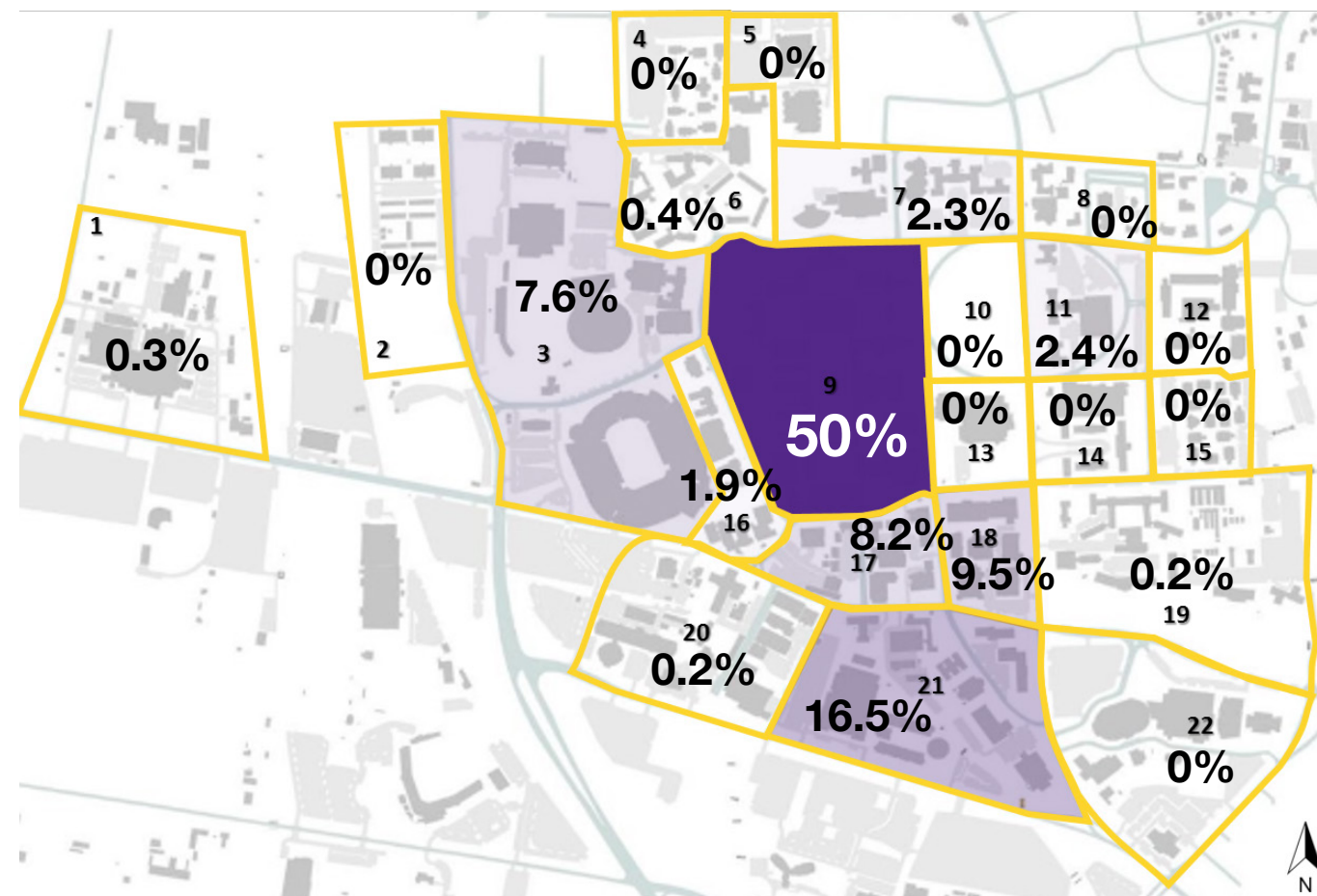
### DINING FRAMEWORK COMPONENTS

The dining framework will guide University decisions concerning location, type, and size of future dining venues in response to the Master Plan and anticipated enrollment growth.

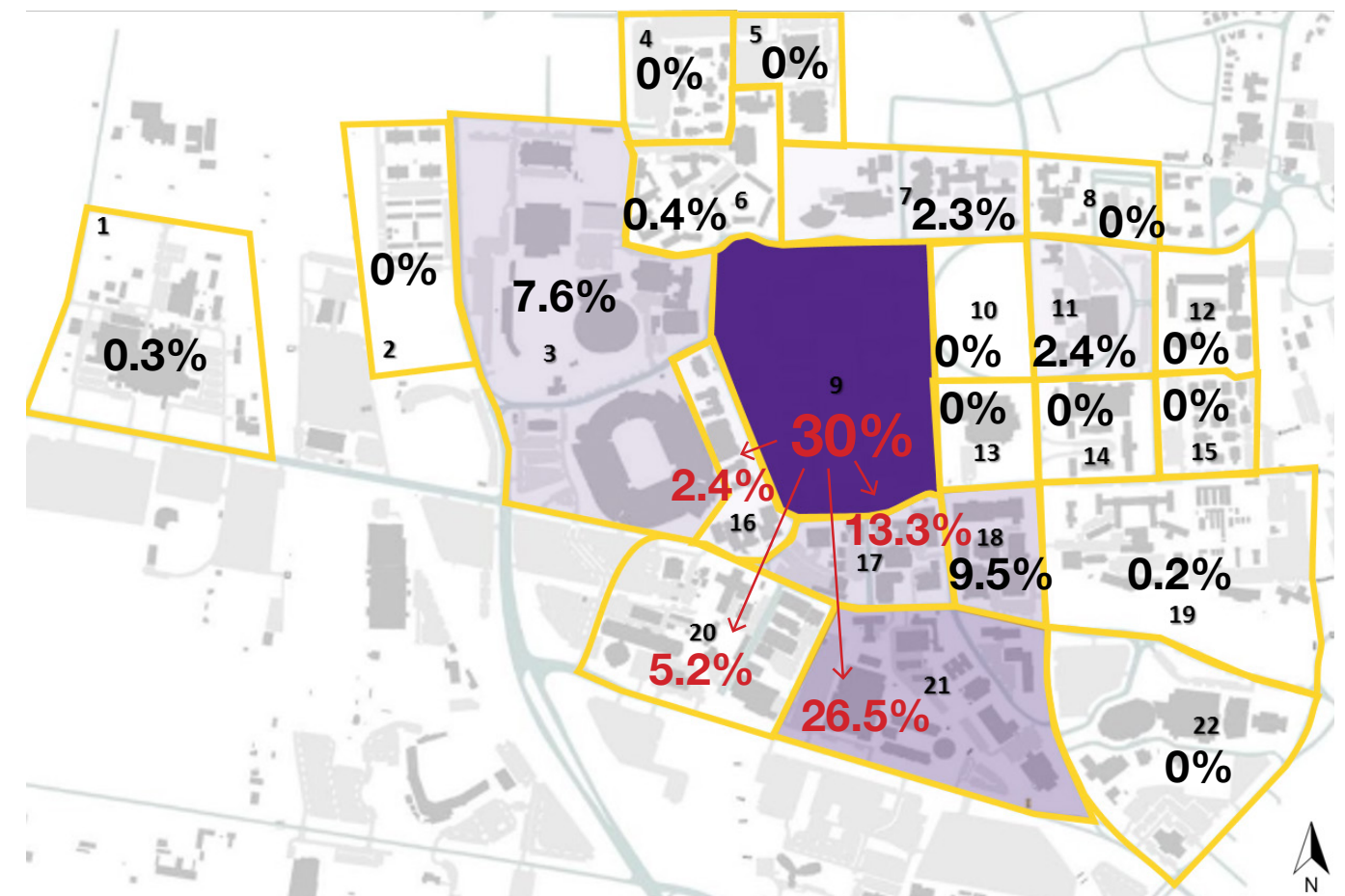
The two key components of the dining framework include:

- Establishing a clear dining vision in alignment with LSU’s broader institutional mission.
- Developing a demand model to project future dining utilization that incorporates major population shifts due to campus development and enrollment growth.

## LSU Mid-day Population Density Shifts to The South Driven by Future Master Plan Development



CURRENT: MID-DAY POPULATION DISTRIBUTION



FUTURE: MID-DAY POPULATION DISTRIBUTION

### Legend



### 4.3 COMPONENT PLAN

## MOBILITY - CAMPUS MOBILITY SYSTEM

Implementation of the Master Plan mobility recommendations will not only transform the way staff, students and faculty travel, but is also essential to realizing the build-out of the Master Plan. Under the status quo, demand for parking will continue to grow, jeopardizing the ability to replace surface lots with new buildings, greens and open spaces. The overall approach recommended here focuses on a re-balancing of the transportation system away from parking and driving and towards greater transit use, walking and biking—much like LSU’s peers have. This will accomplish the mode shift necessary to reduce parking demand and open up land to support the Master Plan. Elements of this approach are already happening: on-campus, bike share stations are being added soon, and new student housing is planned within walking distance of classrooms; off-campus, a new rail tram is planned for Nicholson Boulevard, and the City continues its partnering with the University to reduce roadway congestion and better accommodate non-motorized modes. However, the University will need to take bold steps to realize the level of transformational change envisioned by the Master Plan including:

- An overhaul of current parking policy to create a demand-responsive, tiered permit system which places the appropriate

value on high-demand core spaces and rewards remote parkers

- Transforming TIGER Trails to a higher-capacity, reliable and more frequent bus service connecting off-campus housing and remote parking with the campus core
- Creation of highly-visible walking and biking networks and infrastructure that penetrate campus edges better and connect beyond to growing regional networks; and
- Developing a flagship LSU transportation benefits program which provides best-practice, best-in-class incentives for staff, faculty and students to drive less

A transformation in the way LSU travels will only occur by providing more user-choice, convenience, affordability, comfort and safety. For this to happen, the transportation system must undergo capital investment and programmatic change. However, above all, travel habits and assumptions about travel choices must undergo a culture change. Principal amongst these changes is the recognition that a “business as usual” approach to parking and driving habits is not sustainable. Additionally, to realize the Master Plan vision the numbers of staff, students and faculty choosing to walk, for at least the last leg of their trip, will need to significantly increase.











### CORE PRINCIPLES

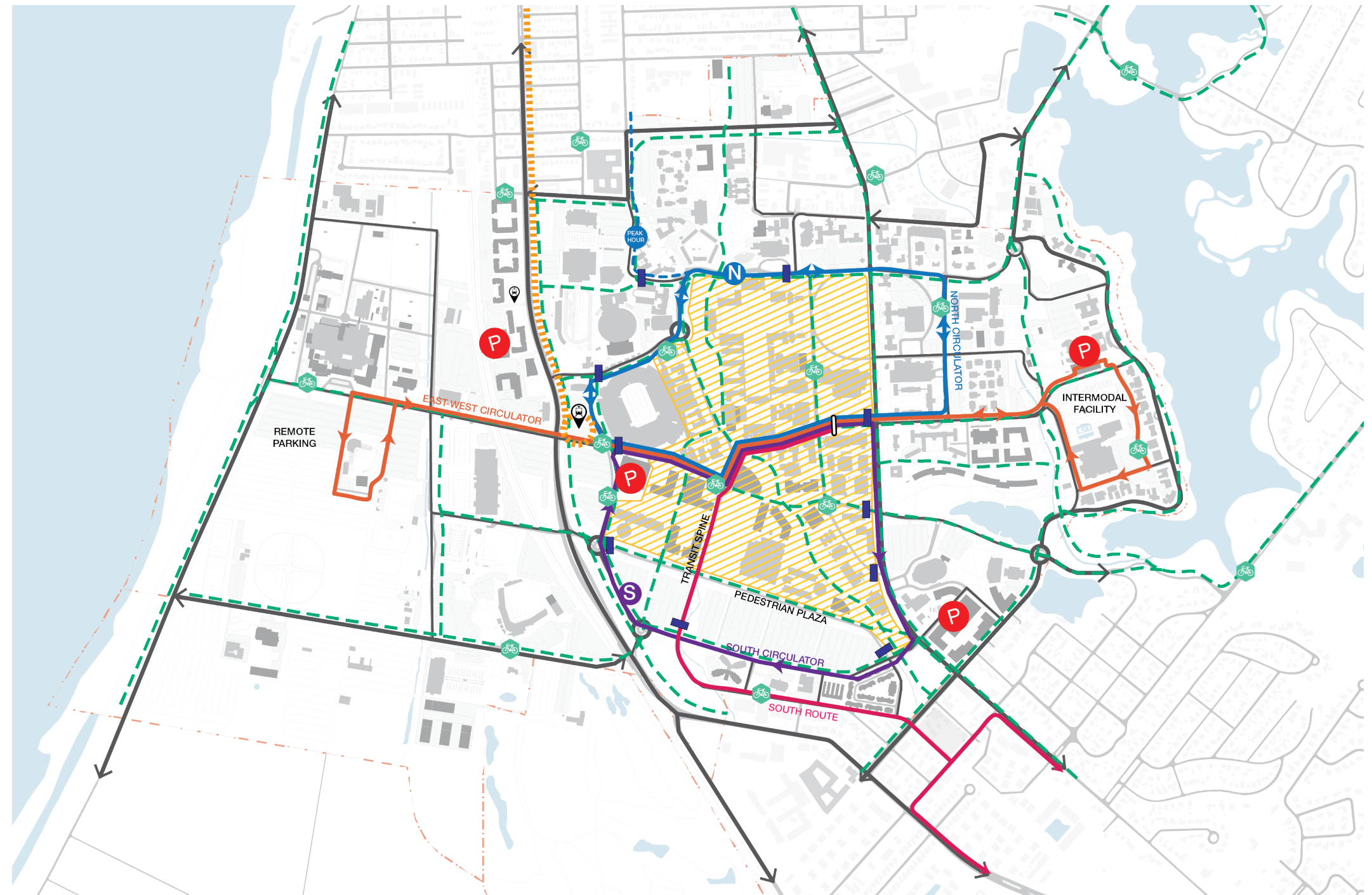
- Restrict private vehicle access to LSU’s walking core
- Re-calibrate the parking permit system to reduce demand for driving
- Reduce walking, biking and vehicular conflicts
- Establish a family of multi-modal streets
- Improve comfort and safety between remote parking lots and campus core
- Increase the attractiveness of the bus system as an alternative to driving

The above steps achieve a less congested parking system, a more comfortable and safer walking environment, a protected biking system connected to the region, and a more efficient, higher-frequency bus system serving off-campus student housing and remote parking.



**Legend**

-  Parking Garage
-  Bicycle Facility
-  Bike Share Station
-  BR Tram
-  BR Tram Station
-  East West Circulator
-  South Circulator
-  South Route Transit
-  Campus Gate
-  Pedestrian Core



CAMPUS MOBILITY SYSTEM PLAN



#### 4.3 COMPONENT PLAN

## MOBILITY - TRANSPORTATION DEMAND MANAGEMENT (TDM)

TDM programs are a foundational element of re-balancing LSU's transportation system. Robust TDM programs will reduce demand for parking, thereby freeing up land for the new South Academic and Research District growth, restored open space and new student housing. TDM programs also represent a "carrot" in the face of what may be perceived as the "stick" of parking pricing increases. By reducing demand for driving, TDM programs both use existing transportation infrastructure more efficiently and reduce demand for new parking supply. Below are specific TDM programs to consider introducing or expanding:

### DEDICATED TRANSPORTATION COORDINATOR

In order to set up a comprehensive Transportation Demand Management (TDM) program, it is recommended that LSU hire a full time position. TDM Coordinators are increasingly commonplace at large university campuses across the nation and help run day-to-day administration of transportation programs, answer phone calls and initiate and promote new programs.

### DEVELOP AN LSU TDM PROGRAM

Staff/ Faculty TDM Program:

Typically programs that require higher levels of subsidy and year-round investment such as transit subsidy programs are available to faculty and staff. Programs provide campuses with a competitive advantage, helping employee retention, increasing job satisfaction, and incentivizes those to try non SOV (single occupancy vehicle) modes

Student TDM Program:

The program should initially focus on promoting existing offerings such as Zipcar, Geaux Ride ridematching, and the CATS transit system. The TDM coordination should work to improve existing walking and biking programs and prioritize efforts to connect the campus and City Parish multimodal infrastructure.

### TRANSPORTATION DEMAND MANAGEMENT (TDM)

TDM describes strategies that optimize transportation services and infrastructure by incentivizing travel by more space-efficient and sustainable modes such as mass transit, bicycling and walking. This shifts trips to non-peak hours (flexible schedules) or avoids vehicular trips altogether. Tools include changing costs of service, improving information, mixing together walkable land uses, and employing new technology (mobile apps, telecommuting, etc.).

## Elements Of Campus Transportation Demand Management (TDM)



## POTENTIAL ELEMENTS OF AN LSU TDM PROGRAM

- **Car Share:** Zipcar car share is currently available on campus for students, faculty, and staff and should be heavily promoted to affiliates
- **Ridematching:** Carpool services are provided through GeauxRide, an online platform that matches individuals with similar commutes. Members can search the network for open seats or post their ride and destination to make seats available to other users
- **Walk/ Bike Incentives:** LSU currently offers no formal walk/ bike programs. Other campuses actively promote walking and biking through incentive programs
- **Annual promotional events** should be conducted to raise awareness amongst the student population. This can include inviting local service providers on campus such as CATA, GeauxRide and Baton Rouge Bikeshare
- **Alternative Work Arrangements:** The University should encourage alternate work arrangements for faculty and staff whose responsibilities can be accomplished effectively outside of a University office and/or traditional work schedule for part or all of the workweek
- **Incentivize Off-peak Class Scheduling:** The peak parking demand occurs around 11am and 1pm, which creates a traffic and congestion on local campus roads and parking lots. Incentives to hold class outside of these hours would spread roadways and parking demand across the day



#### 4.3 COMPONENT PLAN

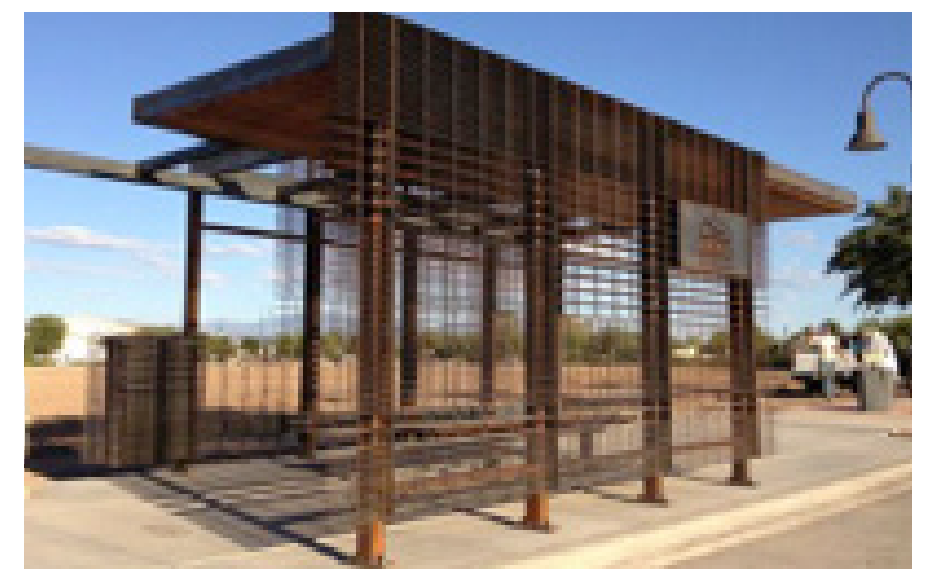
### MOBILITY - PUBLIC TRANSIT

The transit strategy helps to facilitate the longer term Master Plan, as well as resolve existing operational issues in the very short term. Specific short-term Tiger Trail route realignment and service recommendations are located in the Short-Term Transit Recommendations technical analysis memo (see Appendix.)

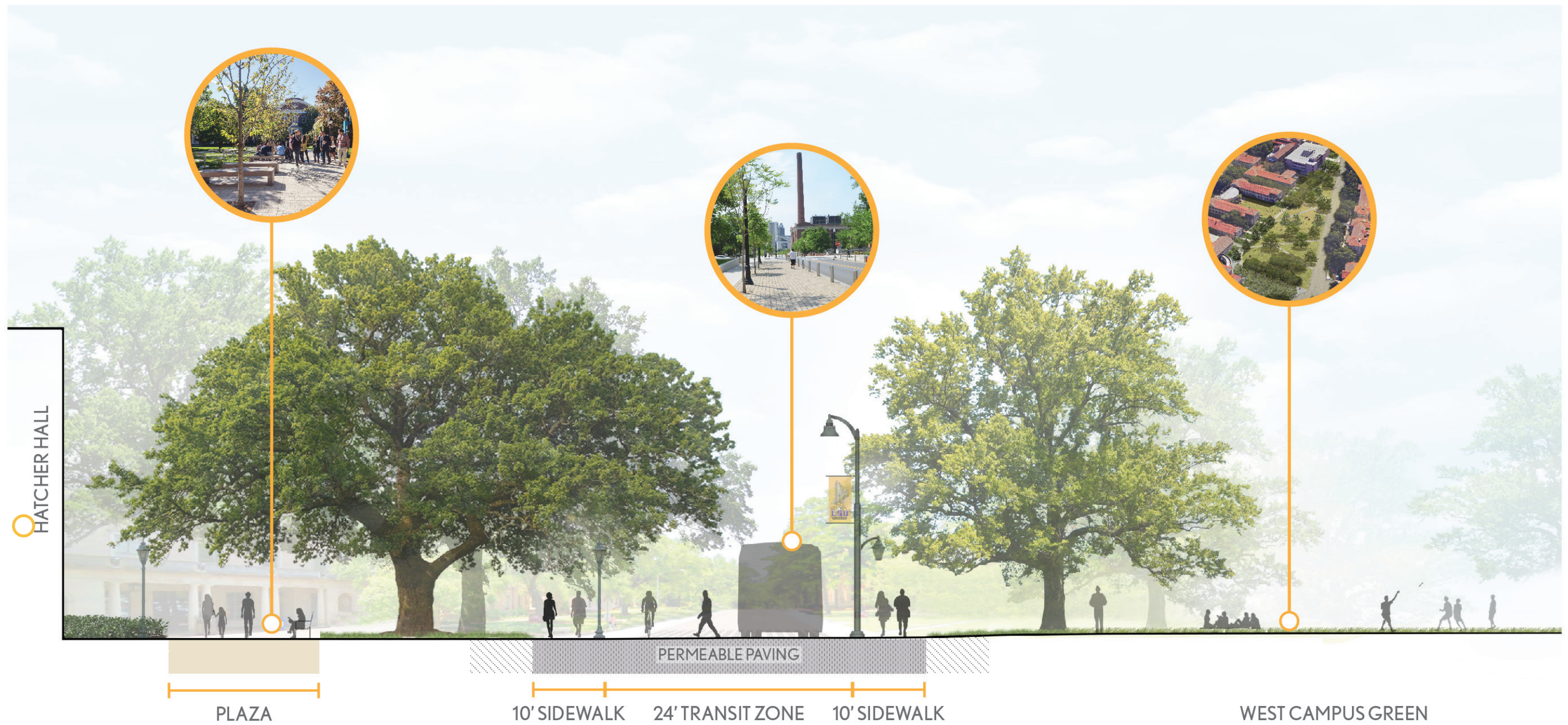
The framework behind the long-term transit recommendations is based on the following principles:

- The Master Plan presents an opportunity to comprehensively rethink Tiger Trails as part of parking demand reduction strategy and means of realizing a greener, denser campus with fewer surface lots.
- Provide more direct Lakefront service, reducing the appeal of driving between the campus core and the fraternities, sororities and new Rec Center.
- Provide more robust off-campus service creating a viable alternative to driving for the growing off-campus population
- In the immediate term, reconfiguring the existing shuttle system services can be a cost-neutral strategy to provide better service to off-campus housing .
- Adjustments to on-campus routes can also help to reduce intra-campus trips by car between more remote campus facilities and the core of campus.
- Paired with restructured parking pricing, shuttle services can also help to support a remote parking strategy, reducing pressure to provide parking near the core
- A robust east-west service will make currently underutilized lots at the levee more appealing for remote parking.

- Opportunities to dedicate roadways for transit only will help improve travel times and provide an appealing and viable alternative to driving.



STATE-OF-THE-ART CAMPUS BUS SHELTERS&TECHNOLOGY



TRANSIT SPINE SECTION

## TRANSIT ROUTES

### *North-South*

- The North-South transit route serves residential areas south of campus in a transit only corridor.
- This corridor is intended to provide high quality and frequent transit service for students, faculty, and staff from off-campus housing and destinations, remote parking south of South Quad Drive, and through the new South Academic and Research District.
- The commuter shuttle will serve the core of campus at a dedicated turnaround and layover at the Student Union .

### *East-West*

- The East-West transit route serves existing remote parking west of Nicholson Boulevard, including a new dedicated bus stop and turnaround.
- The bus stop would be equipped with shelter, lighting, security, real-time bus information, TramLink information, bike share and proximity to car share.
- Lakefront housing, the new Recreation Center, and a new garage would be served on the east side of campus.

## ON-CAMPUS CIRCULATION

### *North Loop*

- This proposed circulator provides more efficient service between intra-campus locations including Nicholson Gateway.
- Direct access will be provided to on-campus housing surrounding the campus core and provide direct front-door service to campus buildings, services, and destinations around the Historic Quad.

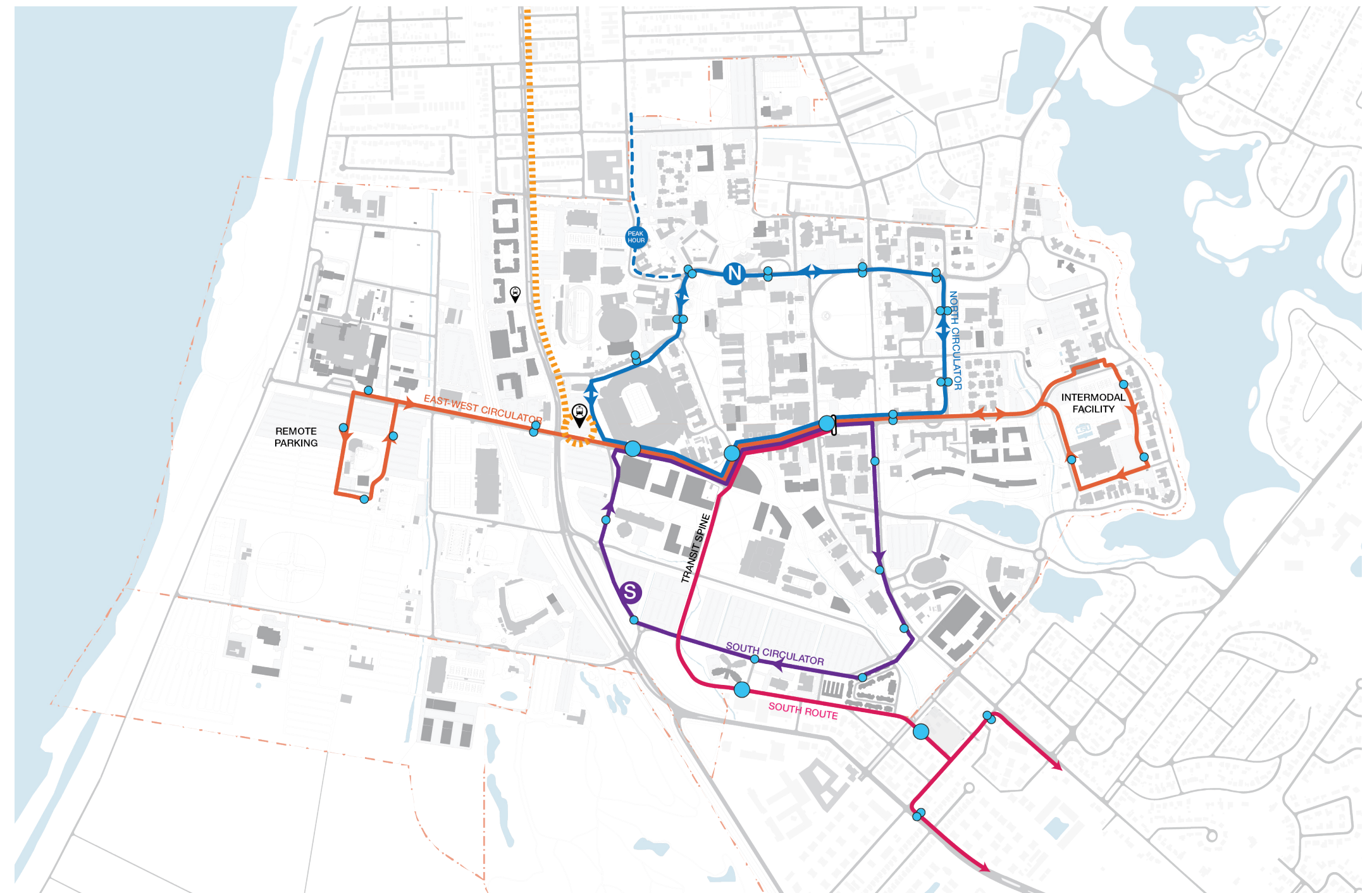
### *South Loop*

- This efficient and shorter loop provides dedicated service from the southern parking lots to the core of campus.







## SHORT-TERM TRANSIT RECOMMENDATIONS

In the immediate-term, the following recommendations can help improve ridership and reduce demand for driving. More detail is provided in the Short-Term Transit Recommendation memo (see Appendix.)

- Improve the branding of the Purple, Gold, and Purple Union routes to clarify how these three routes operate together but differently may help new users understand the system quicker and make the system more legible overall
- Bi-Directional Service: Routes should be reconfigured to provide bi-directional service, making off-campus service easier to use and understand
- The Garden District could be served more effectively by breaking the route into two bi-directional routes: One route should provide bi-directional service between campus and the Garden District neighborhood
- Service to shopping destinations on Perkins Road could be discontinued due to low ridership productivity
- Bi-directional Service could be provided between campus and Perkins Street via Stanford Street



**Legend**

-  East West Circulator
-  North Circulator
-  South Circulator
-  South Route Transit
-  BR Tram
-  BR Tram Station

LONG-TERM CAMPUS TRANSIT



## 4.3 COMPONENT PLAN

# MOBILITY - CIRCULATION AND STREET NETWORK

The proposed circulation and street network improves safety, reduces conflicts between cars, bikes and people on foot, and defines a clear hierarchy that comprises: a pedestrian core, two transit spines, a bike and pedestrian spine connecting the core of campus to the periphery, and parking pushed to the perimeter of campus. This is accomplished through these key principles:

### REMOVE PRIVATE VEHICLES FROM THE CAMPUS CORE:

Private vehicles are restricted from the core (with the exception of ADA parking on Dalrymple Drive, Highland Road, S Campus Drive, and Fieldhouse Lane and during game day and special events) in order to create a safe, accessible, and comfortable pedestrian environment, removing today's core conflicts.

### ESTABLISH A CORE WALKING ZONE:

Walking is the predominant means of travel in the campus core, and the infrastructure should reflect that. Campus transit, pedestrians, bicycles and service vehicles will operate slowly and share many routes in the core.

### CREATE A VISIBLE AND CONNECTED BICYCLE NETWORK:

Dedicated bike lanes are needed across campus to provide safe accommodation and a visual reminder that bikes are an integral part of campus travel. Off-campus facilities such as bike share and local and regional dedicated bike lanes should provide connections between higher concentrations of housing and campus.

### PROVIDE DEDICATED TRANSIT ROADWAYS INTO THE CORE:

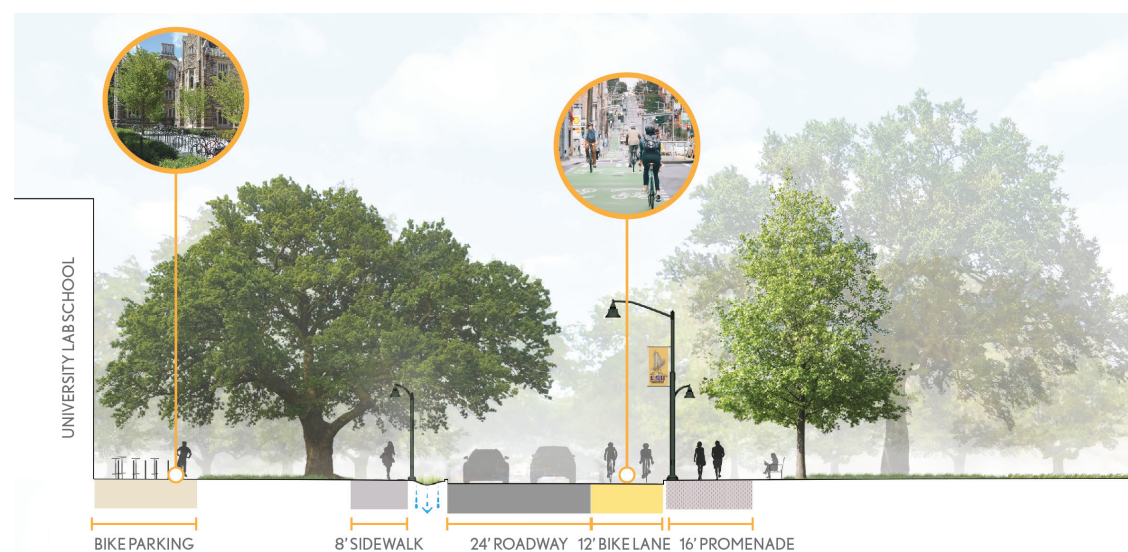
New north-south and east-west transit spines will provide prominent,

frequent service, attracting riders while providing maximum convenience for riders. Spines provide direct connections to remote parking, on-campus destinations, and gateways to off-campus housing.

### PENETRATE BARRIERS ALONG CAMPUS EDGES:

New walking and biking connections connect growing off-campus housing options to reduce on-campus parking need. Improved pedestrian signalization is coupled with vehicle signal improvements to reduce congestion.

**IMPROVE REGIONAL CONNECTIONS:** A campus that is better-connected to the region by car, transit, and biking will better serve staff, students and faculty.









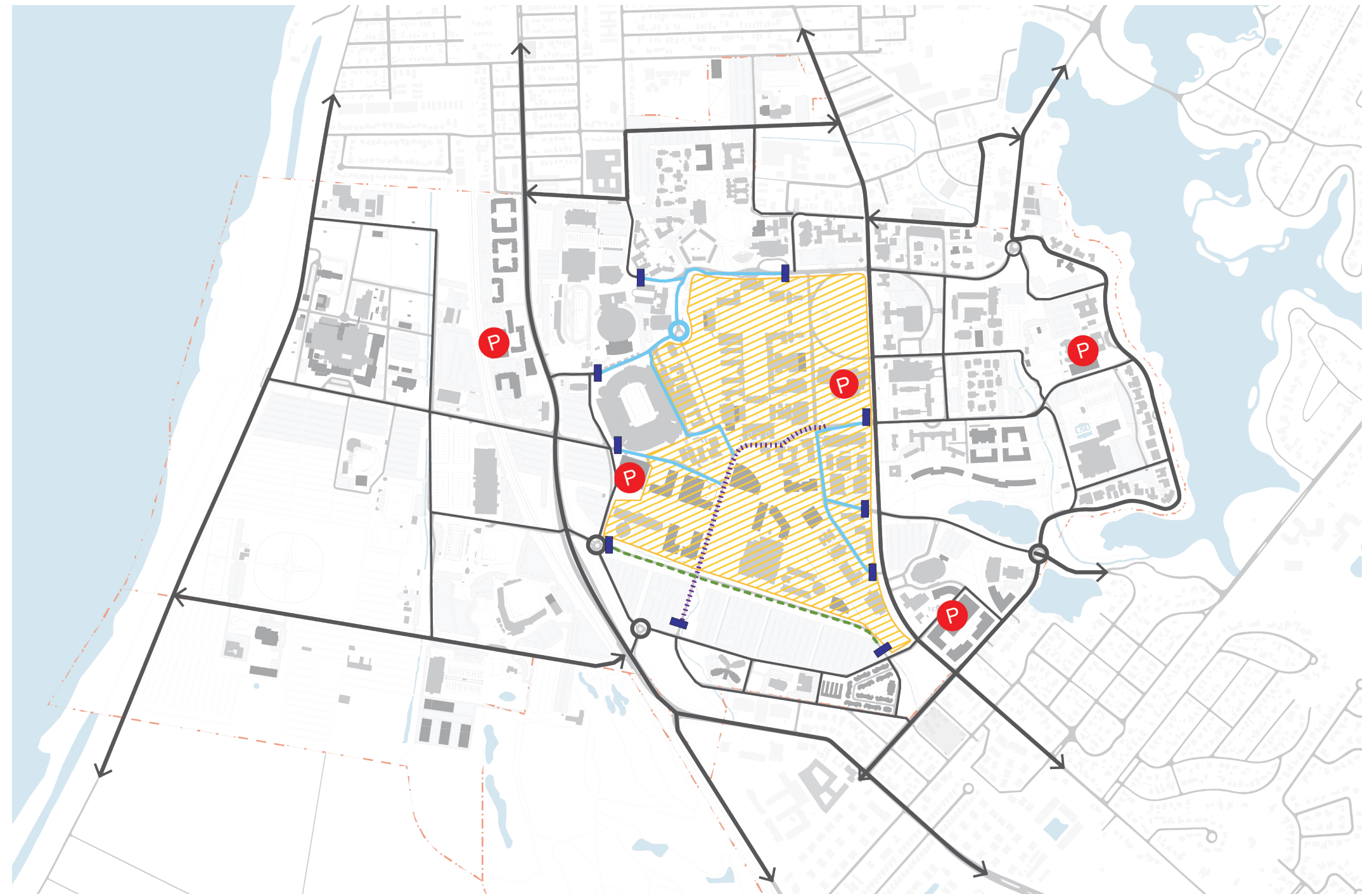
TYPICAL SECONDARY ROUTE SECTION - PROPOSED



HIGHLAND ROAD SECTION - PROPOSED

**Legend**

-  Transit Spine
-  Limited Vehicle Access
-  Pedestrian Plaza
-  Pedestrian Core
-  Vehicle Access Gate
-  Parking Garage



CAMPUS CIRCULATION AND STREET NETWORK



### 4.3 COMPONENT PLAN

## MOBILITY - PARKING

The following provides a phased approach to parking that ultimately achieves the Master Plan vision for a car-free core and development of the new South Academic and Research District by incentivizing remote parking.

#### SHORT TERM

In the short term, a tiered parking pricing program is recommended including a premium zone in the core, secondary zone, tertiary zone and a remote zone located west of Nicholson Boulevard. Pricing is tailored to reflect existing levels of demand and recognizes the desirability of parking in the core. Pricing sets the stage to remove parking from the core in the long-term (with the exception of ADA parking on Dalrymple Drive, Highland Road, S Campus Drive, and Fieldhouse Lane)

#### MEDIUM TERM

In the medium-term, the core car-free zone is implemented. The premium zone is bumped out to the location of the former secondary zone, and the secondary zone is mapped on the former tertiary zone. The tertiary zone is eliminated, and the secondary zone is shifted over toward Highland Road.

Phase	Existing Parking Spaces	Total LSU Population	Parking to Remove	Total	Spaces per Affiliate
<b>Existing</b>	<b>28,300</b>	<b>37,700</b>	--	<b>28,300</b>	<b>0.75</b>
<b>Interim</b>	<b>28,300</b>	<b>37,700</b>	<b>1,600</b>	<b>26,800</b>	<b>0.71</b>
<b>Master Plan</b>	<b>28,300</b>	<b>37,700</b>	<b>3,600</b>	<b>23,200</b>	<b>0.61</b>

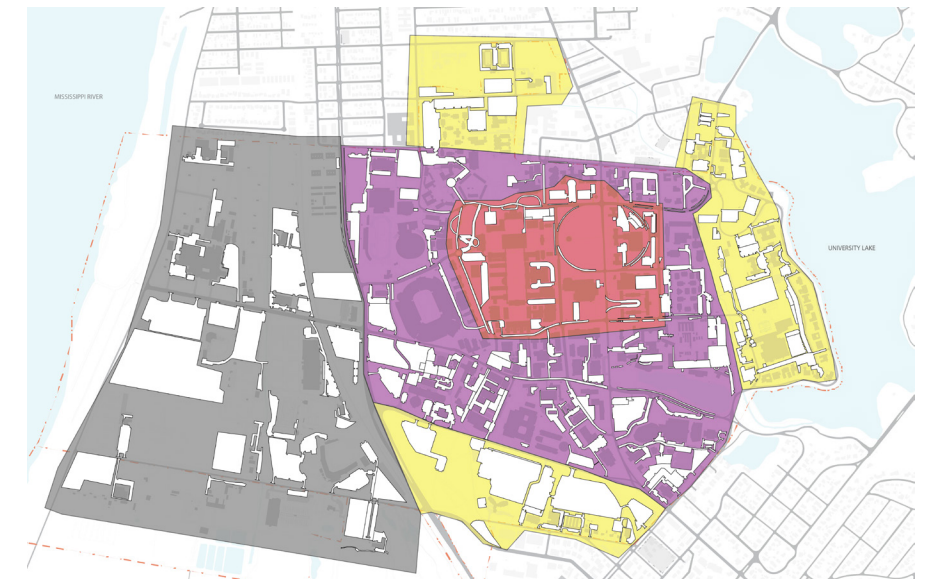
PARKING PHASING

#### LONG TERM - MASTER PLAN

The long-term parking plan includes a car-free, core zone, premium, secondary, tertiary, remote zones; includes new garages when buildings displace more surface lots. Cheaper parking is available in all areas of campus (the existing garage can be priced more cheaply to increase its use). Permits for higher-priced high-demand areas close to the core are sold to faculty and staff first, then students

#### PARKING PHASING

Parking ratios remain high, even after parking is removed from the core



SHORT TERM PARKING ZONES



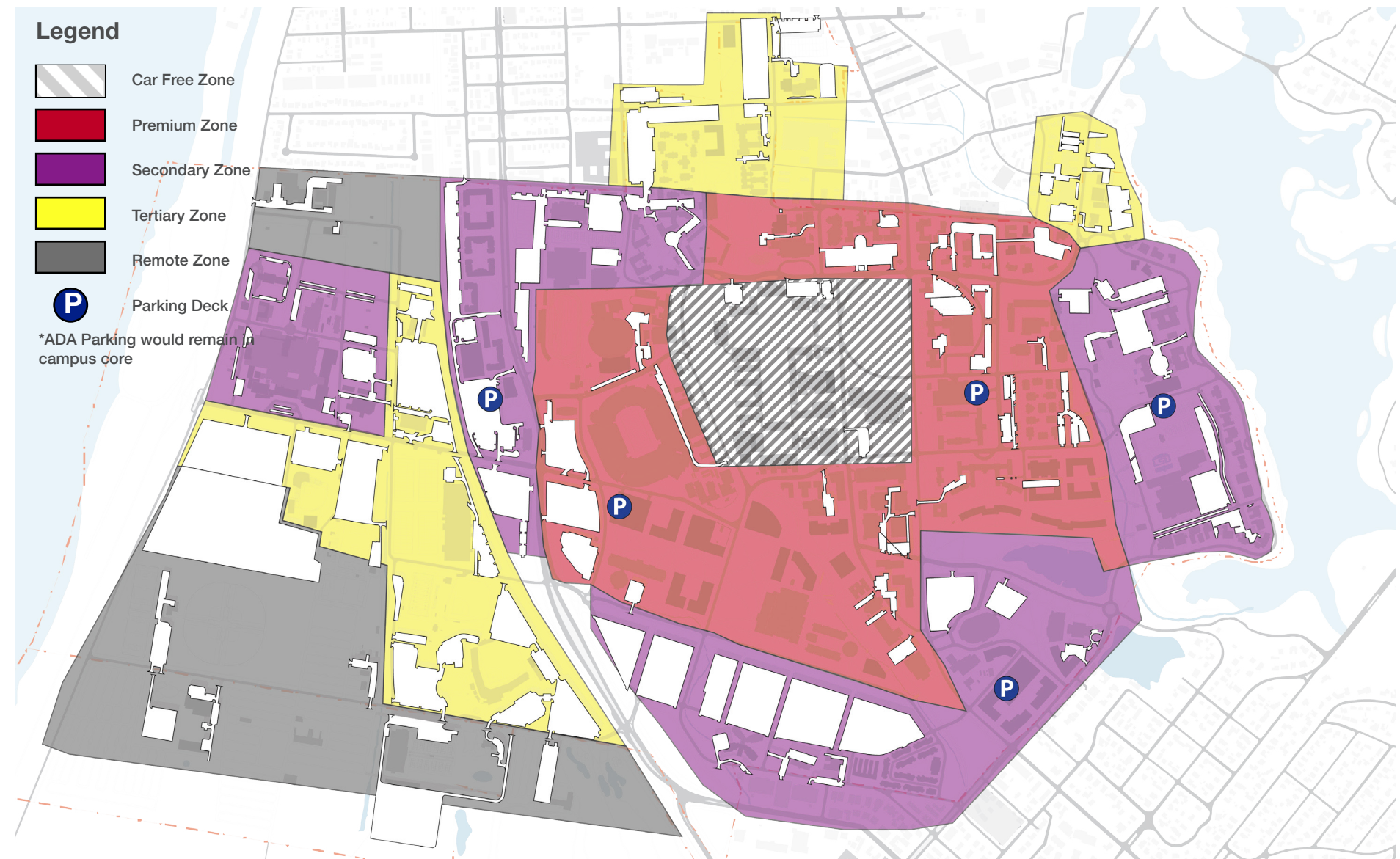
MEDIUM TERM PARKING ZONES

### ZONAL/ TIERED PRICING

By restructuring the permit program and pricing to respond to demand and reward those who take the time to park remotely and walk or ride a bus to the center of campus, parking availability closest to the core will increase.

- **Premium Zone:** Permit holders would pay the highest rate to park close to the campus core. Faculty and staff members should be offered these permits before selling to other affiliates.
- **Secondary Zone:** Permit holders would pay a moderate rate to park in facilities located on the periphery of the campus core.
- **Tertiary Zone:** Permit holders can pay much less than other tiers to park in more remote lots, with longer walks or shuttles connected to the campus core.
- **Remote Zone:** Parking is at the lowest price possible in the most remote lots with shuttle services commuting to the campus core.

Restructuring the permit program is expected to maintain or increase current permit program revenues; however, the intended results of the new structure are to increase parking availability and offer users a choice in price and location. Permit rates and overall ratios should be adjusted on a semester basis to reflect observed parking demand.



MASTER PLAN PARKING PERMIT ZONES



## HISTORIC CORE GAME DAY PARKING SCENARIO STUDY

LSU is a major regional and statewide draw for events, particularly football games. Seven times a year the campus swells with over a hundred thousand visitors and fans, many of whom arrive the day before the game to tailgate and celebrate the school's football tradition.

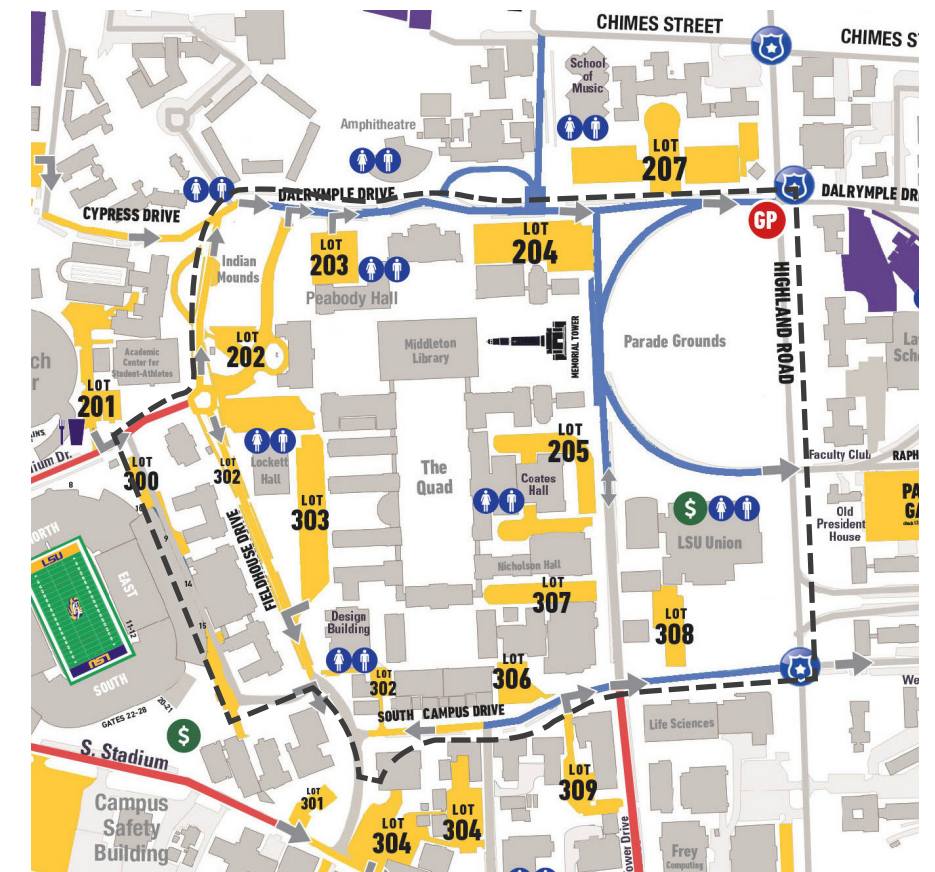
The Master Plan parking strategy seeks to support and enhance the amenities offered to the visitors and fans, by improving parking areas, providing more space for tailgating and adding shade trees. While the recommendations for the campus historic core removes parking lots and private vehicle access, the Master Plan team worked closely with LSU Athletics to ensure that tailgaters, season ticket holders and others can continue to access the campus core during game day.

This is accomplished through the following strategies:

- Replacing the majority of existing core campus lots with flexible plaza space

- Flexible plaza areas can be used for parking during game day and special events as needed, but will otherwise be restricted to private vehicles
- Total game day supply in the campus core can be modestly increased to a total of approximately 1,500 spaces; and potentially more if the new West Campus Green is also parked
- During regular academic days access to flexible plaza areas will be restricted to minimize pedestrian and vehicular conflicts
- Areas traditionally used for tailgating, such as the lots south of South Quad Drive, will be expanded and enhanced for tailgating

Similar schemes have been successfully implemented at a number of first division football schools that balance needs for a safer, greener campus core while also celebrating the tailgating, camping traditions of game day football. Similar improvements to the game day experience, and removal of daily parking areas, will occur in limited areas outside of the core as well.



FLEXIBLE PLAZA SPACE ON NORMAL DAY

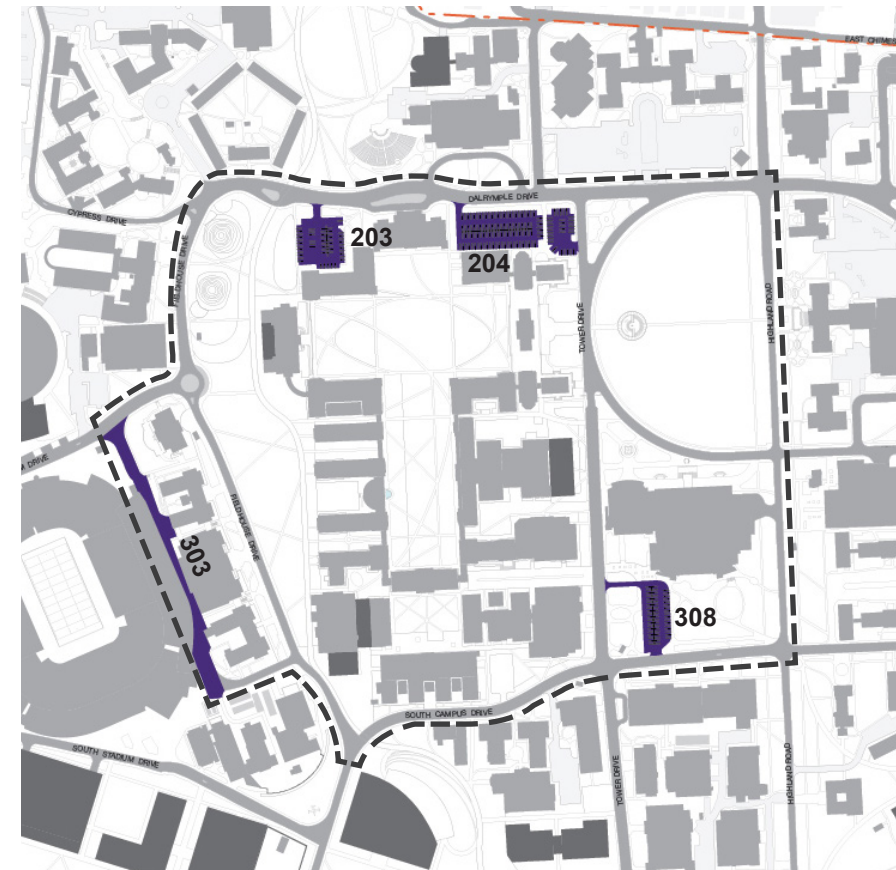


FLEXIBLE PLAZA SPACE ON GAME DAY

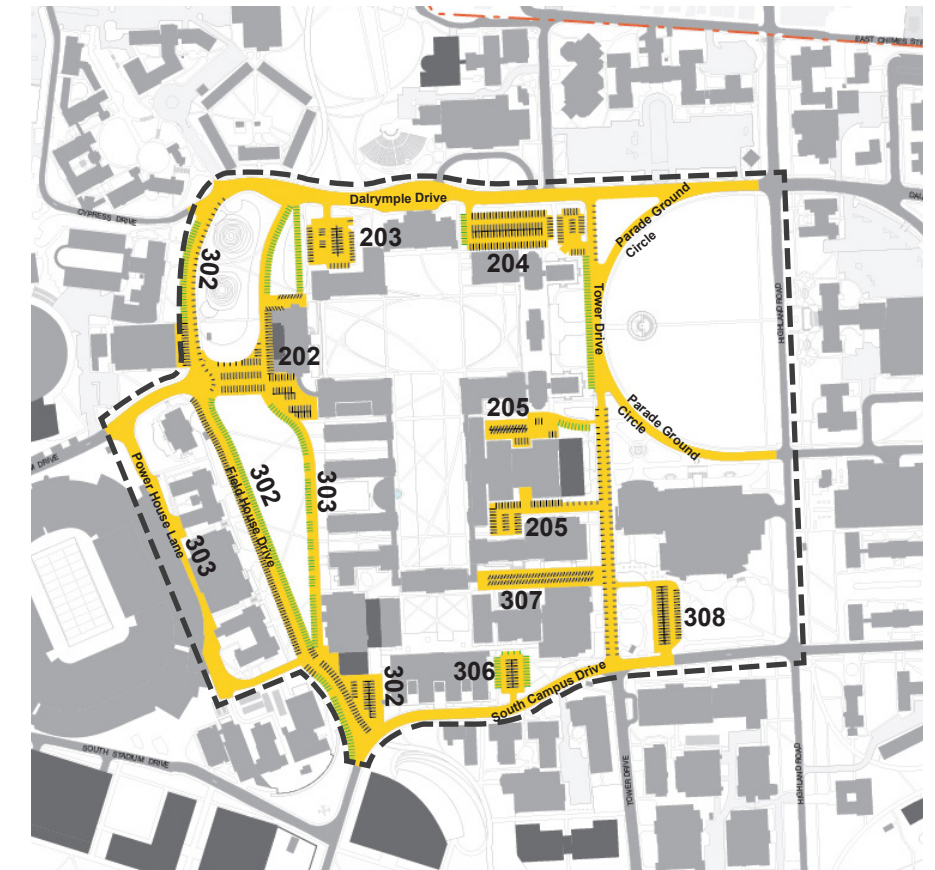
EXISTING CAMPUS CORE GAME DAY PARKING CAPACITY	
LOT NUMBER	# OF SPACES
202	212
203	67
204	174
205	125
300	124
302	114
303	148
306	49
307	82
308	57
Dalrymple Drive	65
Tower Drive	47
Raphael Semmes Road	112
South Campus Drive	51
<b>Total in Core</b>	<b>1427</b>

EXISTING CAMPUS CORE PARKING CAPACITY (GAME DAY)

### Proposed Parking Capacity (Normal Day)



### Proposed Parking Capacity (Game Day)



#### Legend

- Normal Day Parking Space
- Game Day Parking Space
- Parking Space on Hard Space
- Parking Space on Soft Surface
- Study Boundary

PROPOSED CAMPUS CORE NORMAL DAY PARKING CAPACITY	
LOT NUMBER	# OF SPACES
202	0
<b>203</b>	<b>58</b>
<b>204</b>	<b>142</b>
205	0
<b>300</b>	<b>124</b>
302	0
303	0
306	0
307	0
<b>308</b>	<b>54</b>
Dalrymple Drive	0
Tower Drive	0
Raphael Semmes Road	0
South Campus Drive	0
<b>Total in Core</b>	<b>378</b>

PROPOSED CAMPUS CORE GAME DAY PARKING CAPACITY	
LOT NUMBER	# OF SPACES
202	162
<b>203</b>	<b>58</b>
<b>204</b>	<b>152</b>
205	89
<b>300</b>	<b>124</b>
302	350
303	61
306	41
307	67
<b>308</b>	<b>54</b>
Dalrymple Drive	65
Tower Drive	133
Raphael Semmes Road	112
South Campus Drive	51
<b>Total in Core</b>	<b>1519</b>

PROPOSED CAMPUS CORE PARKING CAPACITY (NORMAL DAY)

PROPOSED CAMPUS CORE PARKING CAPACITY (GAME DAY)

## 4.3 COMPONENT PLAN

# MOBILITY - PEDESTRIAN CIRCULATION AND SAFETY

The following Master Plan recommendations are aimed to improve pedestrian circulation and safety:

### ESTABLISH HIERARCHY

- Emphasize a system of major pedestrian routes supported by a secondary & tertiary network that connects across the campus, providing safe and clear paths for students and visitors to major campus destinations.

### A CAR-FREE, WALKING CORE CAMPUS

- Remove cars and parking within the campus core in phases to reinforce pedestrian priority.

### A HIGHLAND/CHIMES WALKING/BIKING HIGHWAY

- A fully dedicated and signed pathway for pedestrian and bicyclists from the Highland Gate, connecting to the south parking lots, the new library, the South Academic and Research District, student housing, and the Old South Baton Rouge neighborhood.

### EAST WEST WALKING ROUTES

- New, east-west walking paths and bridges over the Corporation Canal will serve the UREC, new residence halls proposed at the former greenhouses and the campus core.

### CAMPUS EDGE WALKING CONDITIONS

- Gourrier, Skip Bertman and Nicholson Boulevard crossings improvement with improved lighting and shade trees.

### COLLABORATION WITH THE CITY

- On-going University collaboration with the City Parish at the campus edges and beyond can serve both parties' goals of increasing safe travel.
- Opportunities for low-cost improvements should be explored such as re-timing key intersections for better pedestrian levels of service and more efficient vehicle flow

Long term roadway improvements can resolve historic traffic problems while creating new walking, biking and transit-only corridors.

### FIELDHOUSE DRIVE PEDESTRIAN IMPROVEMENTS



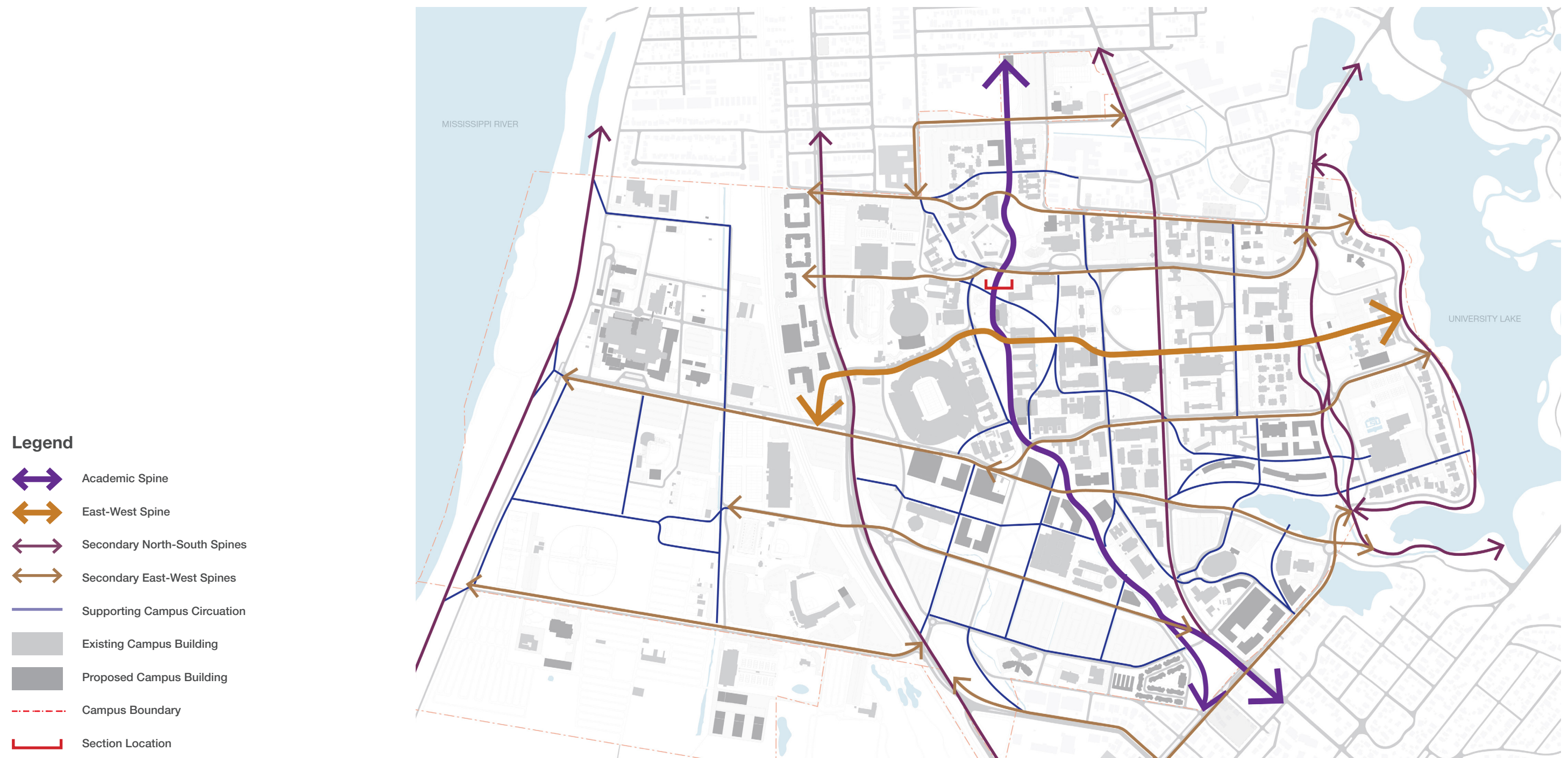
BEFORE



AFTER



ACADEMIC SPINE AT INDIAN MOUNDS SECTION-PROPOSED



CAMPUS PEDESTRIAN NETWORK



## 4.3 COMPONENT PLAN

# MOBILITY - BICYCLE CIRCULATION

The following Master Plan recommendations are aimed to improve the bicycle circulation network and infrastructure.

### BICYCLE PARKING

- Short- and long-term bicycle parking that is weather protected and provides security.
- The presence of parking in centralized locations is ideal in and around campus, such as the Student Union.

### BATON ROUGE BIKE SHARE

- The University should work closely with the Baton Rouge Bike Share to expand the bike-sharing program that is convenient and cheap.

### ON-CAMPUS SEPARATION

- Providing dedicated bike facilities on campus will help to delineate and prevent conflicts with other modes.
- Within the core, on-street parking should be repurposed for bike lanes.
- A double sided cycle track should be designed along Fieldhouse Drive.
- Bike lanes will be included the road diet design for Skip Bertman Drive and along Highland Drive.

### REGIONAL CONNECTIONS

- The University should coordinate with the City Parish to improve bicycle connections to the Levee pathway, the multi-use path along Dalrymple, and facilities along Highland Road.

## SOUTH CAMPUS DRIVE BIKE LANE RECONFIGURATION



BEFORE











AFTER



SKIP BERTMAN DRIVE SECTION - PROPOSED

**Legend**

-  Vehicular - Bike Shared Road
-  Roads with Designated Bike Lanes
-  Bike Trail
-  Bike Share Station
-  Existing Campus Building
-  Proposed Campus Building
-  Campus Boundary
-  Section Location



PROPOSED BIKE NETWORK



### 4.3 COMPONENT PLAN

## LANDSCAPE - OPEN SPACE NETWORK

In order to create a fully integrated and comprehensive open space network that supports both pedestrians and bikes, it is essential to establish clear and safe connections between existing open spaces and new ones. Providing shaded walks and large flexible open spaces that support a variety of activities and programming, and removing daily parking from the core will produce an open space network that functions at a range of scales. The way landscape spaces are designed, planted, paved, and furnished is guided by the Design Principles set forth within the Design Guidelines document, as well as the Landscape Design Standards document, supplementary to the Campus Master Plan.”

#### GOALS

- Integrate shade, stormwater, and pedestrian and bike amenities into main circulation routes and outdoor spaces.
- Provide more flexible open space and connect existing spaces through a series of pedestrian circulation spines.
- Use streets and interstitial spaces to further establish and connect the open space network.
- Establish West Campus Green as a significant flexible open space in the core of campus.
- Establish a new South Quad and new Academic Grove that are scaled to future building expansion.
- Create beautiful and functional parking lots that are integrated into the campus canopy and circulation network.
- Design spaces that function for everyday use, as well as large gatherings and events.











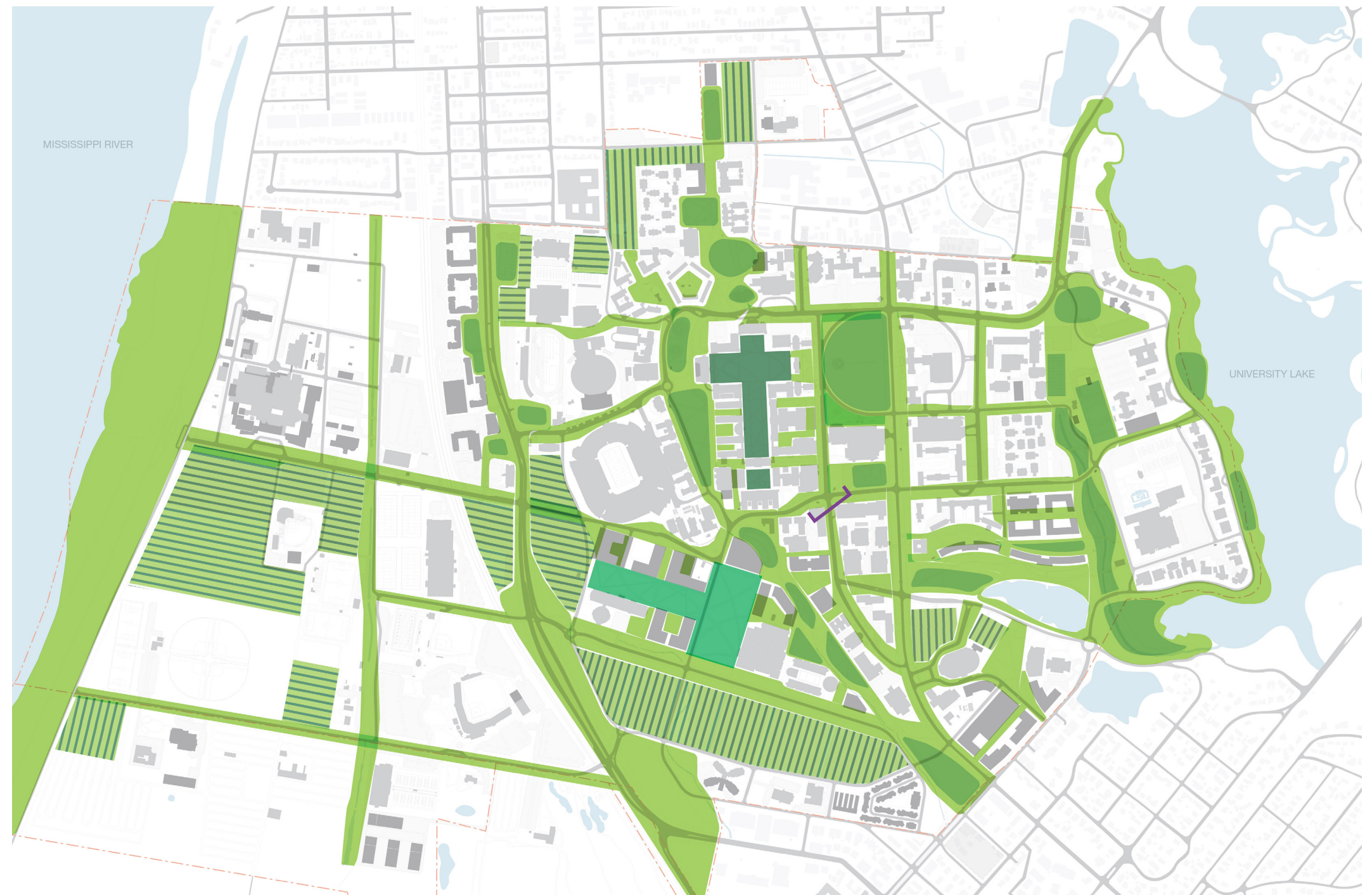
ACADEMIC SPINE SOUTH SECTION - PROPOSED



SHADED CAMPUS PEDESTRIAN PATHS

**Legend**

-  Quad
-  Major Open Space (Green)
-  Interstitial Open Space
-  Parking Lot Forest
-  Existing Campus Building
-  Proposed Campus Building
-  Campus Boundary
-  Section Location



CAMPUS OPEN SPACE NETWORK





## OPEN SPACE CHARACTER

### NORTH-SOUTH SPINES

The Master Plan proposes a series of north-south spines that serve as major circulation routes through campus, connecting multiple destinations, whether they are open spaces, student housing, or academic buildings. They support both pedestrian and bike movement supported with furnishings and amenities located along the way, making them comfortable as both circulation and open spaces. For example, the Academic Spine links together primary academic destinations and open spaces, like the new West Campus Green, library terrace, and renovated canal, along the upland of the campus. The Student Life (Corporation Canal) Spine includes a newly renovated Corporation Canal to include recreational components, tying together student housing, UREC and sports fields, as well as the campus lakes.

### GOALS

- Link together major open spaces and landscape features on campus.
- Provide shade between destinations.
- Locate new flexible open spaces along major spines.
- Provide furnishings and amenities, like seating, lighting, and bike parking.



SPINES



PEDESTRIAN PROMENADE WITH AMENITIES



SHADED CAMPUS PROMENADE



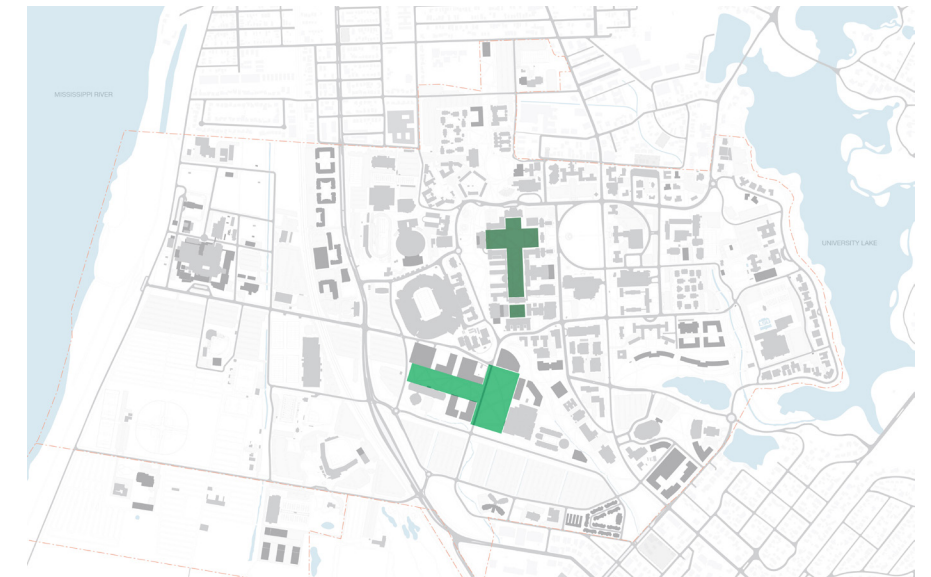
STORMWATER MANAGEMENT INTEGRAL TO CAMPUS OPEN SPACES

**QUADS AND GREENS**

On campus, formal open greens and quadrangles serve as an organizing feature that consist of buildings arranged around a central open space. The Historic Quad on campus sits within the original academic buildings, serving as a place that fosters engagement and interaction between the campus community. Replication of the character of this iconic space on campus should not be attempted, but rather the principles of the space can be applied to other areas on campus. The new south area of the campus will see additional academic and research facilities in the future; the proposed South Quad and Academic Grove unites new buildings and integrates existing buildings that currently feel detached from the rest of campus.

**GOALS**

- Let a simple landscape palette of lawn and canopy trees serve as a unifying element.
- Use canopy and vegetation to frame views of architecture.
- Appropriately scale space and vegetation to match the scale of surrounding buildings.
- Provide circulation around and through the space, leading to desired destinations.



CAMPUS QUADS AND GREENS



LSU'S HISTORIC QUAD



GATHERING SPACE AT EDGE OF CAMPUS GREEN

### INTERSTITIAL SPACES

Interstitial spaces, while smaller in scale, are not insignificant in their contributions to completing the open space network on campus. These spaces support the connectivity of the overall open space and circulation network and serve a range of functions including: providing shade and quieter gathering space for smaller groups and individuals, pedestrian, bike, and vehicular circulation, and integrated stormwater management. Often the spaces that visitors first come in contact with when approaching campus, elements of interstitial space can denote campus space through vegetation and wayfinding elements.

### GOALS

- Extend the open space network to the edges of campus.
- Provide shade along circulation routes.
- Integrate stormwater management techniques to slow runoff.



INTERSTITIAL SPACES



SHADED SPACES ALONG SECONDARY PEDESTRIAN ROUTES



INTEGRATED BUILDINGS AND OPEN SPACES



GATHERING SPACE FOR SMALLER GROUPS

**PARKING LOTS**

Parking is a necessary component in the sequence of how people arrive and move into campus. It should be located and configured for efficiency, shade, and sensitivity to its surroundings. Large surface commuter lots can be better integrated into the campus fabric through the introduction of consistent canopy cover. This approach creates a comfortable environment for day-to-day use, as well as tailgating and other larger events.

**GOALS**

- Reconfigure parking for most efficient circulation and use.
- Extend campus tree canopy into lots to integrate parking into the campus fabric.
- Use a variety of canopy trees to increase diversity in the canopy.
- Integrate stormwater management techniques to slow and store runoff.



PARKING LOTS



CANOPY USED TO KNIT PARKING INTO SURROUNDINGS



SHADED PARKING LOTS

## 4.3 COMPONENT PLAN

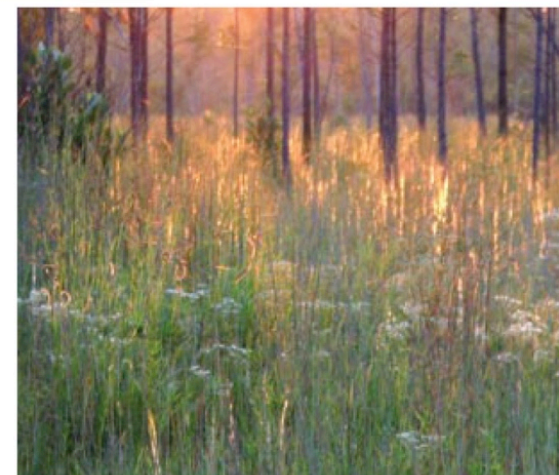
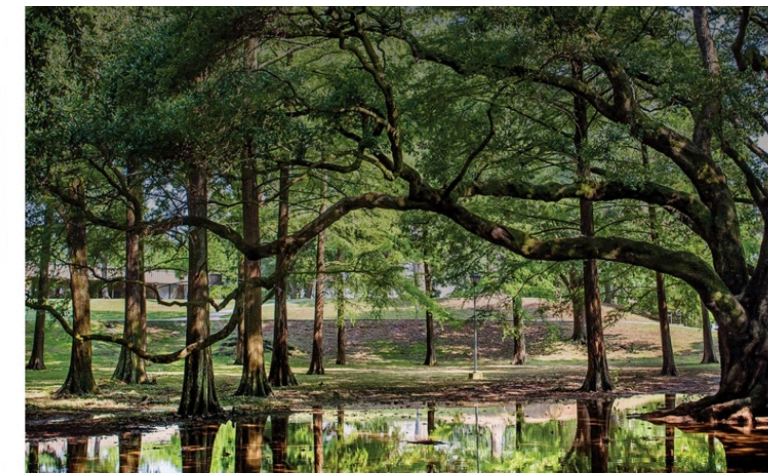
# LANDSCAPE - VEGETATION SYSTEM

Vegetation should thoughtfully define and frame flexible open space, mediate building scale, and provide shade, all with topographical context and maintenance requirements in mind. Together, material consistency and circulation hierarchy can establish a connective and clear network that respects distinct districts without compromising master plan framework systems. A diverse, native and adapted plant palette combined with multiple stormwater management tactics at a

range of scales will increase the resilience and sustainability of the campus landscape.











### GOALS

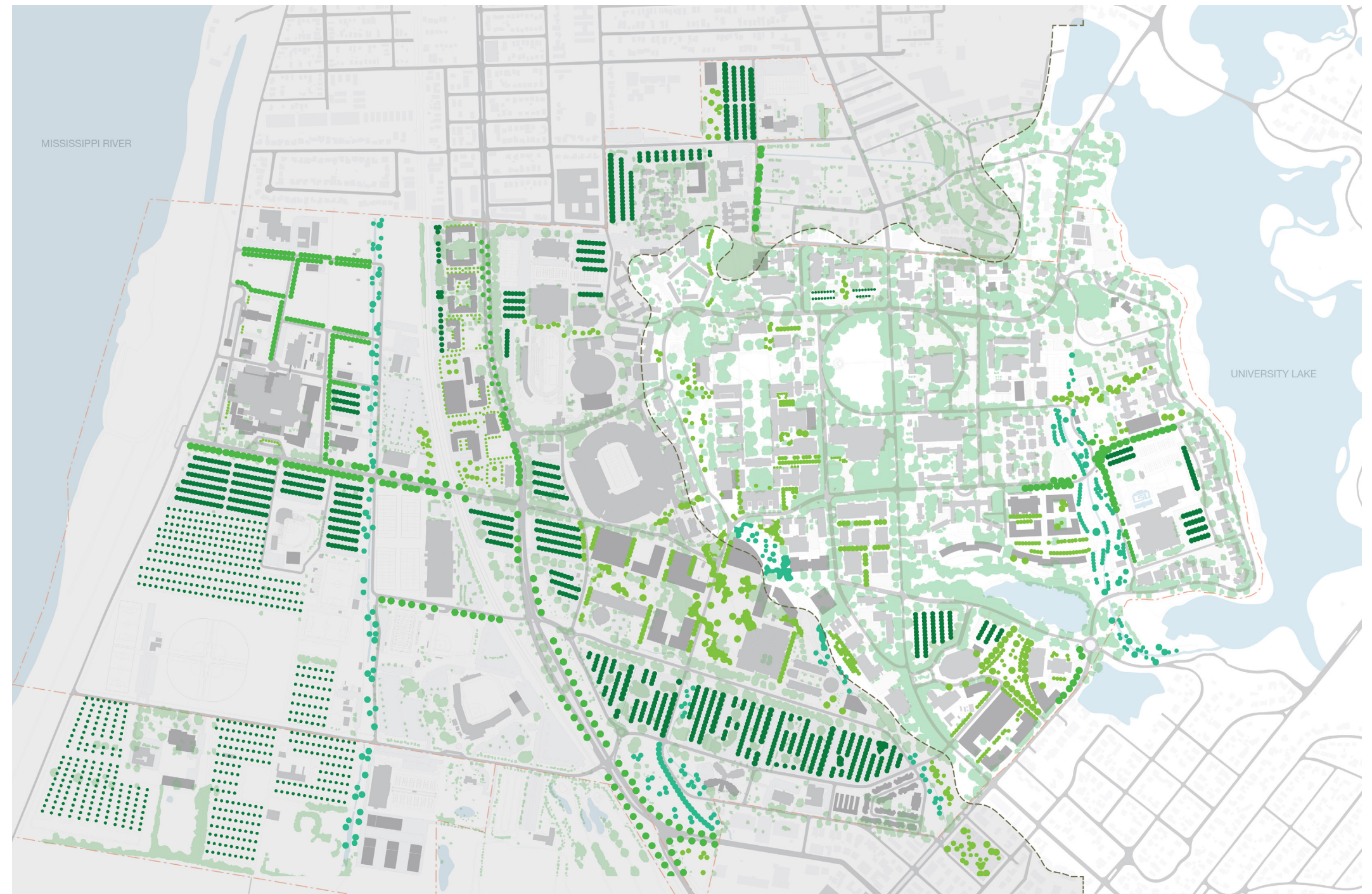
- Provide canopy trees for shade, on all major circulation routes.
- Use plants to shape and define open space and mediate building scale.
- Preserve heritage trees.
- Increase diversity in plant materials.
- Establish native plant palettes and vegetation character based on context, topography, and soil conditions.
- Use canopy to stitch surface parking into the campus fabric and break up large expanses of asphalt, concrete, and limestone.



NATIVE AND ADAPTIVE PLANT PALETTES THAT RANGE IN CHARACTER AND ARE APPROPRIATE TO CAMPUS CONTEXT

**Legend**

-  Upland
-  Lowland
-  Existing Campus Canopy
-  Proposed Street Trees
-  Proposed Parking Lot Forest
-  Proposed Lowland Canopy
-  Proposed Campus Canopy
-  Existing Campus Building
-  Proposed Campus Building
-  Campus Boundary



PROPOSED CAMPUS TREE CANOPY



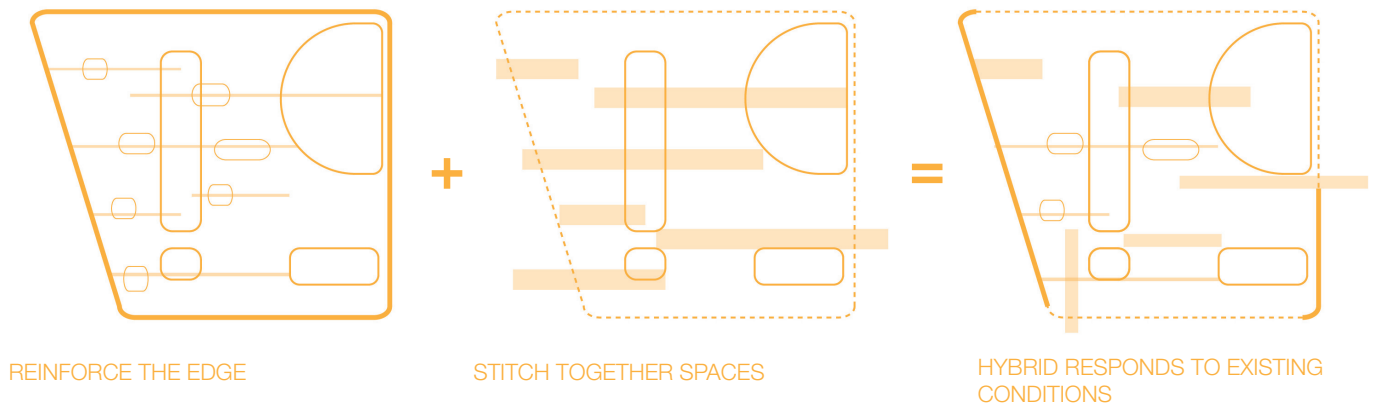
## 4.3 COMPONENT PLAN

# HISTORIC CORE AND OPEN SPACES

The historic core today is the result of accretion of incremental insertions into the space over the last 90+ years. While it is important to evolve to support new program and buildings, the landscape of the core has lost its reading and strength due to an overcomplicated palette of materials and functions. In order to restore its original form, parking, infrastructure, and service related elements need to be removed. Long-term relocation of Middleton Library and Lockett Hall in new facilities will reestablish the cruciform shape to the Historic Quad and open the opportunity for a new flexible space in the core of campus, the new West Campus Green. Simplifying the vegetation and material approaches will provide consistency and clarity that will stitch spaces together where necessary and will increase flexibility to support new programming and activities.

### GOALS

- Simplify the plant and material palette.
- Remove parking and service infrastructure; Relocate Middleton Library and Lockett Hall.
- Establish circulation hierarchy that emphasizes the pedestrian.
- Stitch together adjacent campus spaces and reinforce the bluff as an edge.
- Design for flexibility, programming, and activity at a range of scales.
- Introduce a new flexible open space: the “West Campus Green”.

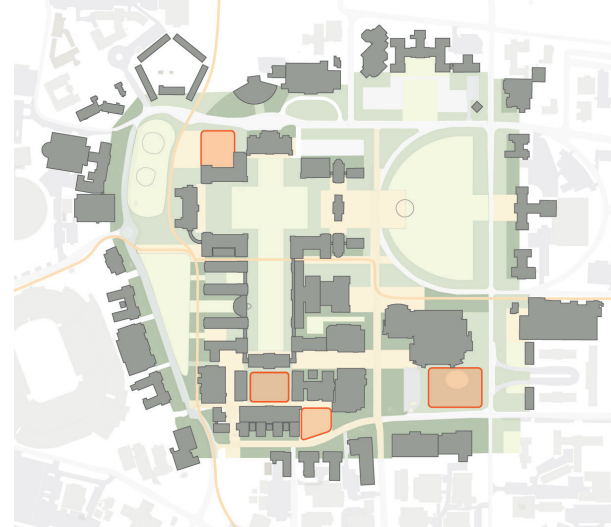


CONCEPTUAL APPROACH TO THE HISTORIC CORE

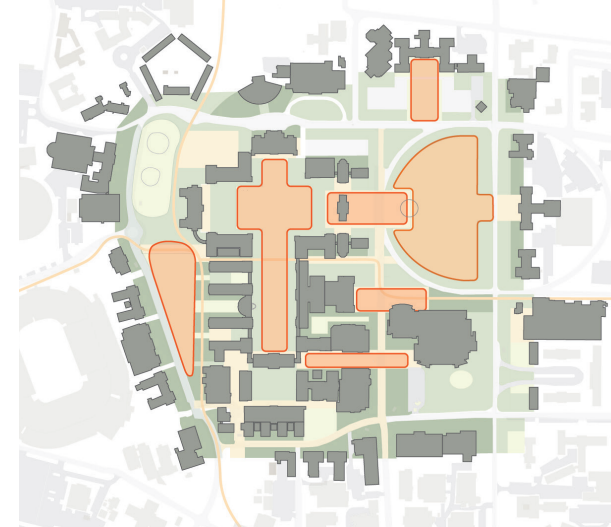
X-SMALL & SMALL SPACES



MEDIUM SPACES



LARGE & X-LARGE SPACES



EXTRA SMALL [1-2 PEOPLE]

- CHATting
- RELAXING / NAPPING
- STUDYING
- GATHERING / MEET UP
- JOGGING
- CIRCULATION
- OUTDOOR DINING

SMALL [2-4 PEOPLE]

- CHATting
- RELAXING / NAPPING
- STUDYING
- GATHERING / MEET UP
- GRILLING
- BIKE HUB
- JOGGING
- CIRCULATION
- OUTDOOR DINING
- RECREATION - LIGHT

MEDIUM [5-9 PEOPLE]

- CHATting
- RELAXING / NAPPING
- STUDYING
- GATHERING / MEET UP
- GRILLING
- BIKE HUB
- RECRUITMENT / TOUR
- ART EXHIBIT
- JOGGING
- CIRCULATION
- OUTDOOR DINING
- RECREATION - LIGHT
- CULTURAL LANDMARK
- OUTDOOR CLASSROOM
- TAILGATING

LARGE [10-19 PEOPLE]

- CHATting
- RELAXING / NAPPING
- STUDYING
- GATHERING / MEET UP
- GRILLING
- BIKE HUB
- RECRUITMENT / TOUR
- ART EXHIBIT
- PARKING
- EDUCATION
- BUS STOP
- JOGGING
- CIRCULATION
- OUTDOOR DINING
- RECREATION - LIGHT
- CULTURAL LANDMARK
- OUTDOOR CLASSROOM
- TAILGATING
- RECREATION - HEAVY
- FREE SPEECH ALLEY

EXTRA LARGE [20+ PEOPLE]

- CHATting
- RELAXING / NAPPING
- STUDYING
- GATHERING / MEET UP
- GRILLING
- BIKE HUB
- RECRUITMENT / TOUR
- ART EXHIBIT
- PARKING
- EDUCATION
- BUS STOP
- JOGGING
- CIRCULATION
- OUTDOOR DINING
- RECREATION - LIGHT
- CULTURAL LANDMARK
- OUTDOOR CLASSROOM
- RECREATION - HEAVY
- TAILGATING
- FREE SPEECH ALLEY

QUAD PROGRAM









Existing Core Character



Proposed Core Character



**Legend**

-  Understory Planting
-  Shaded Gathering
-  Open Lawn
-  Open Plaza / Paving
-  Parking
-  Core Building
-  Campus Building
-  Major Core Circulation Pedestrian Routes



#### 4.3 COMPONENT PLAN

## STORMWATER MANAGEMENT

The larger stormwater strategy for the campus is broken down into three practices that create a more resilient approach to on-site stormwater: slowing, storing and draining. These approaches aim to minimize impacts to existing drainage networks and improve the overall conditions of the watershed and the associated floodplain: Slow water by re-directing it away from pipe networks and into infiltration zones, store water on-site in areas designed to flood in controlled ways, and drain the campus after storm events via natural drainage corridors. By aligning conveyance, storage, and water quality nodes along greenways, blueways, and transportation corridors, stormwater infrastructure is reduced, stormwater runoff water quality is improved, user experience is enhanced and natural habitat corridors are extended.

### SLOW

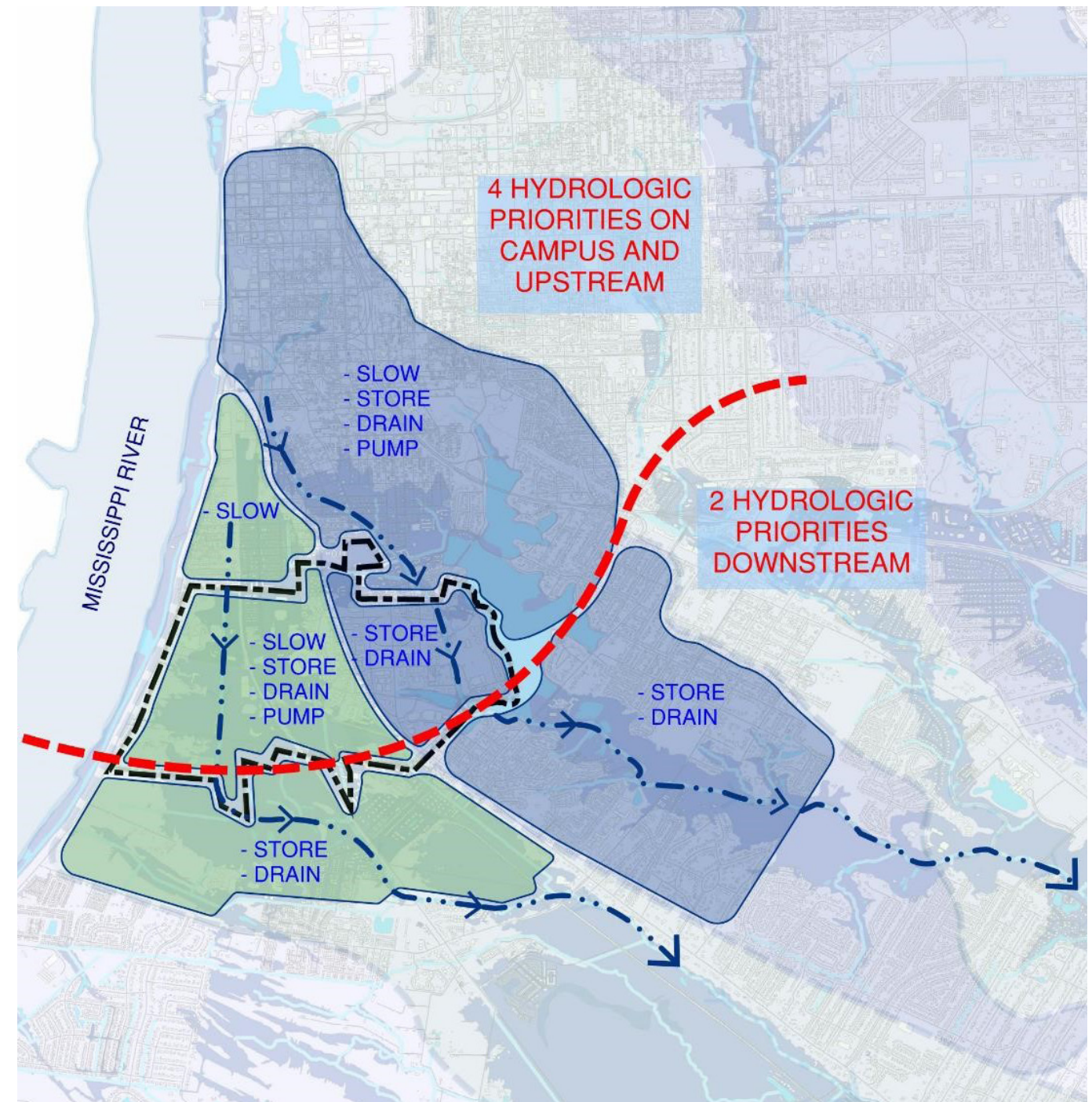
- Reducing runoff velocities by intercepting and discharging into water quality / bioretention zones along hardscape vehicular and non-vehicular paths helps to minimize erosion and improve water quality.
- Locations for the infiltration zones should be integrated with the landscape and circulation system.

### STORE

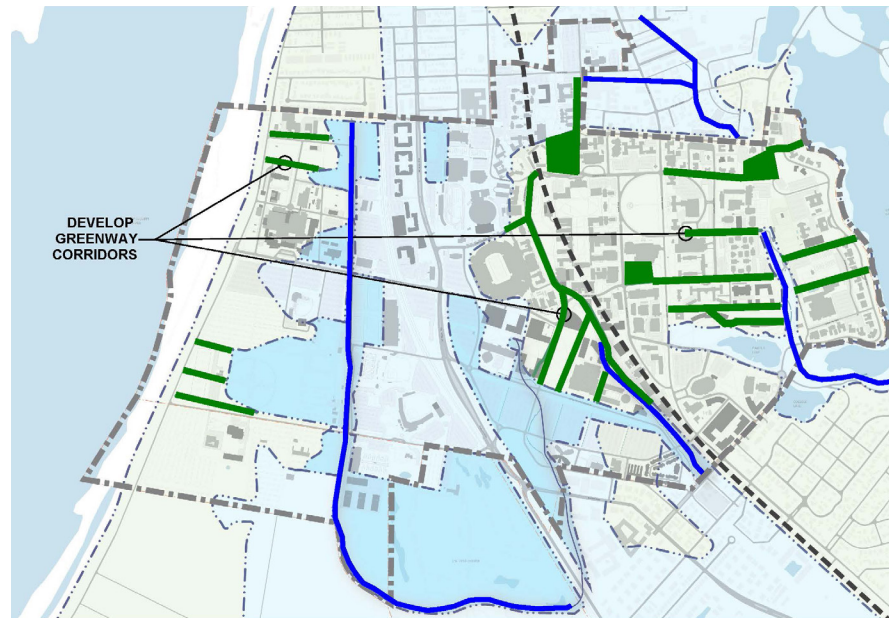
- Strategically plan and control flooding for areas that are already prone to this behavior based on the floodplain and natural conditions.
- Improve upstream and/or downstream flooding conditions by maintaining and improving existing stormwater storage nodes within hydrologic system.

### DRAIN

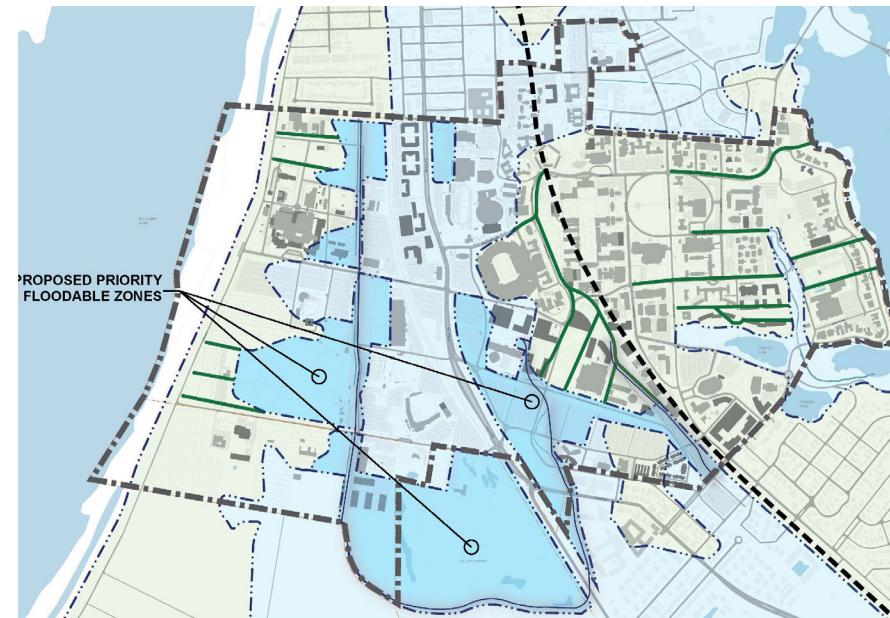
- Provide proper drainage corridors to convey runoff from the site to the downstream system.
- Maintain historic drainage patterns and enhance natural drainage conveyances to improve the overall system-wide hydrologic cycle.
- Natural conveyances help to promote infiltration, improve water quality and enhance environmental connectivity.



STORMWATER MANAGEMENT STRATEGY



SLOW



STORE



DRAIN

## Corporation Canal

Corporation Canal provides an excellent opportunity to integrate important stormwater infrastructure into a new and significant campus recreational space, forming the Student Life Spine. Proposed widened banks will slow stormwater, increase volume, and create more efficient drainage, while allowing for flexible open space, circulation, and vegetation to occupy what is currently surface parking.



STORMWATER MANAGEMENT AT CORPORATION CANAL

## 4.3 COMPONENT PLAN

# ENERGY AND UTILITIES RECOMMENDATIONS

Based on the new campus growth plans identified by the Master Plan, overall campus gross load projections were estimated for the central heating, cooling and electrical systems as summarized in the Campus Gross Load Projections table.

After applying a load diversity factor to the estimated additional connected loads, the new facilities are expected to add 39,500 lbs/hr of steam, 3,800 tons of cooling, and 9,900 kVA of power to the campus' current peak loads. When determining how much capacity should be installed in a campus central plant, it is standard practice to include provisions for the ability to meet the peak campus demand without the largest piece of equipment available in the event it failed or was unable to be operated for a variety of reasons. This is commonly referred to as having N+1 redundancy, and the remaining capacity after subtracting the capacity of the largest piece of equipment from the installed Capacity is also known as the plants firm capacity.

Considering the loads associated with the Master Plan, the existing heating and power equipment and systems appear to have adequate capacity to meet the new projected loads. Note that this would exclude a loss of natural gas, and/or purchased power services.

However, the chilled water system is already short of meeting the current peak load by 3,400 tons, and the projected peak load by 7,200 tons. To provide the recommended N+1 level of redundancy, the central chilled water system capacity should be increased by 3,400 tons as quickly as possible. A balance need of 3,800-tons should be added over time, as required to meet new loads as they are added to the system. It should be noted that chiller #6 is at the end of its useful life, and if its capacity were to be replaced with machines more similar

in size to chillers #8, #9 and #10, the need to add new capacity could be deferred due to the smaller increment size.

### FUTURE CONSIDERATIONS

Based on planned growth and the utility system deficiencies identified during this campus master planning process, it is recommended that LSU commission a comprehensive energy and utilities master plan. That plan would be charged with inventorying and detailed evaluation of the existing systems, detailed load projections, system operational and hydraulic modeling, identification and comparative analysis of various options for upgrading and expanding the existing systems while reliably and efficiently serving the existing campus and all planned growth, and establishment of related budgets and implementation timeline for these improvements. It would represent a needed "road map" for the reinvestment and expansion of the university's energy and utilities systems.

NEW BUILDING PROGRAM SPACE	Column1	HEATING	Column2	COOLING	Column3	POWER (11)	Column4
School / Type	GSF	Load Factor BTUH/GSF	Steam Load Lbs/Hr	Load Factor GSF/Ton	Cooling Load Tons	Load Factor VA/GSF	Power Load kVA
Agriculture	88,000	30	2,640	350	251	6.0	528
Art and Design	70,000	35	2,450	300	233	6.4	448
Athletics per LSU (1)	295,000	35	-	350	-	6.0	1,770
Business	36,000	30	1,080	400	90	5.4	194
Engineering	297,000	50	14,850	250	1,188	7.8	2,317
Housing per LSU (1)(2)	360,000	35	-	325	-	7.1	2,556
Human Sciences and Education	67,000	30	2,010	350	191	6.0	402
Humanities and Social Sciences	77,000	30	2,310	350	220	6.0	462
Law	57,000	30	1,710	350	163	5.7	325
LETC per LSU	113,000	35	3,955	300	377	6.4	723
Library	375,000	30	11,250	300	1,250	5.6	2,100
Mass Communications	48,000	30	1,440	350	137	6.0	288
Music and Art	13,000	30	390	325	40	5.9	77
Nicholson Mixed Use Dev. per LSU (1)(3)	260,000	35	-	325	-	7.1	1,846
Science	177,000	70	12,390	200	885	8.7	1,540
Coast and Environment	-	35	-	250	-	0.0	-
Vet Med (1)	87,000	70	-	225	-	9.9	861

Notes:

- (1) Assume this space will be heated and cooled via local unitary equipment or other local utility plant
- (2) LSU estimates 900,000 GSF by 2040. Prorated for next 10 year plan = 360,000 GSF
- (3) Net growth including demolition of existing and new development
- (4) Operational Boilers (#4, #7 and #8) at Central Plant (350,000 lbs/hr). #6 emergency standby only (150,000 lbs/hr).
- (5) Central Plant (21,900) and Highland Plant (3,700)
- (6) Based on 35MW peak load at estimated 0.85 power factor
- (7) Boiler #8, GE Turbine HRSG
- (8) Chiller #6, combustion turbine driven
- (9) Based on max fan rating of two (2) 24/32/40 MVA Substations and 18.7MW/22MVA Cogen
- (10) One (1) 24/32/40 Substation at max fan rating
- (11) Power Load for spaces served from central heating/cooling include power load at central utility plant

New Peak Subtotals	2,420,000		56,475		5,026		16,437
Load Diversity Factor			0.70		0.75		0.60
New Total Diversified Loads			39,500		3,800		9,900
Current Peak Loads per LSU Reports			100,000		22,800		41,200 (6)
<b>Projected Diversified Peak Loads</b>			<b>139,500</b>		<b>26,600</b>		<b>51,100</b>
Existing Installed Capacity			500,000 (4)		25,600 (5)		102,000 (9)
Largest Piece of Equipment			150,000 (7)		6,200 (8)		40,000 (10)
Existing Firm Capacity			350,000		19,400		62,000
Projected Net Capacity - Excess / (Shortage)			210,500		(7,200)		10,900
Required Installed Capacity with N+1 Allowance			289,500		32,800		91,100

## 4.3 COMPONENT PLAN

# SUSTAINABILITY

LSU is committed to producing not only high-performing academic and athletic institutions, but environmentally sustainable ones as well. Valuing environmental performance positions LSU as resilient, cost-efficient, rooted in its context and, most importantly, invests in LSU’s most important resource—its people.

The buildings of the historic core provide climate-adapted examples that control the sun, preserve access to breezes, manage stormwater, and stand the test of time. Emulate and combine these functions with high-performance mechanical systems and flexibility to maximize sustainability on campus. New construction should meet the guidelines set forth in the Design Guidelines document (see Appendix) which is a 30% energy reduction from current code, and 25/40 points on the LSU sustainability checklist.

Health is a key component of a high-performing campus and buildings should optimize thermal, visual, and acoustic comfort as well as occupant-control.

New projects should incorporate best management practices for permeable surfaces, stormwater collection and storage, and self-

sufficient, climate-appropriate plantings to meet the challenge of Louisiana’s extreme weather events. Celebrate stormwater with visible and attractive components of a large-scale stormwater management system.



THE CAMPUS AND BATON ROUGE COMMUNITY ARE PARTICULARLY SENSITIVE TO THE EFFECTS OF CLIMATE CHANGE. NEW DESIGN SHOULD CENTER LSU AS A LEADER IN ENERGY EFFICIENCY, CLIMATE ADAPTIVE RESPONSE, AND RESILIENCY TO SUPPORT ITS PEOPLE FOR A CHANGING FUTURE.

<p>MASTER PLAN CONSIDERATIONS</p>	<p>LEARN SOUTH CORE</p>	<ul style="list-style-type: none"> <li>• Sustainability and historic preservation are not mutually exclusive and increasing energy efficiency is encouraged in both renovations and new construction.</li> <li>• Incorporate energy efficiency and sustainability without negatively impacting the aesthetic character of the district.</li> <li>• This district should highlight architectural and landscape sustainability elements, making them visible teaching tools across campus</li> <li>• Encourage active mobility that includes walking, stairs, biking, etc.</li> </ul>	<p>LIVE</p>	<ul style="list-style-type: none"> <li>• Prioritize health and well-being</li> <li>• Encourage active mobility that includes walking, stairs, biking, etc.</li> <li>• Celebrate stormwater infrastructure</li> </ul>
			<p>PLAY</p>	<ul style="list-style-type: none"> <li>• Design buildings with programmable occupancy so they can conserve energy when not in use</li> <li>• Encourage active mobility, especially bike commuting along the Nicholson Spine</li> </ul>

Sustainability is integrated into the Master Plan in a multitude of ways with recommendations that promote efficient use of existing resources, emphasizing infill development and densification and rehabilitation over expansion, encouraging sustainable mobility systems to reduce dependency on driving, promoting sustainable landscape strategies, integration natural systems throughout the campus, and creating safe and comfortable human environments, Sustainability is also highlighted as a key design principle and sets the tone for how the climate responsiveness, energy efficiency, and health are intertwined with the way designers should think about the campus.

The diagram to the right describes how the Campus Committee on Sustainability’s (CCS) existing framework coincides with the Master Plan principles. All Master Plan principles address issues and concerns set forth by each of the CCS sustainability goals.

The recommendations on the following pages advance logistically how sustainability should be integrated into the campus Master Plan and building projects moving forward in three primary ways:

1. **Building Level Requirements** – this section outlines what requirements design teams should submit during the project approval process.
2. **Benchmarking and Goal Setting** – documents benchmarks and metrics derived from a series of LSU peer comparisons around the Association for Advancement of Sustainability in Higher Education’s (AASHE) sustainability framework.

3. **Campus Committee on Sustainability Integration** – builds upon and lists the goals and strategies created by the committee, relates them to the AASHE benchmarking analysis, and maps opportunities for integration into the Master Plan framework.

<b>MASTER PLANNING PRINCIPLES</b>	<b>CCS CATEGORIES</b>	ENERGY EFFICIENCY & GREEN BUILDING	TRANSPORTATION	WASTE REDUCTION & RECYCLING	PROCUREMENT	LANDSCAPE & GROUNDS	FOOD
CONNECT CAMPUS AND COMMUNITY							
CELEBRATE DISTINCT LSU CAMPUS AND CONTEXT							
SUPPORT HIGH PERFORMANCE ACADEMIC AND RESEARCH							
ENHANCE STUDENT LIFE							
PROMOTE ENVIRONMENT STEWARDSHIP							

## 4.3 COMPONENT PLAN

# SUSTAINABILITY - BUILDING LEVEL REQUIREMENTS

The building level sustainability requirements are designed to ensure a minimum standard of performance is achieved for all projects, while also providing requirements for projects designated to feature sustainability. Feature projects are identified by the Campus Planning and Oversight Committee (CPOC) (currently FDDC) during the concept phase review (refer to Governance section for additional details). These requirements build upon the State of Louisiana's laws already in place for public projects, namely revised statute 40:1730.49 and the Energy Policy Act of 2001. However, this document describes their use in the LSU project approval process for all campus buildings regardless of state oversight.

### MINIMUM REQUIREMENTS FOR MAJOR CAPITAL PROJECTS

For all new construction and major renovation projects greater than 5,000 square feet, the following requirements must be met:

- Using the custom FP&C Environmental Building Systems Checklist, attain at least 25 points. At least 2 points must be obtained from Section 6 – Water Use Efficiency and at least 6 points from Section 7 – Energy Efficiency category. The checklist utilizes the ASHRAE 189.1 2009 framework as a guideline for requirements. A copy of the checklist can be downloaded [here](#).
- Install building-level submetering of major fuel types to allow for energy benchmarking
- During the Schematic Design Phase CPOC review, submit a completed FP&C checklist with accompanying narratives of how pursued points are integrated into the building design.
- During the Schematic Design Phase CPOC review, submit written narratives of how the design engages each of the 7 design

principles. Narratives should be up to 250 words per design principle.

### ADDITIONAL REQUIREMENTS FOR FEATURED SUSTAINABILITY PROJECTS

For projects identified by the CPOC as being a feature sustainability project, the minimum requirements above must be met in addition to the following:

- A total of 35 points must be obtained from the FP&C Environmental Building Systems Checklist
- Compliant energy modeling software as prescribed by ASHRAE 90.1 Appendix G must be used to show an energy cost savings of at least 30% over current state energy code.
- 3rd party environmental certification must be achieved in at least one of the following programs: LEED v4 (minimum level of certification = silver), Sustainable Sites Initiative, WELL Building Standard, Living Building Challenge (petal certification acceptable), Passive House, or any other program suggested by the design team and approved by the CPOC.
- A 250-500 word narrative must be submitted for the Schematic Design Phase CPOC review that describes which certification program the project is attempting and how, including any feasibility analysis such as preliminary LEED checklists, cost analysis, etc.

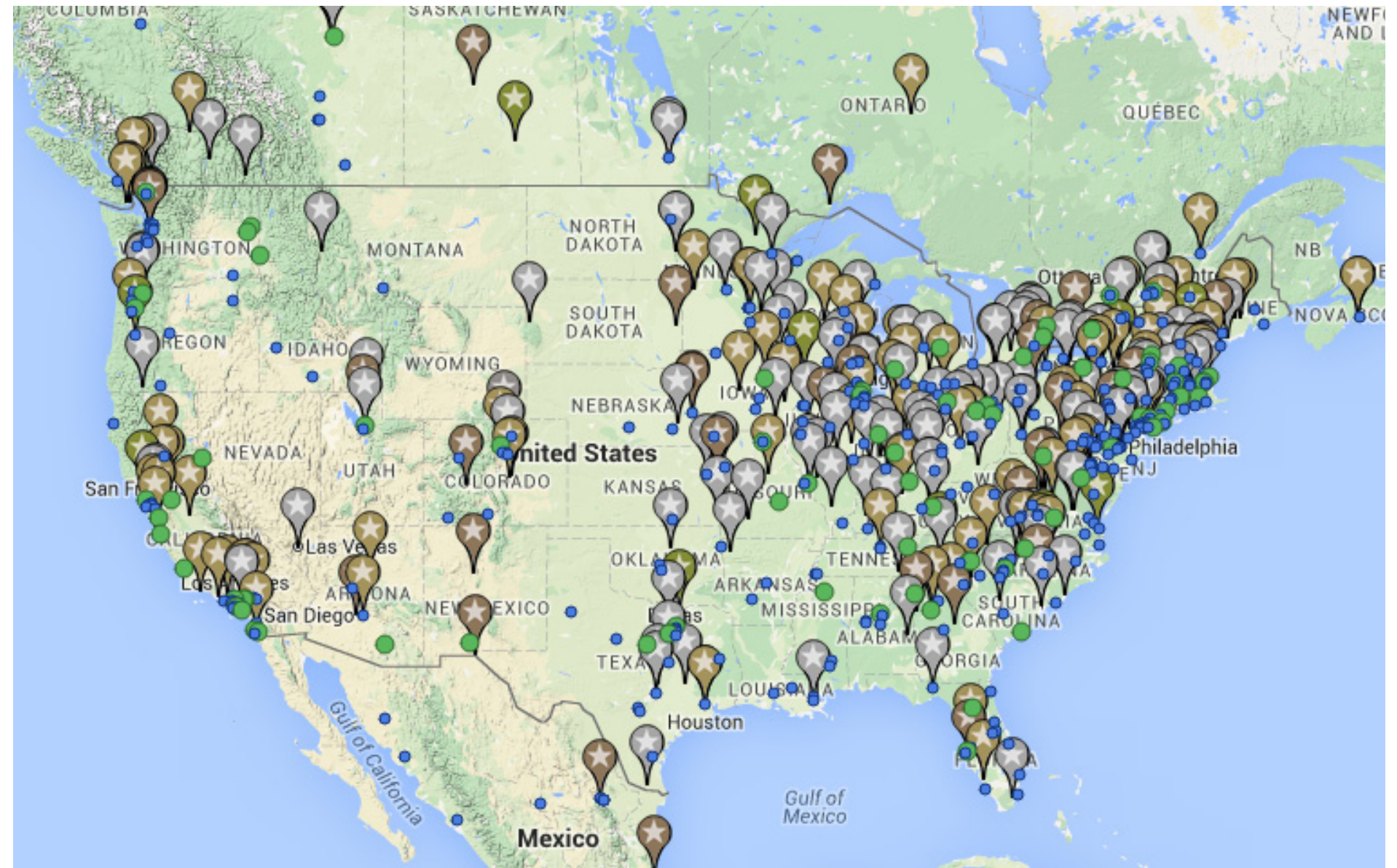
#### 4.3 COMPONENT PLAN

### SUSTAINABILITY - BENCHMARKING AND GOAL SETTING

Establishing metrics, benchmarks, and goals is an important part of integrating sustainability into the master planning process. The act of discussing and documenting metrics provides a structure for accountability over time, while benchmarking helps to calibrate expectations and set goals for the future. The Association for Advancement of Sustainability in Higher Education (AASHE) has created a self-reporting framework for colleges and universities to measure their sustainability performance, named the Sustainability Tracking Assessment and Rating System (STARS). The point-based system covers everything from grounds management, to building efficiency, and even to curriculum integration, and universities can receive a bronze through platinum rating. In 2012, LSU received a silver rating under the V1 of the program, and is currently working on submitting for certification under the latest 2.1 version.

To help guide the Campus Committee on Sustainability’s (CCS) efforts around goal setting, key metrics were taken from the AASHE STARS framework and added to the six CCS sustainability categories. Data was then aggregated from the STARS website to help inform the 2030 targets, including LSU’s peer public institutions from primarily the SEC conference, and a national average of the other 280+ STARS universities.

The following sections report the results of this process, broken up by the six CCS sustainability categories. Each section reports key targets derived from the benchmarking analysis, including a list of CCS strategies to achieve them. Finally, the strategies that intersect with the space planning from the overall Master Plan are diagrammed as potential areas of opportunity for the LSU facilities team and designers to consider moving forward.



MAP OF UNIVERSITIES PARTICIPATING IN AASHE’S STARS PROGRAM



### 4.3 COMPONENT PLAN

## SUSTAINABILITY - ENERGY EFFICIENCY AND GREEN BUILDING

As the flagship university in Louisiana, LSU strives to be a clear leader in energy efficient building design. Lower energy use ultimately translates to a lower bottom line and a more efficient use of taxpayer resources. These types of high performance buildings also protect the environment while enhancing the learning environment for its students. LSU’s goal for a campus wide energy use intensity is 104 kBtu/sf-yr, which would position it as a top performer amongst its peers.

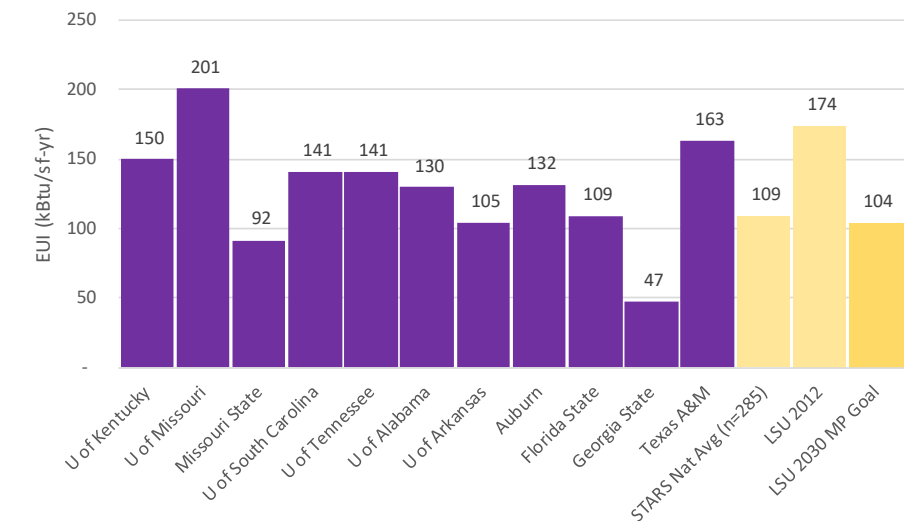
#### GOALS FOR 2030

- Increase **energy efficiency by 40%** on campus based on the 2012 baseline
- Generate **5% of campus energy** from renewable sources on campus
- Purchase at least **10% of campus energy** from renewable sources

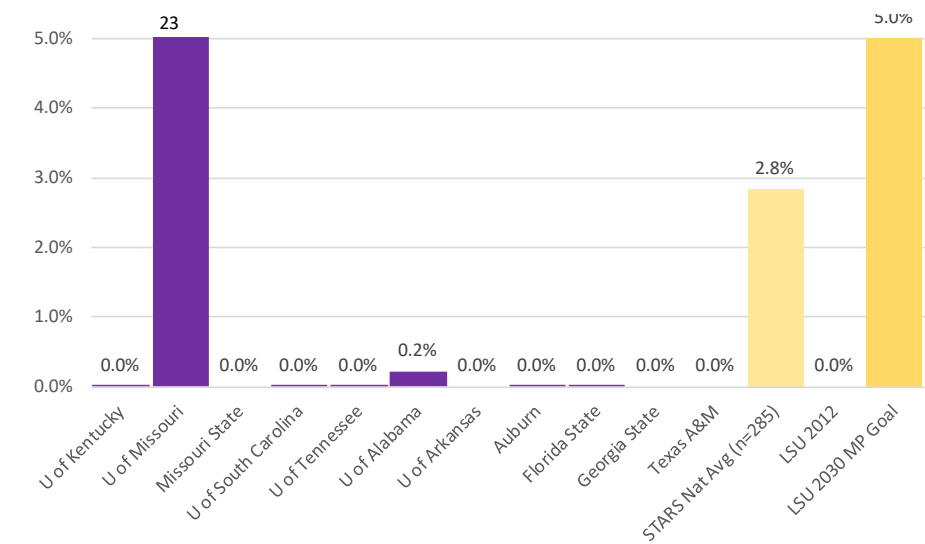
#### STRATEGIES

- Formally sign on to the American College and University Presidents’ Climate Commitment (ACUPCC) – determine net neutrality date and designate committee to work on climate action plan.
- Develop a written Energy Conservation Plan for the LSU flagship campus, detailing strategies and a schedule for reducing energy in buildings
- Conduct at least an ASHRAE level 1 audit for all existing buildings greater than 25,000 square feet, use to develop targeted lists for efficiency upgrades, to be coordinated with the 2017 Sightlines portfolio report.

- Develop an outreach/education program targeting energy use reduction among staff, faculty, and students
- Use the ENERGY STAR Portfolio Manager software to track energy usage in campus buildings, automate meter reading through submetering and building automation systems where possible.
- Install submetering on high priority campus buildings.
- Conduct at least one energy efficiency competition utilizing benchmarking every year.
- Install a public energy dashboard online and in a prominent public lobby.
- Achieve the ENERGY STAR certification for buildings for at least 3 office buildings on campus by 2025
- *Install solar photovoltaic and thermal systems on the LSU campus to offset conventional electricity usage*
- *Install a green roof on at least one building by 2020 to lower cooling costs and decrease stormwater runoff from the building footprint*
- *Meet minimum sustainability requirements for all major capital projects (>5,000 square feet) based on LSU Performance Goals. Meet aspirational requirements for any project identified as a “sustainability feature” project (refer to section X for detailed requirements).*
- *Establish a green labs program which encourages best practices for energy conservation in laboratories*
- Implement a university-wide IT energy conservation program
- Consider creative funding strategies for energy efficiency projects, using Harvard’s Green Campus Loan Fund as an example.
- *Explore biomass opportunities combined with sustainable forestry management as a renewable energy source*



PERCENT OF ENERGY FROM RENEWABLE SOURCES



PERCENT OF ENERGY FROM RENEWABLE SOURCES

Source for both graphs: Benchmarking data was aggregated from the AASHE STARS website, where every participating University’s certified score is available to view credit by credit (<https://stars.aashe.org/institutions/participants-and-reports/>).



HILL TOP ARBORETUM



CYPRESS HALL

### 4.3 COMPONENT PLAN

## SUSTAINABILITY - WASTE REDUCTION AND RECYCLING

LSU is already a leader amongst its peers when it comes to waste diversion and construction recycling. It also is building a robust track record of integrating recycling into the culture of the university as evinced by the second year in a row the university led the nation in the Game Day Recycling Challenge.

#### GOALS FOR 2030

- **75% of waste diverted** (recycled, reused, etc.) from the landfill or incinerator.
- **90% of construction and demolition materials** recycled, donated, or otherwise recovered.

#### STRATEGIES

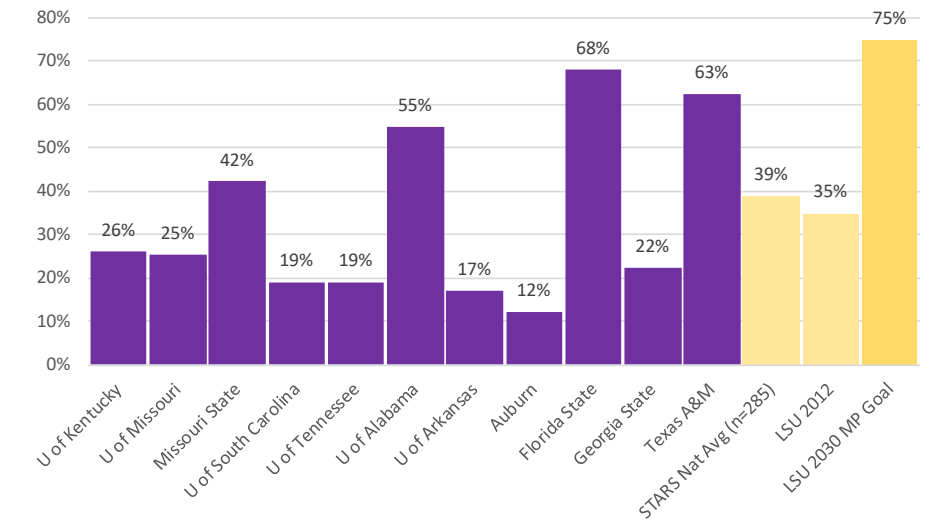
- Continue annual Litteratti campaign to reduce waste and increase recycling on campus
- Recycle at least 90% of all construction and demolition waste from projects
- Develop a campus-wide waste reduction policy, including a comprehensive materials management strategy
- Quantify carbon impacts associated with the LSU campus waste stream in order to identify opportunities to better manage waste and reduce emissions.
- Develop a composting pilot program for Dining Operations. Eventually expand this into other areas such as residence halls
- Develop strategies for improving management of university materials and identify opportunities to utilize recovered materials as inputs for local and non-profit ventures (e.g. a Chuck it for Charity program for Move in/Move out)
- Expand the number of BigBelly solar units on campus Continue to

identify strategies for decreasing waste sent to the landfill as part of game day (football, basketball and baseball) operations

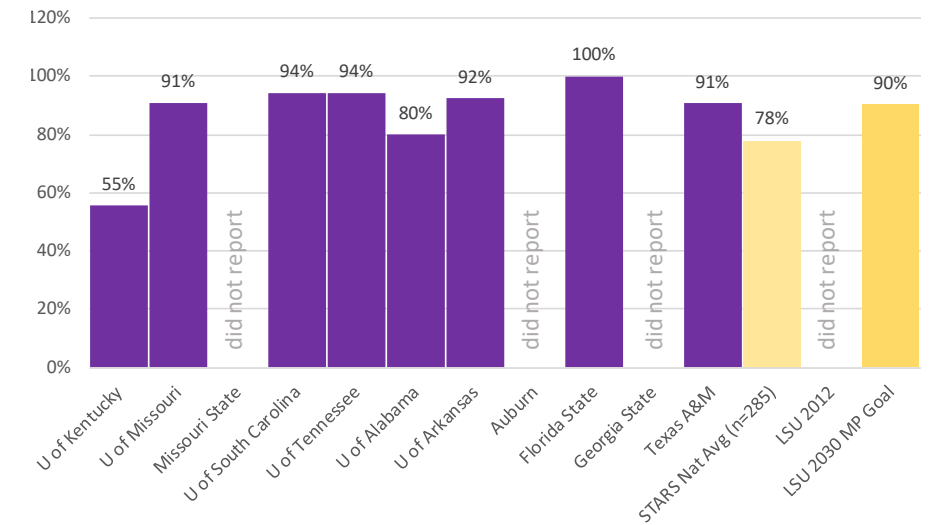
- Continue participating in the GameDay Recycling Challenge each year
- Implement a program that diverts reusable furniture to needy charities during move-in and move-out days.
- Apply for and receive grants for waste reduction, recycling, sustainability education and awareness programs, and campus beautification



GAME DAY RECYCLING CHALLENGE



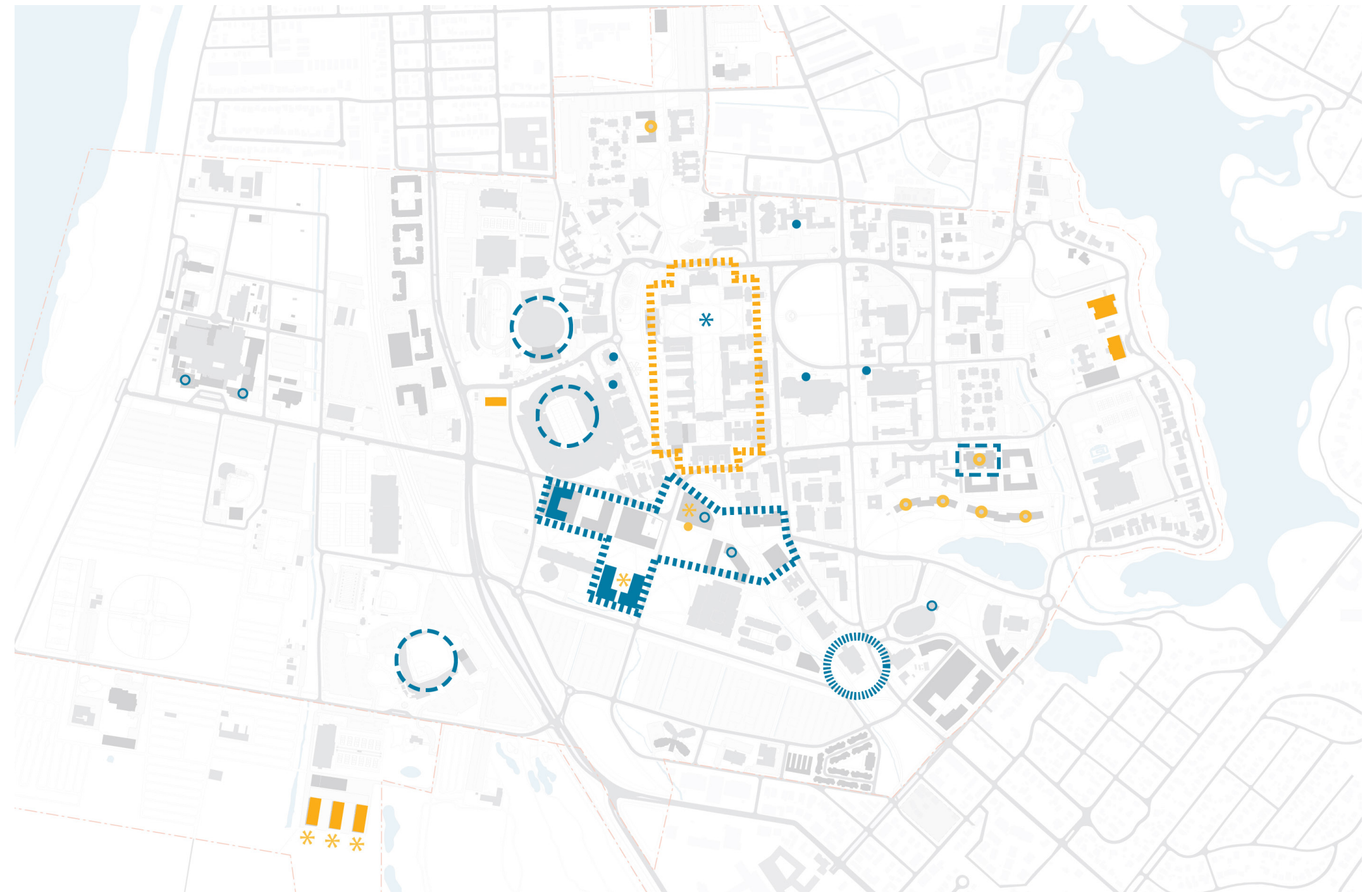
PERCENT OF WASTE DIVERTED FROM LANDFILL



PERCENT OF CONSTRUCTION WASTE DIVERTED FROM LANDFILL

Source for both graphs: Benchmarking data was aggregated from the AASHE STARS website, where every participating University's certified score is available to view credit by credit (<https://stars.aashe.org/institutions/participants-and-reports/>).

- Potential/ EnergyStar office certification opportunities
- Buildings with substantial lab components, good green lab program candidates
- Buildings that can propel event-based recycling programs
- New construction zone, high priority for construction waste recycling
- Historic core buildings are good candidates for energy audits
- Current high profile Big Belly solar compactor locations
- Projects with high hot water demand are good options for solar hot water pilot projects
- Potential biomass site next to Renewable Natural Resource building
- Potential sites for green roof due to elevation change or having visible roof planes
- Potential composting site next to major dining hall
- \* Demo site, prioritize re-use of building materials



ENERGY, WASTE REDUCTION AND RECYCLING



## 4.3 COMPONENT PLAN

# SUSTAINABILITY - TRANSPORTATION

Creating a more sustainable transportation network throughout LSU's campus fosters both a more vibrant campus while drastically reducing greenhouse gas emissions associated with travel into and around campus. Transportation touches many aspects of sustainability, but none may be as important as how a bikeable and walkable campus increases student health through the promotion of an active campus lifestyle.

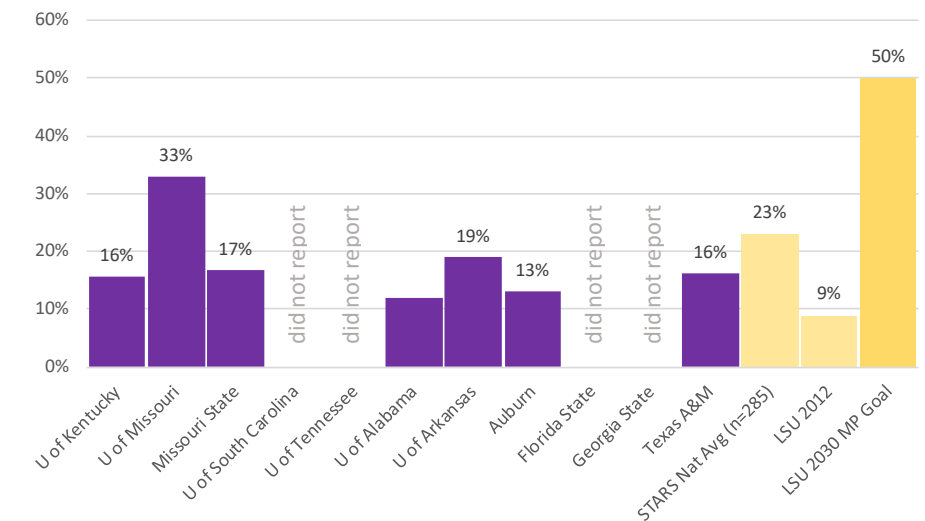
### GOALS FOR 2030:

- **25% of institution's fleet** non-purely fossil-fuel based
- **90% of students** use sustainable commuting options
- **50% of faculty** use sustainable commuting options

### STRATEGIES

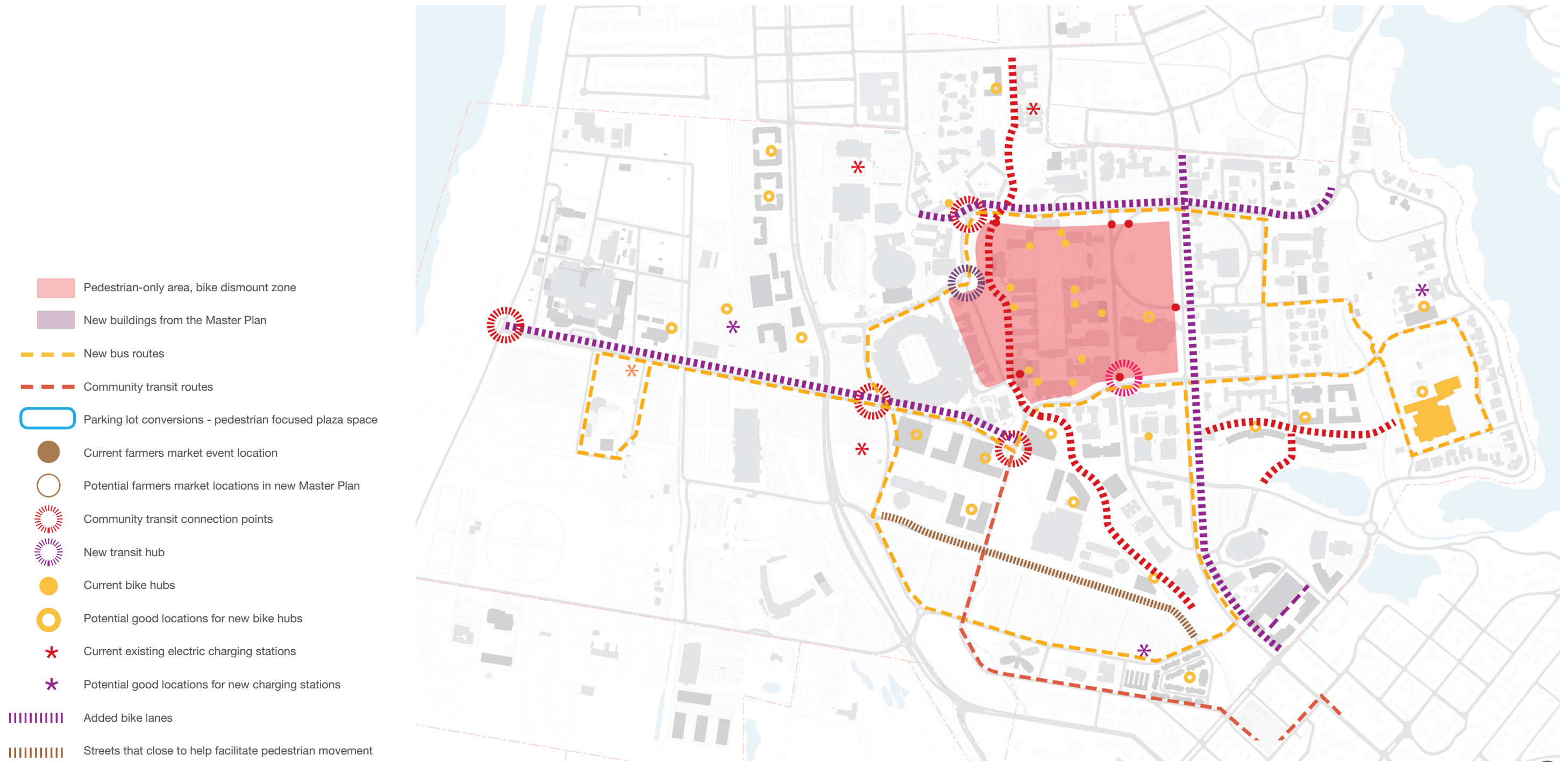
- Continue efforts (e.g. Easy Streets Phase II) to become a more pedestrian-oriented campus and provide safe travel for bicyclists and pedestrians
- Improve bicycle facilities, including the expansion of bike lanes and routes on campus
- Promote awareness among the University community of the environmental, human health, and economic impacts of transportation choices
- Install covered bike storage and shower facilities in new buildings
- Enhance historic core pedestrian experience through adding a "Dismount" signage and bike rack parking along perimeter.
- Support and promote bike sharing efforts and programs
- Ensure short term bicycle parking (racks) within 50 feet of all occupied, non-residential buildings. Ensure long term bicycle storage available within 330 feet of all residence halls.

- Achieve Bicycle Friendly University status from the League of American Bicyclists
- Decrease the prevalence of single occupancy vehicles on campus through enhanced alternative transportation infrastructure, programs and incentives
- Expand on existing car and rideshare programs available to campus (Geaux Ride, ZipCar)
- Continue to promote the existing electrical vehicle charging stations on campus, and acquire new stations as the number of users grows
- Procure electric vehicles for university fleet
- Continue to switch Tiger Trails fleet to low sulfur diesel and greener technology
- Celebrate National Bike Month annually through campus events or competitions
- Formally track bicycle usage on campus
- Conduct a transportation satisfaction survey with students, faculty and staff
- Increase ratio of bicycle parking to campus population
- Develop a theft prevention program for bicycles
- Promote bicycle safety by offering classes or seminars
- Partner with Bike Baton Rouge to promote bicycling locally and on campus
- Consider financial incentive programs to encourage bicycle use
- Develop alternative transportation education programs for targeted groups on campus
- Involve faculty in bicycle education
- Convert unnecessary parking lots into pedestrian amenities and open green space.



PERCENT OF FACULTY USING SUSTAINABLE TRANSPORTATION

Source: Benchmarking data was aggregated from the AASHE STARS website, where every participating University's certified score is available to view credit by credit (<https://stars.aashe.org/institutions/participants-and-reports/>).



TRANSPORTATION



## 4.3 COMPONENT PLAN

# SUSTAINABILITY - PROCUREMENT

Universities are large purchasers of goods and services, which makes them catalysts for change when it comes to choosing which products to buy in terms of food, cleaning products, and services from the community. These choices have the potential to reinforce key values around sustainability while having substantive impacts on local, regional, and national economies.

### GOALS FOR 2030

- **25% of total purchases** from disadvantaged businesses, social enterprises, and/or local community-based businesses
- **25% of expenditures on cleaning** and janitorial products that are 3rd party verified to be healthy and sustainable (2012 AASHE Report for LSU = 9.5%)

### STRATEGIES

- Develop University-wide standards for targeted environmentally preferred products by 2019
- Procure commodities that are certified to meet sustainability standards in the areas of paper, electronics, cleaners, lab products, energy and vehicles:
  - Paper and Forest Products:
    - Forest Stewardship Council [www.fsc.org](http://www.fsc.org)
    - Chlorine Free Products Association [www.chlorinefreeproducts.org](http://www.chlorinefreeproducts.org)
  - Electronics and Appliances:
    - Continue purchase of Energy Star certified products [www.energystar.gov/purchasing](http://www.energystar.gov/purchasing)
    - Electronic Product Environmental Assessment Tool (EPEAT) - [www.epeat.net](http://www.epeat.net)

- Green Cleaners and Lab Products:
  - Environmental Choice [www.environmentalchoice.com](http://www.environmentalchoice.com)
  - Green Guard [www.greenguard.org](http://www.greenguard.org)
  - Green Seal [www.greenseal.org](http://www.greenseal.org)
  - Scientific Certification Systems [www.scscertified.com](http://www.scscertified.com)
- Renewable Energy:
  - Green-e [www.green-e.org](http://www.green-e.org)
- Vehicles
  - Federal Fuel Economy Summary [www.fueleconomy.gov](http://www.fueleconomy.gov)
- Reduce waste at point of purchase. Procure recycled content paper, recycled toner cartridges, and items that can be re-manufactured, recycled or composted
- Purchase durable and reusable goods
- Use life-cycle cost analysis, rather than automatically choosing goods with the lowest purchase price
- Consider durability and reparability of products prior to purchase
- Invest in goods with extended warranties
- Conduct routine maintenance on products/equipment
- Continue to require ENERGY STAR certified appliances and equipment
- When possible, purchase goods in bulk or concentrated form
- Manage surplus effectively by eliminating excess purchases, reviewing past needs to minimize procurement of unneeded items, and periodically ensuring offices clean out supply cabinets prior to placing new orders
- Ensure all Departments are educated on the resources of both the LSU Surplus Department and the Campus Sustainability office for reuse and recycling of old/unneeded items and equipment



CAMPUS BARNES AND NOBLE BOOKSTORE



### 4.3 COMPONENT PLAN

## SUSTAINABILITY - LANDSCAPE AND GROUNDS

Sustainable stewardship of LSU's landscape lies at the intersection of many critical issues to the university. Innovative application of green infrastructure helps mitigate flooding and protect Louisiana's water quality. Incorporation of the latest water conservation strategies and increasing the use of recycled water on campus reduces cost while minimizing environmental impact. Using these principles to maintain and foster Louisiana's landscape helps to sustainably preserve the legacy of LSU's unique and beautiful campus.

#### GOALS FOR 2030

- **30% reduction of total water use** per student
- **90% of campus grounds managed sustainably**, organically, or

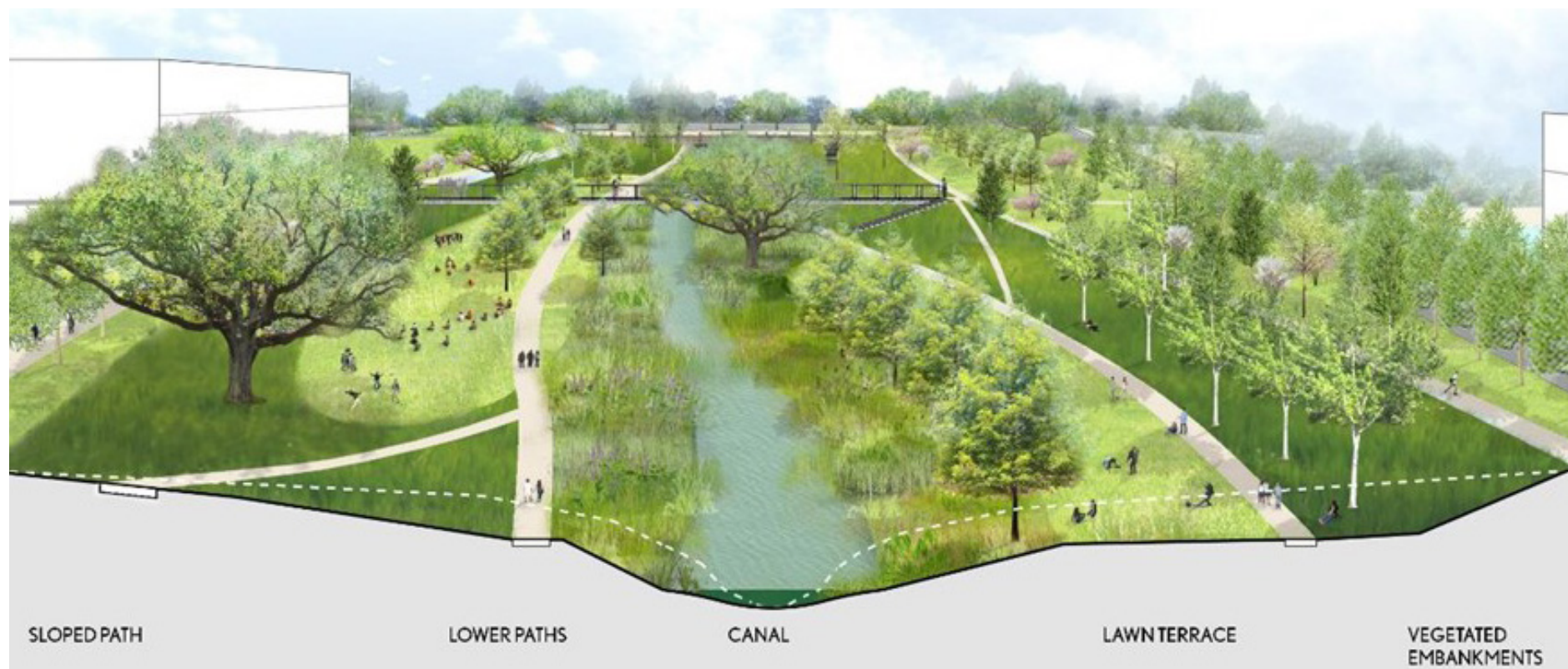
3rd party certified/protected (70% in 2015 according to Princeton Review Rankings for LSU)

- **5% of water demands met by recycled/reused sources** (5% average for universities that report data in AASHE)
- **50% reduction** of total square footage of pervious surfaces

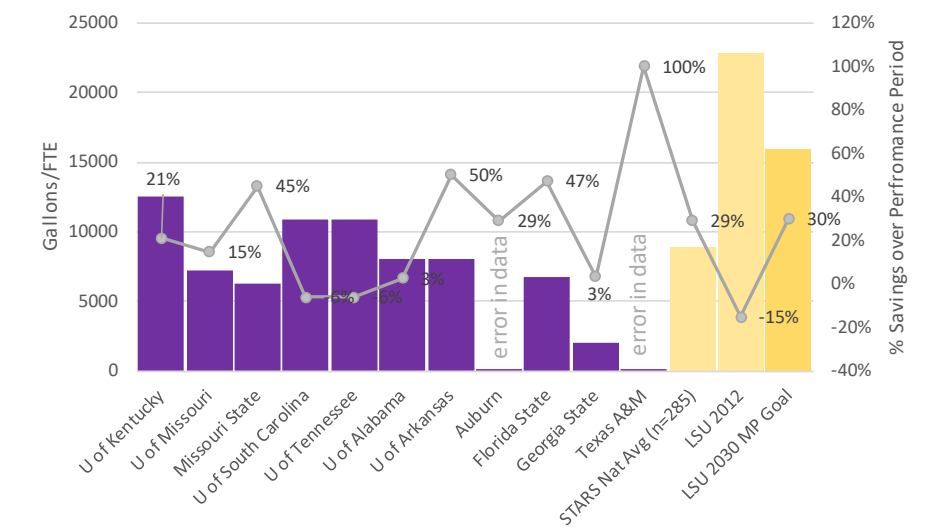
#### STRATEGIES

- Maximize the use of locally sourced, native plant material that is well suited for the southeastern Louisiana environment. Such plant material will require less fertilizer, irrigation, and pesticide. Emphasis should be placed upon hardy perennials and shrubs rather than annuals

- Utilize the widest genetic base among individual species
- Eliminate existing invasive exotic species
- Include endangered, rare species to the extent possible
- Include useful plants (e.g., pest deterrents, nitrogen-fixing plants, edibles and medicinals) for pedagogical and practical purposes
- Reduce high maintenance turf areas and monocultures where possible in favor of diverse native ground covers, tree canopies, prairies, understory trees and shrubs.
- *Integrate stormwater best management practices (BMPs) into social amenities, transportation infrastructure, and buildings to capture and treat stormwater*



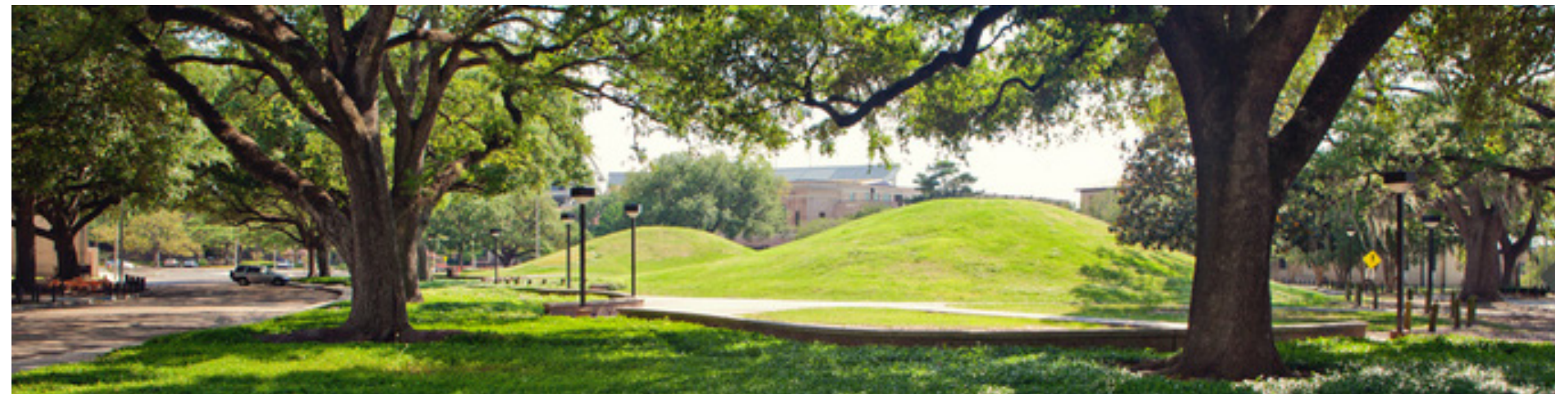
GREEN INFRASTRUCTURE AS A SOCIAL AND RECREATIONAL AMENITY



WATER USE / FTE AND SAVINGS

Source: Benchmarking data was aggregated from the AASHE STARS website, where every participating University's certified score is available to view credit by credit (<https://stars.aashe.org/institutions/participants-and-reports/>).

- Maintain and update the campus tree inventory on an annual basis.
- Continue to participate in Tree Campus U.S.A. program
- *Work with faculty, students and staff to create a shared LSU Community Garden*
- *Dedicate a portion of campus to fruit and vegetable production*
- *Create or enhance wildlife habitat locations on campus*
- Create signage that provides students, staff, and visitors with opportunities to learn about native plant species (uses, functions, details, etc.), as well as planting purposes
- Reduce the quantity and impact of harmful, chemical based, landscaping maintenance products and techniques
- Use organic fertilizers to the maximum extent possible. Landscape Services already owns equipment necessary to make compost ed organic fertilizer
- Incorporate integrated pest management practices to deal with seasonal pests
- Work to minimize or eliminate toxic chemicals from landscape management
- Continue to work with the LSU Foundation to promote and manage the Endow an Oak program
- *Install cisterns for capturing rainwater and reusing on landscape beds*



INDIAN MOUNDS



HISTORIC QUAD

## 4.3 COMPONENT PLAN

# SUSTAINABILITY - FOOD

Food has always had a place at the table when it comes to sustainability. What we eat, how we treat the animals that provide us food, who we purchase food from, where it comes from, and how we dispose of food waste all have substantial health and environmental impacts. In 2015 the Princeton Review recognized LSU for purchasing 44% of all its food from local vendors, and through 2030 LSU aims to increase this number drastically and attain similar performance for purchasing sustainably produced animal products.

### GOALS FOR 2030

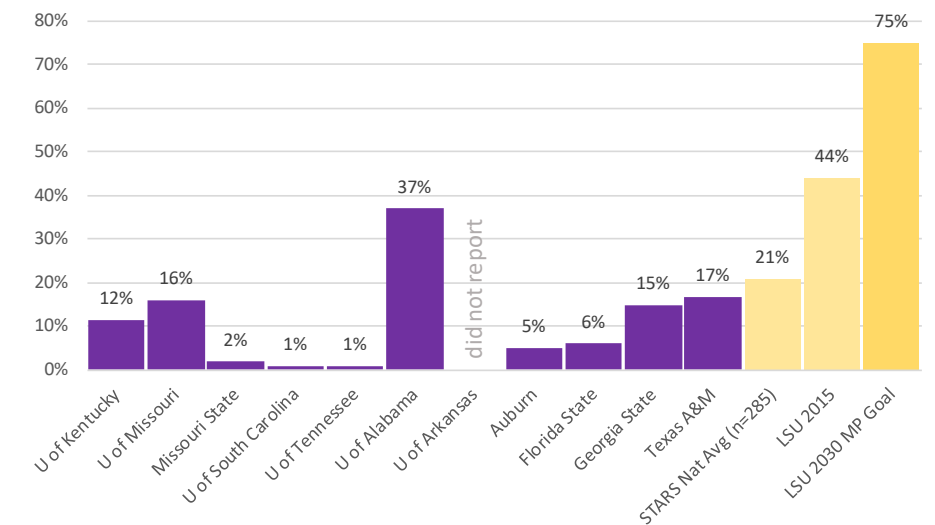
- **75% of dining services** food and beverage expenditures that are local and community-based (44% in 2015 according to Princeton Review Rankings for LSU)
- **25% of total dining services and food purchases** comprised of sustainably produced animal products

### STRATEGIES

- Work with Faculty on developing a Sustainable Agriculture/Food Systems Minor and Major
- Continue to expand edible landscape program, such as Student Government satsuma tree groves
- Develop a campus composting program (see Waste Reduction & Recycling section)
- Work with faculty, students and Student Government to develop a campus farm for purposes of teaching and research
- Phase out Styrofoam use on campus
- Consider establishing a Campus Farmer's Market from food grown on campus
- Continue to formally partner with the Sustainable Agriculture

program in the College of Agriculture, including promotion and funding of the student-run Hill Farm Farmer's Market

- Expand the “trayless” dining program by converting all dining halls to a plate- only dining experience. Market to both current and prospective students the sustainable choice of this program
- Promote “Refills Not Landfills” Campus Sustainability program (in conjunction with grant from Keep Louisiana Beautiful) past the grant period to encourage campus community to reuse containers
- Provide discounts to patrons who use reusable bottles and containers
- Revamp to-go boxes with durable plastic containers that can be returned for cleaning in exchange for tokens, payment, etc.



### PERCENT OF FOOD PURCHASES THAT ARE LOCAL

Source: Benchmarking data was aggregated from the AASHE STARS website, where every participating University's certified score is available to view credit by credit (<https://stars.aashe.org/institutions/participants-and-reports/>).



STUDENT TENDING CAMPUS GARDEN



STUDENT TENDING CAMPUS GARDEN



LANDSCAPE, GROUNDS AND FOOD





# 5.0 IMPLEMENTATION PLAN

## BACKGROUND: STRATEGIC CAPITAL PLAN

Recognizing that the Comprehensive and Strategic Campus Master Plan will serve as an excellent tool for managing the long term outcome of the campus, it was evident in the early stages of development that a shorter term, practical implementation plan would be of utmost importance. “Strategic” was included in the title of the overall effort since conception, specifically relating to the development of a strategic implementation plan. Later in the process with development of the Master Plan Vision Statement, the word “practical” was added, specifically to ensure that the Master Plan would allow for a practical outcome. The initial intent along with the later recognition of the importance of a practical plan have resulted in the development of the implementation plan which will be referred to as the Strategic Capital Plan. **The more specific intent for the Strategic Capital Plan was to generate a comprehensive organization of improvements to the campus of all types (buildings, grounds and infrastructure), that establishes integrated priorities aligned with a strategic and common academic purpose as defined by the newly created Academic Strategic Plan.**

It was initially conceived that the shorter term would define a ten year funding period, which would likely have a 12-15 year implementation period that would be inclusive of ALL campus development, regardless

of potential funding source or contracting entity. Developing such a comprehensive plan would allow the university to better understand the priorities and most efficient sequencing of projects, to which potential funding sources could then be applied, rather than prioritizing and sequencing projects based on potential funding. The development of such a plan would have two distinct benefits:

- To create a financial and fundraising planning tool, and
- To create a coordination, sequencing and physical planning tool for project coordination, inclusive of those projects that are already funded.

Furthermore, it was anticipated that the Strategic Capital Plan would be a “living” plan, with the intent that the University would review and update the plan at least annually, such that there would always be a ten year outlook for development priorities and sequence on the campus which will be highly driven by where actual enrollment growth occurs on a college and departmental level.

**“Future funding may appear bleak at times, but there is no better time to be strategic than in times when funding is slim to ensure that the investments that are made are done so in the most strategic, organized and efficient fashion, regardless of the timeframe in which the investments are made.”**

**-- Roger E. Husser, Jr., P.E.**

**Assistant VP, LSU Planning Design & Construction**

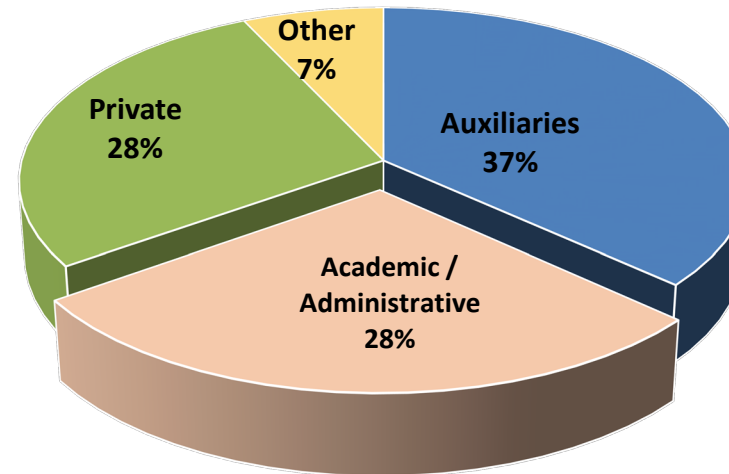
## 5.1 STRATEGIC CAPITAL PLAN

# HISTORICAL DEVELOPMENT

To begin to understand the goals and aspirations for future development targets on the campus it is important to understand the extent of development that has occurred in the past. **Significant investments have been made in the physical campus every single year since the campus was located here in the 1920's.** Of note is that \$1.4 billion has been invested in the campus in the last 14 years since the last master plan was completed, increasing the campus footprint by 3.7 million square feet. As development rates on the campus have varied greatly over the decades, it was determined that the most beneficial information to help project the near future would be to understand the development in the past five years.

Since large capital developments are planned well in advance, it was already apparent which developments would occur through the next fiscal year; therefore, the historical development was analyzed from fiscal year 2013 through fiscal year 2018, a six year period. As can be seen in the charts to the right, \$774 million in development has occurred on campus in this six year period, averaging \$131 million per year, in four major categories. Auxiliary projects were generally self-funded while Academic/Administrative projects were generally funded from State Capital Outlay funds. Private funds represent two primary sources, LSU Foundation and Tiger Athletic Foundation. Approximately half of the Private funding, or 14%, was provided to directly support the academic mission of the university through projects fundraised by the LSU Foundation. The result is that 42% of the overall funding was utilized for development to directly support the Academic/Administrative mission of the university and the remaining 58% was utilized to support the Auxiliary and related missions of the university, primarily in the residential life and athletic areas.

Project Funding FY13-18 Totals



- **\$774 million total**
- **42% invested in the Academic campus from all sources**
- **58% in Auxiliaries and Other**

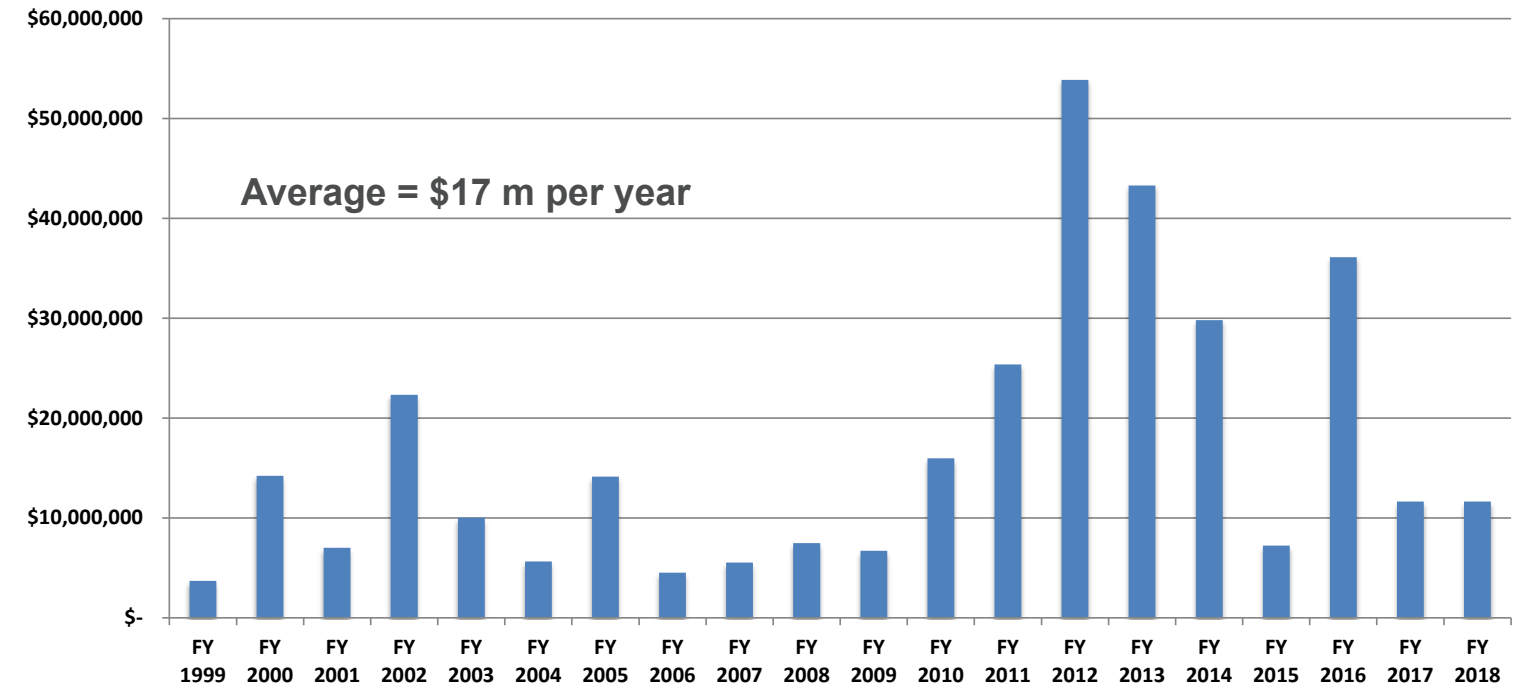
PROJECT FUNDING FY13-18 TOTALS			
Source	FY13-18 Totals	%	Count
Auxiliaries	\$283,933,479	37%	635
Academic / Administrative	\$221,246,657	28%	568
Private	\$214,829,285	28%	70
Other	\$54,374,794	7%	10

CAPITAL PROJECT FUNDING SOURCE & PROJECT TYPES:  
FY 13 - FY 18

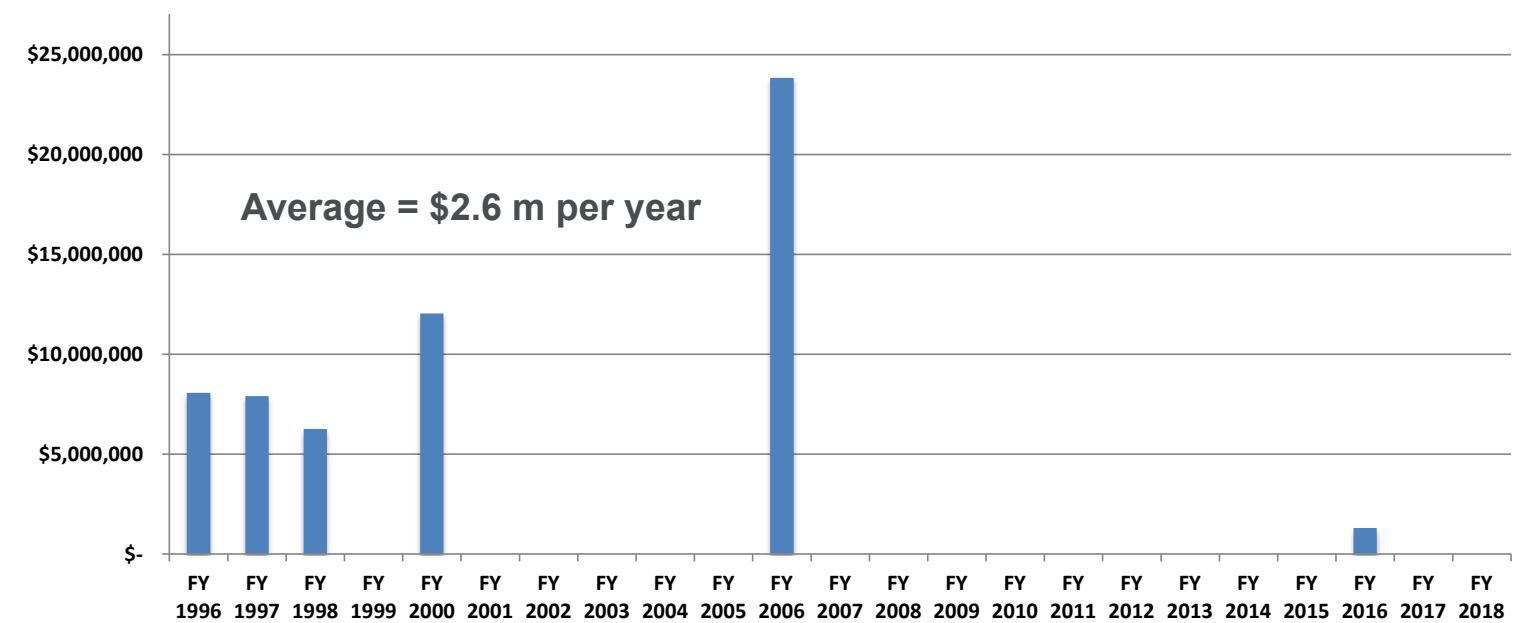
Additionally, as part of the historical analysis, the annual State Capital Outlay and State Deferred Maintenance funding invested in the University was analyzed for the past 20 years, representing the two funding sources provided directly from the State legislature. As evident in the charts on the following page, State Capital Outlay funding has been provided each and every year with varying ranges and averaged \$17 million per year, with an upswing in recent years that creates a \$26 million per year average for the last five years. State Deferred Maintenance funding has been very sporadic with very little funding provided since 2006, averaging \$2.6 million per year. **Total funding from the State legislature has averaged \$28.6 million for the last five years.**

As part of the further historical analysis, and how it may relate to future projections, the 'Annual Campus Development' chart on the "Outcome" page identifies total annual funding for the six year period along with projections of currently planned projects through 2021. These projected projects do not represent the entirety of the Strategic Capital Plan for these upcoming years, only those projects that were already planned with full intent to be funded. In summary, the chart identifies the historical statistics of investments in the campus inclusive of currently planned and funded projects. The data clearly identifies that the already planned development on the campus through 2021 represents a significant annual investment increase than has occurred in the past, signifying the need for a well-developed Strategic Capital Plan to guide future development.

<b>FY13- FY18</b>	
Total Project Expenditures	\$774 m
Average Annual Project Expenditures	\$131 m
<b>FY18 - FY21</b>	
Total Project Budgets	\$834 m +
Average Annual Project Budgets	\$208 m +
<b>Average Capital Outlay (GOB) per Year</b>	
Last 20 Years	\$17 m
Last 10 Years	\$24 m
Last 5 Years	\$26 m
Average Deferred Maintenance (20 yr.)	\$2.6 m



HISTORICAL LEGISLATIVE CAPITAL OUTLAY FUNDING



HISTORICAL LEGISLATIVE DEFERRED MAINTENANCE FUNDING



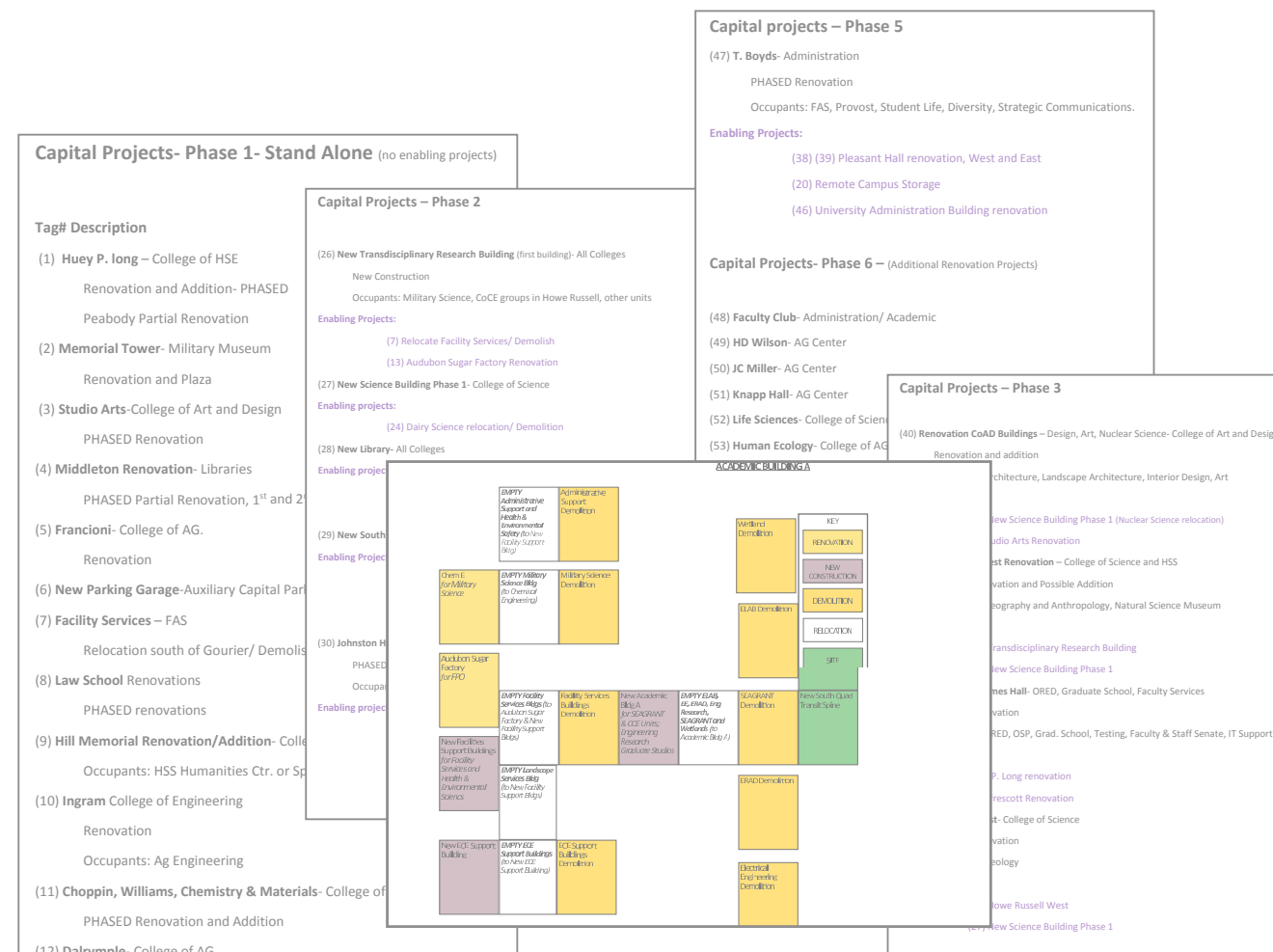
## 5.1 STRATEGIC CAPITAL PLAN

# STRATEGIC CAPITAL PLANNING PROCESS

The process of developing the recommended Strategic Capital Plan to create the most efficient sequence of development is very complex due to numerous factors involved. Factors that affect the priority of a particular project include academic priority, building or infrastructure condition and others, coupled with other deciding factors such as swing space needs and efficient order to address departmental fragmentation issues. Factoring in the various project types such as new buildings versus renovations, site, utility and other infrastructure needs and how they relate to the sequence of building improvements, etc. leads to a very complex analysis.

Additionally, in many cases, one project may need to occur to allow or enable another project to occur, referred to as an “enabling” project, although the enabling project may not be the highest priority. **An example would be a high priority to construct a new building called Building A, but to do so we must renovate Building B to allow a group to relocate to it from Building C, so Building C can be demolished to construct Building A.** In this scenario, somewhat lower priorities need to occur first to make way for the high priority projects. Allowing for swing space to accommodate groups as their buildings are renovated is also a component of the plan. Part of the efficiency consideration as well was to minimize relocations and disruptions of the faculty and staff to achieve “defragmentation” and better organize the locations of associated groups on campus. This also results in somewhat lower priorities being recommended ahead of other higher priority projects to minimize disruptions and efficiently move through a sequence of building renovations. **In many cases, lower priorities should be completed first to make way for the higher priorities.** The excerpts to the right represent

the methodologies used to work through the complex sequencing and analysis to develop a logical and efficient plan.



STRATEGIC CAPITAL PLAN SEQUENCING METHODOLOGY (PROCESS EXAMPLES - NOT FINAL PLAN)

## 5.1 STRATEGIC CAPITAL PLAN

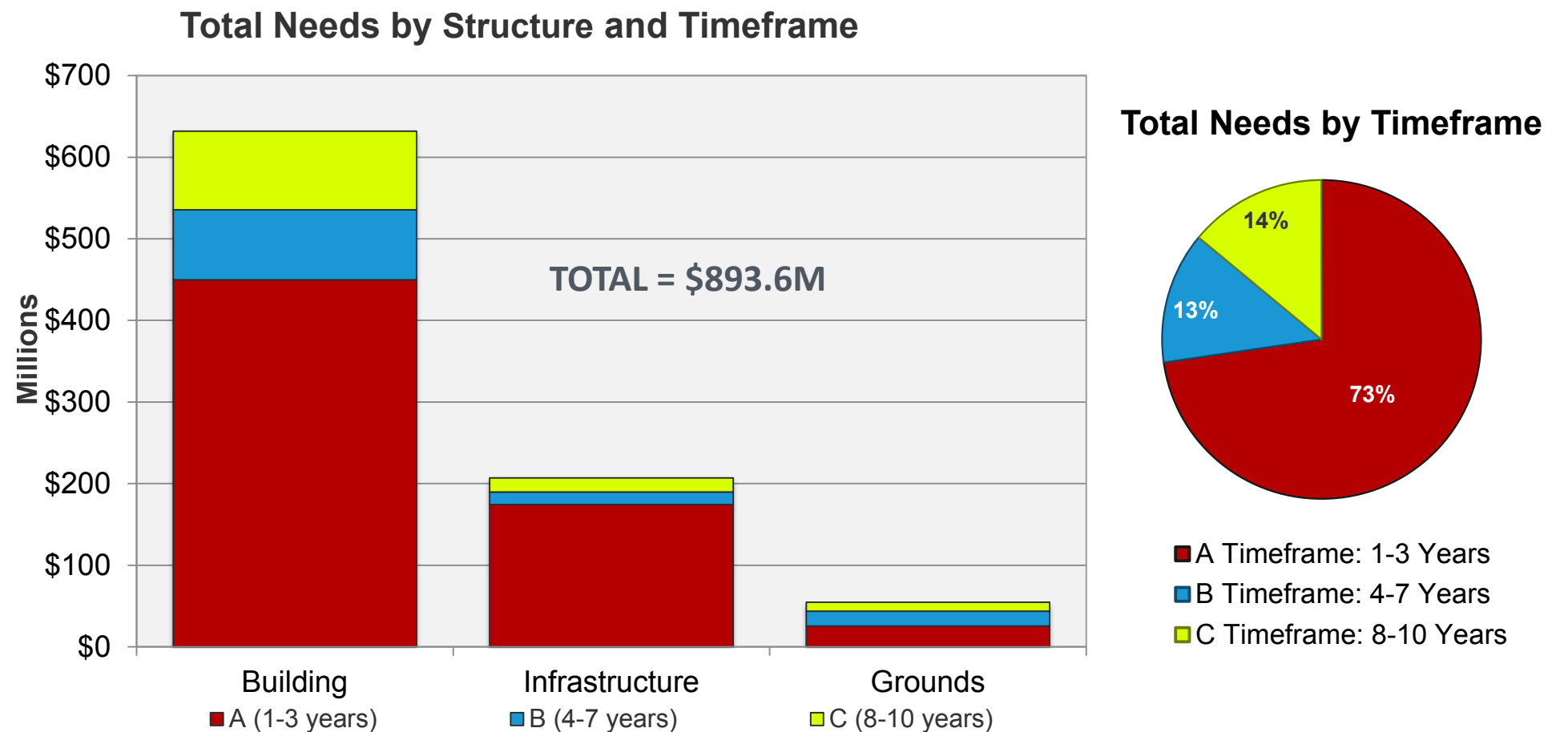
# DEFERRED MAINTENANCE

The Sightlines Building Portfolio Solutions process at LSU included a review of existing inventories/studies, a physical campus walkthrough of each building, interviews with supervisors and multiple qualitative reviews with LSU Facilities Administration. These combined efforts culminated in an \$893.6 million project list of current and upcoming need - organized by timeframe, sub-system and by building. This substantial backlog of deferred maintenance figure represents the total current and upcoming need through 2026. A significant portion of this need falls into 'Timeframe A' – 73% – these are needs that are currently past due, or that will be coming due in the next 1-3 years (see figures to the right). The incremental approach that has traditionally been used to address deferred maintenance needs with State Deferred Maintenance funding has only allowed for addressing small, highest priority needs within individual buildings. This methodology does not allow for the efficiencies that can be achieved by addressing all deferred maintenance needs within a building at once. **Additional analyses of some specific buildings on the LSU campus indicate that it can cost twice as much, or more, to incrementally address deferred maintenance needs with the traditional approach as opposed to addressing all of the needs at once through complete renovations.** Additionally, the traditional incremental approach does not allow for upgrading the buildings to meet the current and future programmatic and pedagogical needs as intended by the Master Plan.

As part of the initial Strategic Capital Plan that has been developed, along with the continual intent to keep it updated, investing in the existing buildings in lieu of constructing new has been a very strong priority. The process of doing so will have

## Total Identified Deferred Maintenance Needs: \$893.6M FY17-FY26

Needs Broken Out by Structure: Building, Infrastructure, and Grounds; Needs Broken Out by Timeframe: A, B and C



TOTAL IDENTIFIED DEFERRED MAINTENANCE NEEDS

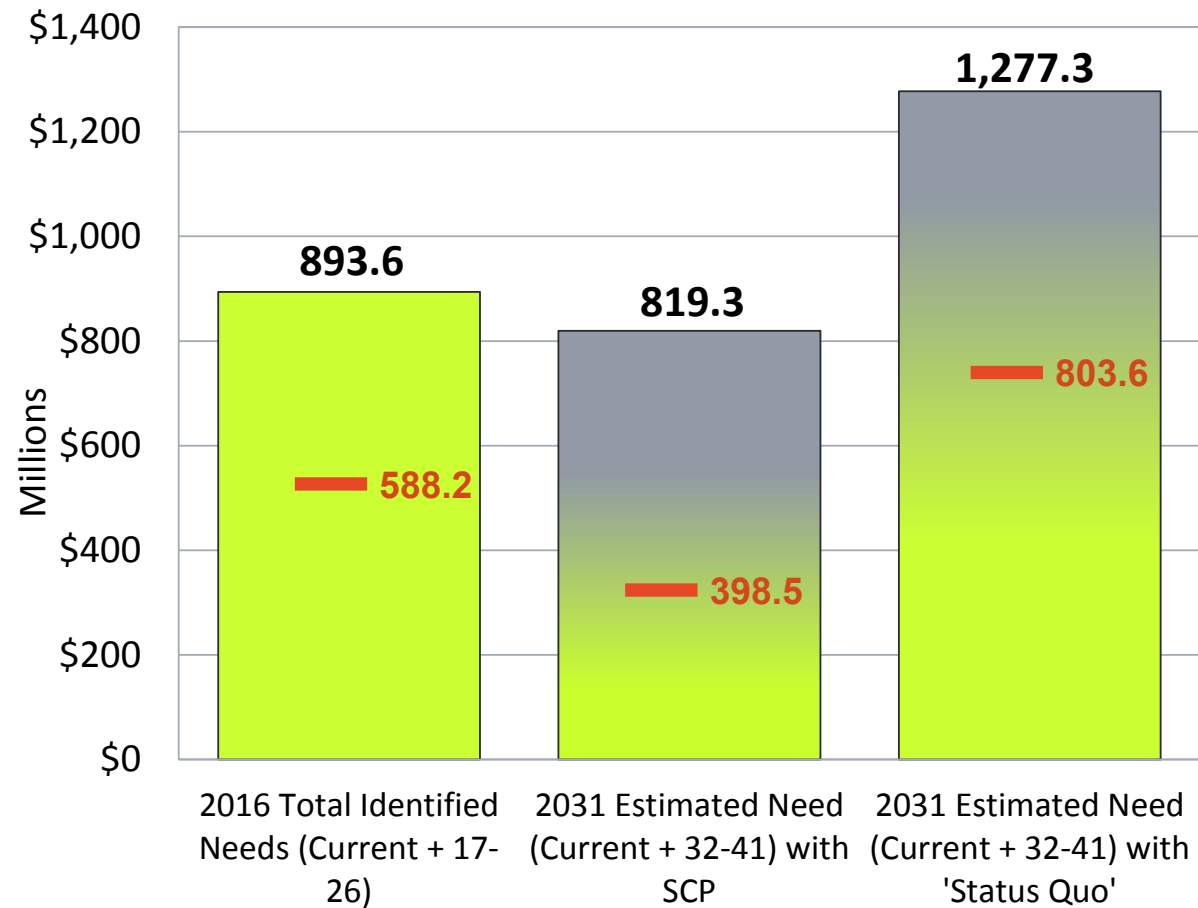
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a significant impact on addressing the major deferred maintenance backlog that exists on campus through complete renovations of these buildings, while utilizing portions of available deferred maintenance funding to address needs in buildings that are not intended to be renovated in the near future, along with investing in repairs to infrastructure. Additionally, demolishing buildings that have served

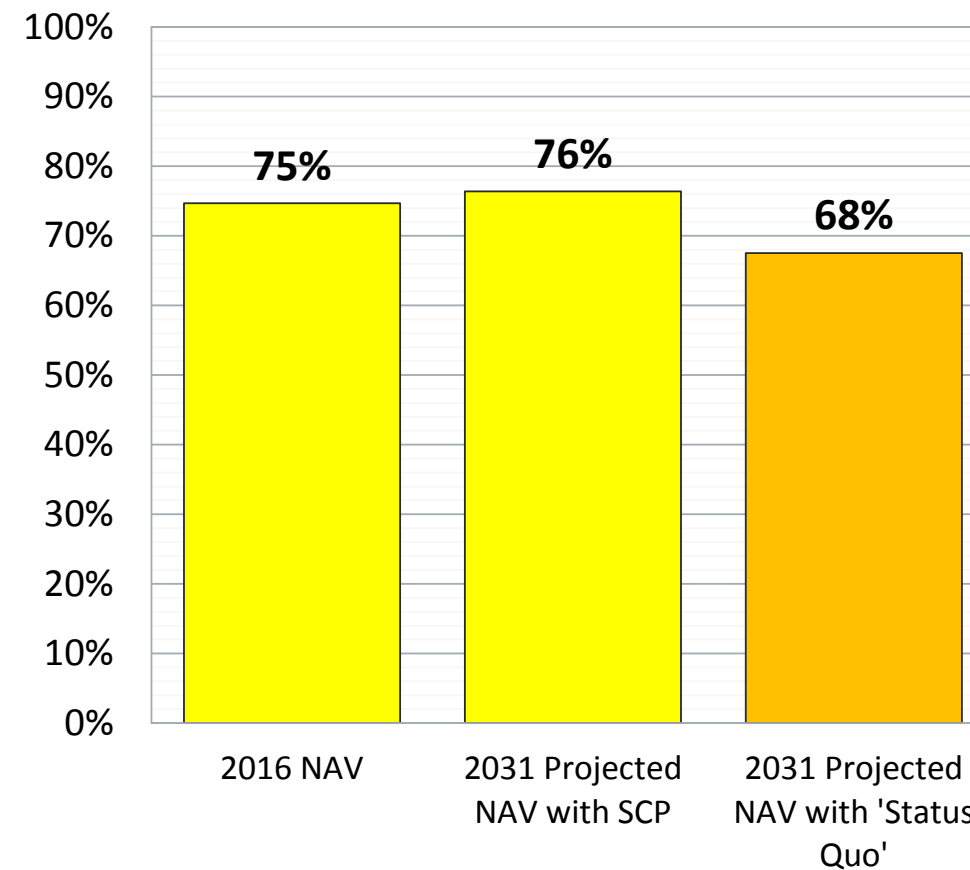
their useful life, which generally are smaller buildings occupying large footprints and have very high deferred maintenance needs, as well as higher operational costs is another means of addressing the deferred maintenance backlog. Removing these buildings allows for addressing the extreme deferred maintenance needs in a different way. The figure below identifies the impact the Strategic Capital Plan

can have on the deferred maintenance backlog, as compared to the projection of deferred maintenance needs on the LSU campus if we continue with the historical strategy.

**Projected Impact to Identified Need**



**Projected Impact to NAV**



Backlog Portion of Identified/Estimated Need

“Backlog” = sub-systems that have already failed, are performing at a decreased efficiency and/or are performing at an increased cost. Model assumes that the additional accumulated deferral will not be in backlog by 2031, but will be coming due between 2032-2041.

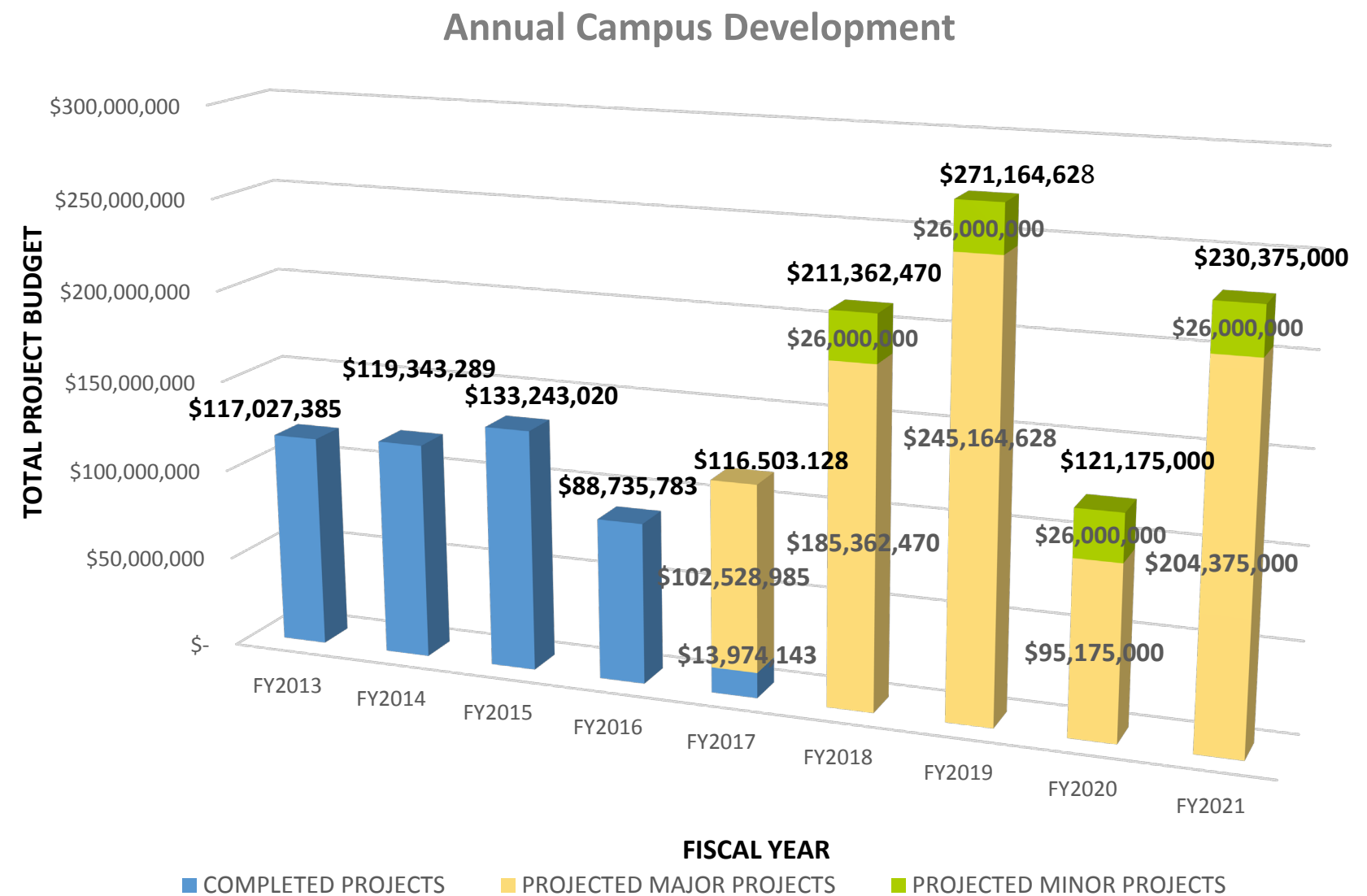
PROJECTING IMPACT OF THE PROPOSED STRATEGIC CAPITAL PLAN VS. MAINTAINING THE STATUS QUO

## 5.1 STRATEGIC CAPITAL PLAN

### OUTCOME

After thoroughly analyzing the long term needs and associated costs, along with the necessary sequence of enabling projects, it became apparent that a longer term 15 year outlook for funding would be more suitable than the initially conceived 10 year outlook, resulting in an 18-20 year implementation plan. **It is conceivable, based on the historical development information and the outlook moving forward for the next 15-20 years that developments on campus could easily exceed \$3 billion, increasing the campus building square footage by one to two million square feet, in the next 10-15 years.** Several factors support this projection:

- \$1.4 billion has been invested in the campus in the last 14 years resulting in a net add of 3.7 million square feet. To achieve this same level of development would require \$1.8 billion in today's costs due to inflation over the past 14 years.
- The onset of significant public-private-partnerships (P3) on campus, particularly in residential development, among other factors, is already accelerating the development as shown in the figure to the right, being the primary contributor to nearly \$1 billion in total investment from all sources in just this five year period.
- There is intent by the LSU Foundation to significantly increase private fundraising in multiples of historical levels, which could result in hundreds of millions of dollars in additional investment in the campus as compared to the past.



CAMPUS DEVELOPMENT: FY13 -FY21

A flow chart methodology, coupled with a complex worksheet were utilized to assemble the Strategic Capital Plan. The full outcome of each are included in the Appendix in Project Groups. The figure on page 156 provides a recent example of the complexities of development on the campus, enabling projects and project sequencing. **This sequence of projects could have benefited greatly from long term foresight and planning as the Strategic Capital Plan provides, reducing costs and shortening schedule.** To summarize this information, the Strategic Capital Plan that has been developed through the process defined allows for a \$3 billion development plan, in current dollars, with approximately half of the improvements projected being facilities that directly support the primary academic mission of the University and the other half being auxiliary facilities, as seen in the summary to the right.

As identified in the summary on the next page, the Historic Core Group and Misc. Standalone Group represent a significant portion of the plan, signifying a substantial investment in existing buildings, reducing the Deferred Maintenance Backlog. Also of note is the significant value for the Future New Buildings Group (shown in green) which would only be built if enrollment actually grows as anticipated.

Additionally, the \$500 million (shown in blue) for future Auxiliary development is purely a projection based on historical investments with no project specificity. Unlike Academic projections, it is difficult to project residential needs and athletics growth into the distant future.

**Lastly, the overall plan suggests a \$212 million annual development for the next 15 years, which is very close to the actual annual development to occur in the next four years.**

Two considerable factors will have an impact on the overall value of the expenditure over any given time: one, when the individual projects within this plan are actually procured and occur will determine the inflationary value that will be applied and two, it is very likely that significant additional auxiliary projects may occur in the future that we are not able to be project at this time. The actual level of investment, growth and development recommended in the initial 15 year funding plan is primarily dependent on availability of funding, and will be so in successive rolling 15 year plans going forward. **The sequencing plan that has been developed defines the most logical and efficient sequence, with the priority factors utilized, regardless of the actual timeframe in which this level of development would occur.** The approximate \$3 billion development plan could certainly occur over a longer period than 20 years, and could also be accelerated in a shorter timeframe if funding availability is realized sooner. **The Strategic Capital Plan provides a tool to ensure there is a plan to support whatever the level of investment in the campus becomes and ensure the most logical and efficient method and order is used to address the defined priorities.**

	Total Project Cost	Deferred Maint. Addressed	Net Asset Value	% of Expense Deferred Maint.
FUNDED ACADEMIC PROJECTS - CURRENT GROUP:	\$ 127,738,990	\$ 33,638,990		26%
<b>TOTAL ACADEMIC FUNDED:</b>	<b>\$ 127,738,990</b>	<b>\$ 33,638,990</b>		26%
SOUTH ACADEMIC DISTRICT - INITIAL GROUP:	\$ 190,897,034	\$ 58,621,400	58%	31%
LIBRARIES GROUP:	\$ 200,989,940	\$ 70,116,400	54%	35%
<b>HISTORIC CORE GROUP:</b>	<b>\$ 447,737,763</b>	<b>\$ 220,384,000</b>	<b>46%</b>	<b>49%</b>
SCIENCES GROUP:	\$ 188,402,400	\$ 31,089,000	69%	17%
VET SCHOOL GROUP:	\$ 18,675,000	\$ -		0%
<b>MISC. STAND ALONE PROJECTS GROUP:</b>	<b>\$ 162,411,136</b>	<b>\$ 77,537,300</b>	<b>50%</b>	<b>48%</b>
FUTURE NEW BLDGS. FOR GROWTH GROUP:	\$ 242,435,520	\$ -		
SITE/INFRASTRUCTURE DEFERRED MAINT.:	\$ 120,000,000	\$ 120,000,000		
<b>TOTAL ACADEMIC/ADMIN. NOT FUNDED:</b>	<b>\$ 1,571,548,793</b>	<b>\$ 577,748,100</b>	<b>56%</b>	<b>37%</b>
<b>TOTAL ACADEMIC:</b>	<b>\$ 1,699,287,783</b>			
<b>PROPOSED STATE FUNDING (15 YEARS):</b>	<b>\$ 450,000,000</b>	*\$30 m per yr. in Capital Outlay and Deff. Maint.		
<b>BALANCE TO FUND:</b>	<b>\$ 1,121,548,793</b>			
<b>AVERAGE ACADEMIC INVESTMENT PER YEAR:</b>	<b>\$ 113,285,852</b>			

ACADEMIC PORTION OF STRATEGIC CAPITAL PLAN:		SQ. FT.
* Demolishes 19 Buildings		925,000
* Renovates 52 Buildings - (Average NAV 51%)		2,750,000
* Builds 7 major new Buildings to meet current need		1,350,000
* Builds 3 additional academic buildings for future enrollment growth		675,000
* 9 stand alone roadway projects		
* 18 stand alone site projects (plus site improvements within building projects)		
* 2 utility projects (plus utility/infrastructure improvements within projects)		

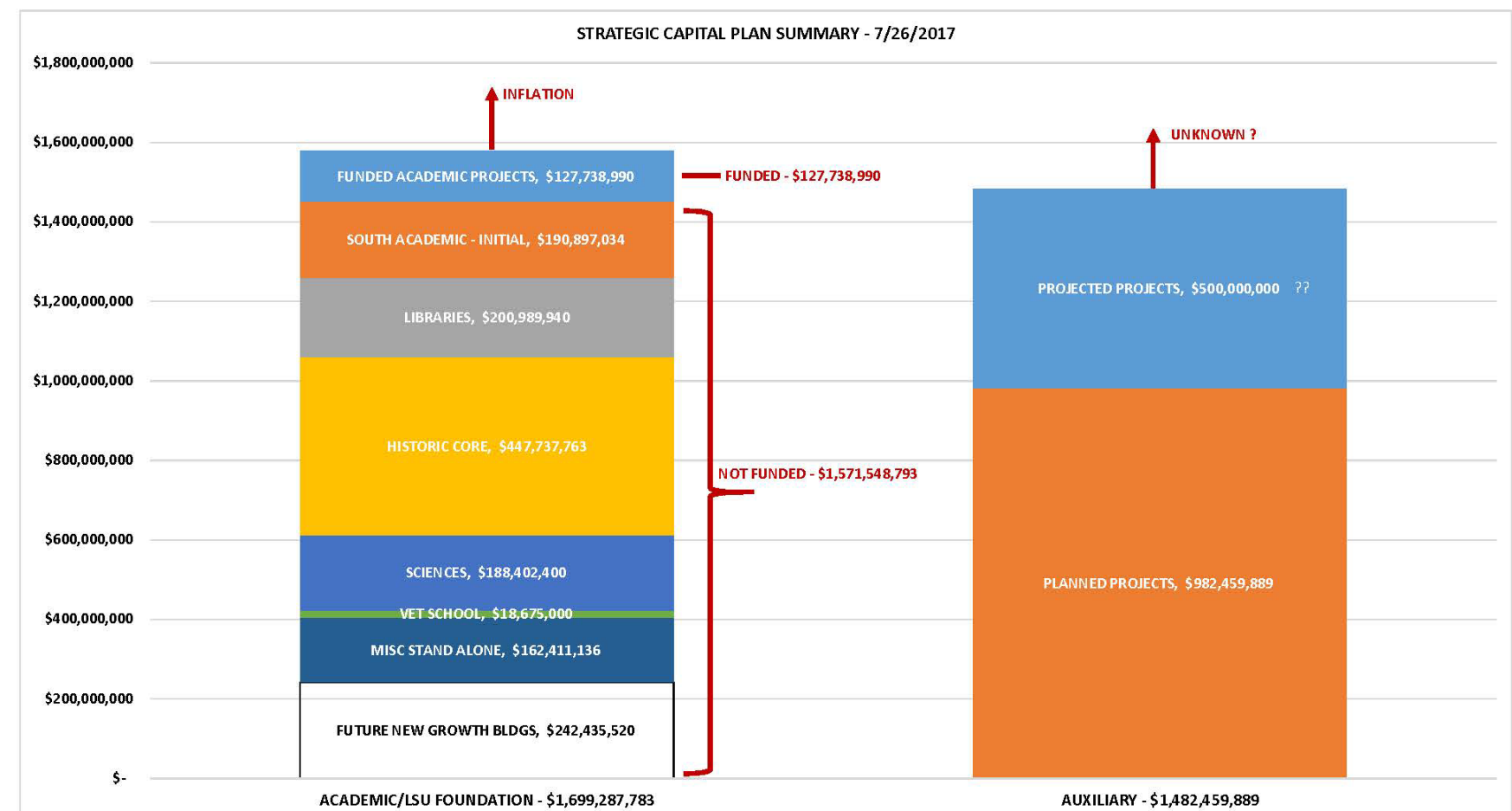
	Total Project Cost	Deferred Maint. Addressed
AUXILIARY/TAF/OTHER GROUP:	\$ 982,459,889	\$ 10,814,000
Additional Auxiliary/TAF/Other:	\$ 500,000,000	
<b>TOTAL AUXILIARY:</b>	<b>\$ 1,482,459,889</b>	<b>\$ 10,814,000</b>
<b>AVERAGE AUXILIARY INVESTMENT PER YEAR:</b>	<b>\$ 98,830,659</b>	

<b>GRAND TOTAL:</b>	<b>\$ 3,181,747,672</b>	<b>\$ 622,201,090</b>
<b>GRAND TOTAL INVESTMENT PER YEAR:</b>	<b>\$ 212,116,511</b>	

\*\*\* Total Deferred Maintenance Need is \$893,610,000



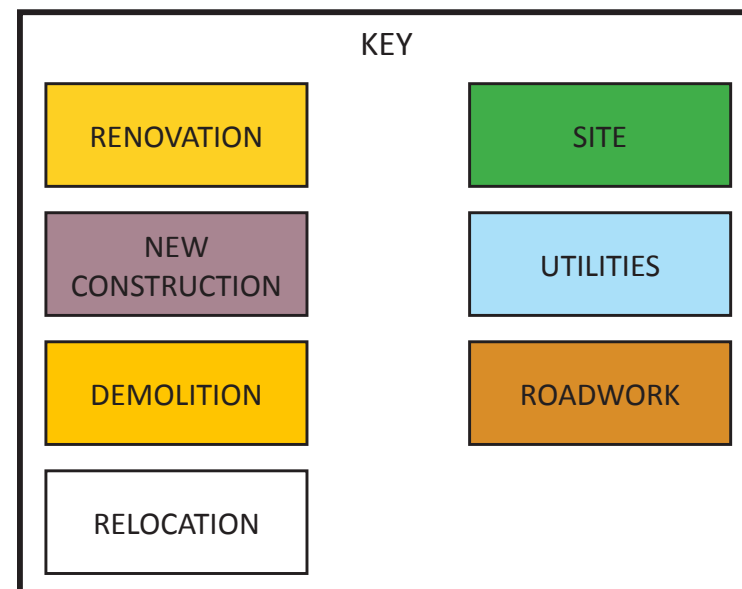
STRATEGIC CAPITAL PLANNING SUMMARY (2017 COSTS)

### Engineering/Business Group - Past Example

New Landscape Services	Demo Landscape Services	Utilities for BEC	New Business School (BEC)	BEC Site	<i>Eng relocates to Business Space</i>
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BAE Storage Addition	Demo BAE Storage Bldg	New Career Svcs in Union	<i>Eng relocates to Career Svcs space</i>
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New Displaced Parking	Patrick Taylor Phase 1	<i>Eng relocates to PFT Phase 1</i>	Swing Sp Renov Jesse Coates (2)	Patrick Taylor Phase 2	<i>Eng relocates to PFT Phase 2</i>
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Swing Sp Renov Audobon Sugar
Swing Sp Renov Old Forestry
Swing Sp Renov Ingram
Swing Sp Renov Jesse Coates (1)

Demo Old Forestry	Complete Patrick Taylor Site Work
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PROJECT PACKAGE/GROUP EXAMPLE

## 5.1 STRATEGIC CAPITAL PLAN

# FUNDING STRATEGY AND PROJECT BUNDLING/GROUPS

With the fully developed \$3 billion needs portion of the Strategic Capital Plan expected to occur over the next 18-20 years, and the intent to always maintain a 15 year funding outlook going forward, a methodology to establish intended funding sources into the future is necessary. The auxiliary projects will continue to be self-funded through traditional sources such as self-generated cash, revenue bonds, private fundraising specific to the auxiliary, and public-private partnerships. Considerations for funding the \$1.5 billion Academic portion of the plan will likely continue to be a mix of primarily state capital outlay funds and private fundraising, with some lesser amount being self-generated. However, it is anticipated and expected that the LSU Foundation will significantly increase private fundraising for LSU with a major campaign to be initiated in the very near future. With the major portion of the future academic development expected to be funded with private funds, different strategies for project funding and implementation can be anticipated. **Several of the recent and current major academic projects on campus have generally been funded with 50% private and 50% capital outlay funds. However, with the intent for major fundraising, the private to capital outlay ratio for academic projects will be closer to 65%/35%. Accounting for full investments in the overall academic plan, including auxiliaries, results in the state legislature only providing 18% of total capital investment in the future.** In this arrangement, it is recommended that the primary academic building renovations and new buildings would best be funded from private funds, with the associated deferred maintenance infrastructure needs, primarily street, sidewalk and utility infrastructure, and demolition being funded from Capital Outlay funds. This creates a scenario that allows the major projects to be implemented more efficiently with private funds,

while still relying on state funding to help support improvements on the campus. Additionally, Board of Regents and the State Legislature have both recently expressed interest in the need to focus state funding on deferred maintenance needs, rather than new buildings, and the Strategic Capital Plan not only focuses on addressing the deferred maintenance backlog but specifically allows for available state funding to be invested in it.

Furthermore, one of the challenges that we will continue to face both private and state funding is the challenge to increase interest in funding the “unglamorous” portions of the plan. Recent history has shown that projects with a significant donor base that result in naming opportunities for major new or renovated buildings, coupled with leveraging those private donations to obtain state capital outlay funding, has resulted in certain projects being funded while those without a significant donor base remain unfunded. Additionally, deferred maintenance and infrastructure needs remain inadequately funded as well. **A methodology to address this and ensure that the universities’ collective academic priorities are funded is the concept of “Project Bundling”.** The concept with project bundling to create a collection, or “**Project Group**,” of associated projects as grouped in the Strategic Capital Plan, and seek funding from both private funds and State Capital Outlay for the entirety of the group, effectively funding the “unglamorous” projects along with the “glamorous” projects. An example may be a “Restore the Core” group of projects or a “South Academic and Research District” group of projects, such that funds are raised, both private and through capital outlay, to support the package or group. Individual buildings and site components that have naming value can still be named within the

whole. The recent example related to Patrick F. Taylor Hall and the Business Education Center (see previous page) can be referred to as a Project Bundle or Project Group. It is recommended that the Project Bundling or Project Grouping methodology be used to move the Strategic Capital Plan forward. The example on the previous be represented as a Project Group. With a well developed Strategic Capital Plan ten (10) years ago, this group of projects would have been implemented sooner and for less cost.

**“Success or failure of the Strategic Capital Plan should not be measured in the amount of dollars spent or new buildings constructed in a given timeframe, but rather should be measured by whether the investments that were made were the most strategic and addressed the highest priorities.”**

**-- Roger E. Husser, Jr., P.E.**

**Assistant VP, LSU Planning Design & Construction**



## 5.2 MASTER PLAN GOVERNANCE

### GOVERNANCE: OVERVIEW

Considering that the LSU Master Plan, like most campus master plans, was not created in a vacuum, but rather as an evolution of prior iterations, it is essential that the dialogue that established this continuity carry on beyond the completion of the process. The challenge for the implementation of the Master Plan moving forward will be to build upon the pertinent framework components and guiding principles of the Master Plan while adjusting for new directions and opportunities. Establishing a clear structure and process of Master Plan Governance (decision-making) over multi-year phases of implementation is therefore necessary.

The creation of a Master Plan governance process through which decisions are made will help achieve the following goals:

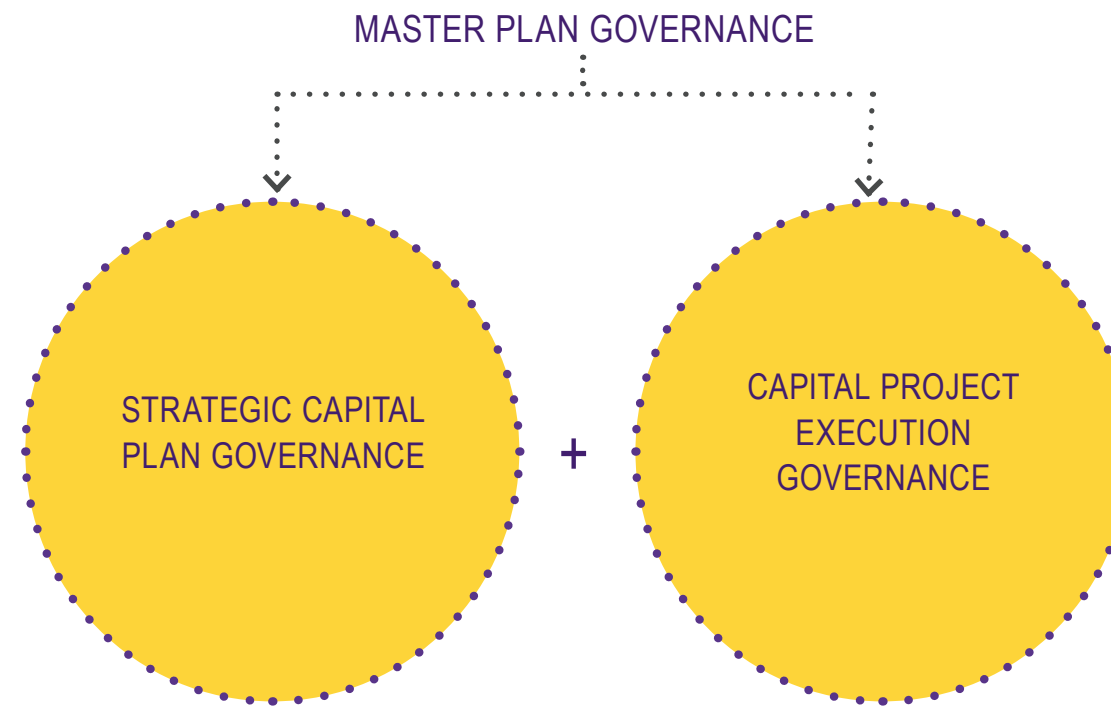
- To ensure continuity between the master planning goals and implementation
- To provide a legacy of advocacy, education and institutional memory to various constituencies throughout the plan's implementation
- To guide project priorities and capital funding process in a way that is consistent with the Master Plan
- To allow thoughtful and informed adjustments to phasing and priorities which are inevitable as the needs and fiscal realities of an institution evolve
- To allow for flexibility within the physical planning context of the Master Plan while still allowing for the advancement of the overall goals and vision
- To ensure that capital planning and investment decisions are informed by the considerations and strategies of the Master Plan
- To dovetail the capital and facilities planning process with the

sustainability and design guidelines process

- To advocate for and communicate the mission driven priorities of the Master Plan and to amend priorities based on any deviation between academic projections and actual growth
- To track progress and update the Master Plan as needed throughout its implementation
- To provide ongoing stewardship of the campus environment, the investment in deferred maintenance and the creation of quality academic and auxiliary space to respond to programmatic needs

The Master Plan Governance structure is composed of two essential processes.

- **Governance of the Strategic Capital Plan process:** Through this process, the University will determine the sequence of implementing projects recommended in the Master Plan which will drive fundraising, and hence campus development, priorities.
- **Governance of the Capital Project Execution process:** Through this process, the University will ensure that the execution of each capital project is in alignment with the Master Plan framework/intent and in keeping with the Design Guidelines, Campus Site and Landscape Standards, and Facility Design Standards and Specifications.



MASTER PLAN GOVERNANCE STRUCTURE

## 5.2 MASTER PLAN GOVERNANCE

# GOVERNANCE OF THE STRATEGIC CAPITAL PLAN PROCESS

Key players in the Governance of the Strategic Capital Plan are as shown in the figure below. It is recommended that a new Strategic Capital Planning Governance Committee (SCPGC) be formed to include key University leadership.

**CAPITAL PROJECT RECOMMENDATION** – It is recommended that the Planning, Design, and Construction (PDC) and University Architect (UA), meet quarterly to review the Strategic Capital Plan progress, review the status of capital project plans, agree on and make changes and amendments to the plans, as necessary. PDC and the University Architect will be responsible for developing recommendations annually for the Strategic Capital Plan based on agreed upon priority factors, including:

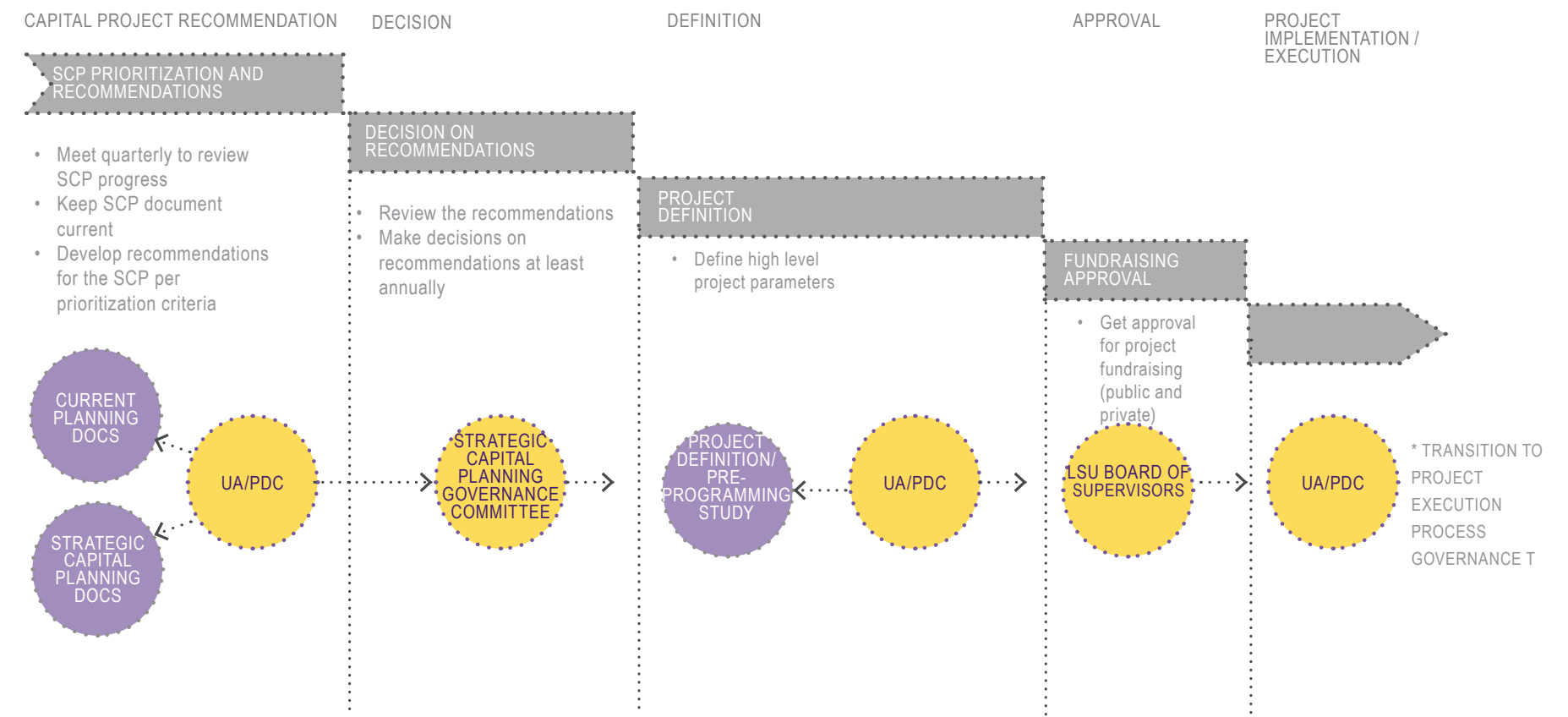
- Academic priority
- Building condition / deferred maintenance needs
- Grounds condition / campus landscape needs
- Utilities and energy infrastructure needs
- Transportation and mobility infrastructure needs
- Historic fabric preservation
- Sustainability priority
- Auxiliary priority
- Donor driven priority

**DECISION** – The Strategic Capital Planning Governance Committee is a decision-making body that will make decisions on the Strategic Capital Plan recommendations made by PDC and the University Architect.

**DEFINITION** – PDC and University Architect will then be responsible for defining high level project parameters (estimated size, cost, timeline) and bringing the recommendations to the Board of Supervisors for approval.

**APPROVAL** – The Board of Supervisors approves the actual fundraising efforts for the public and privately funded projects . After this approval, the project moves into the Project Execution process.

**IMPLEMENT** - The Facility and Property Oversight (FPO), and specifically PDC, will be responsible for managing and implementing the Strategic Capital Plan recommendations with engagement with the University Architect relative to the Design Guidelines. PDC and FPO maintain the necessary continuity between the Strategic Capital Planning process and the Project Execution Process (as described in the following page).



STEPS IN THE STRATEGIC CAPITAL PLANNING PROCESS

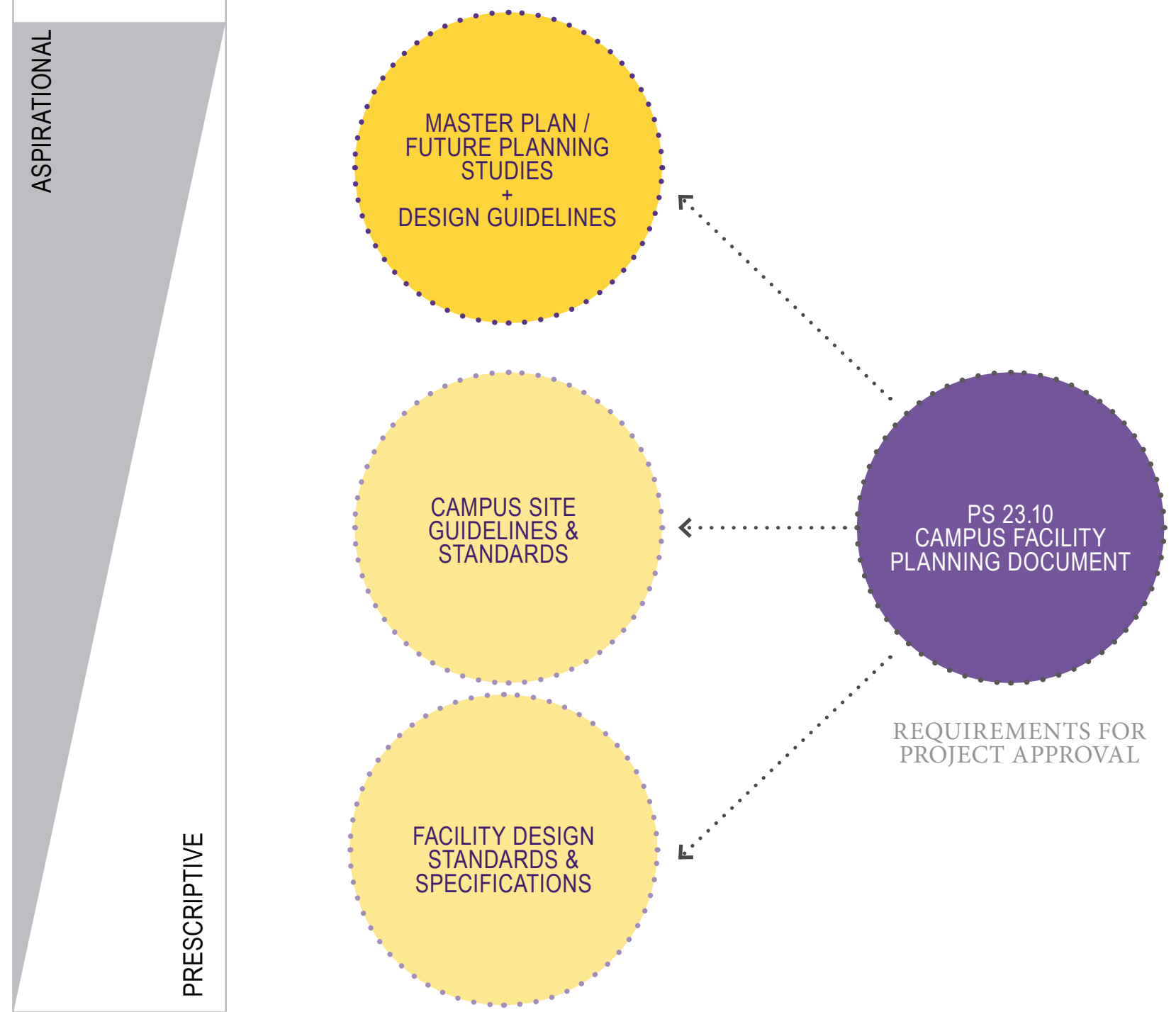
## 5.2 MASTER PLAN GOVERNANCE

# GOVERNANCE OF THE CAPITAL PROJECT EXECUTION PROCESS

The intent of creating a governance structure for Capital Project Execution is to provide a process to ensure that capital projects are executed in alignment with the Master Plan framework and intent (as part of the “approved planning documents” per LSU Statement PS 23.10). The Design Guidelines document (refer Appendix) explains in further detail the intent of the various planning documents.

These approved planning documents, as seen in the figure to the right, provide varying levels of aspirational and prescriptive guidelines. The Master Plan provides the highest level aspirations for campus growth over the centuries and the Design Guidelines provide high level descriptions for how design can achieve those goals. The Site and Landscape Standards (refer to Appendix) and Facility Design Standards and Specifications documents provide more prescriptive requirements for architecture, landscape architecture, and engineering standards. For example, the Design Guidelines might encourage designers to create a building first floor which is public and showcases the activity within in order to create a vibrant campus, while, the Facility Design Standards & Specifications might specifically require use of transparent glass on the building facade.

The draft of Policy Statement 23.10 (PS 23) lays out the process for project approvals, including required submittals at each phase (included in the Appendix)



The key players in the approval process for new construction are shown at right. The Campus Planning and Oversight Committee (CPOC) (currently FODC) is the main review body for new projects and includes representatives from LSU facilities team, departmental faculty, and various campus stakeholders where some members have voting power and some solely provide representation.

Other high-level university leadership who may review a project separately from the CPOC include the LSU Board of Supervisors (BOS), University President, Provost, and those shown in the yellow circles at right.

The four broad steps in the project approval process are as follows:

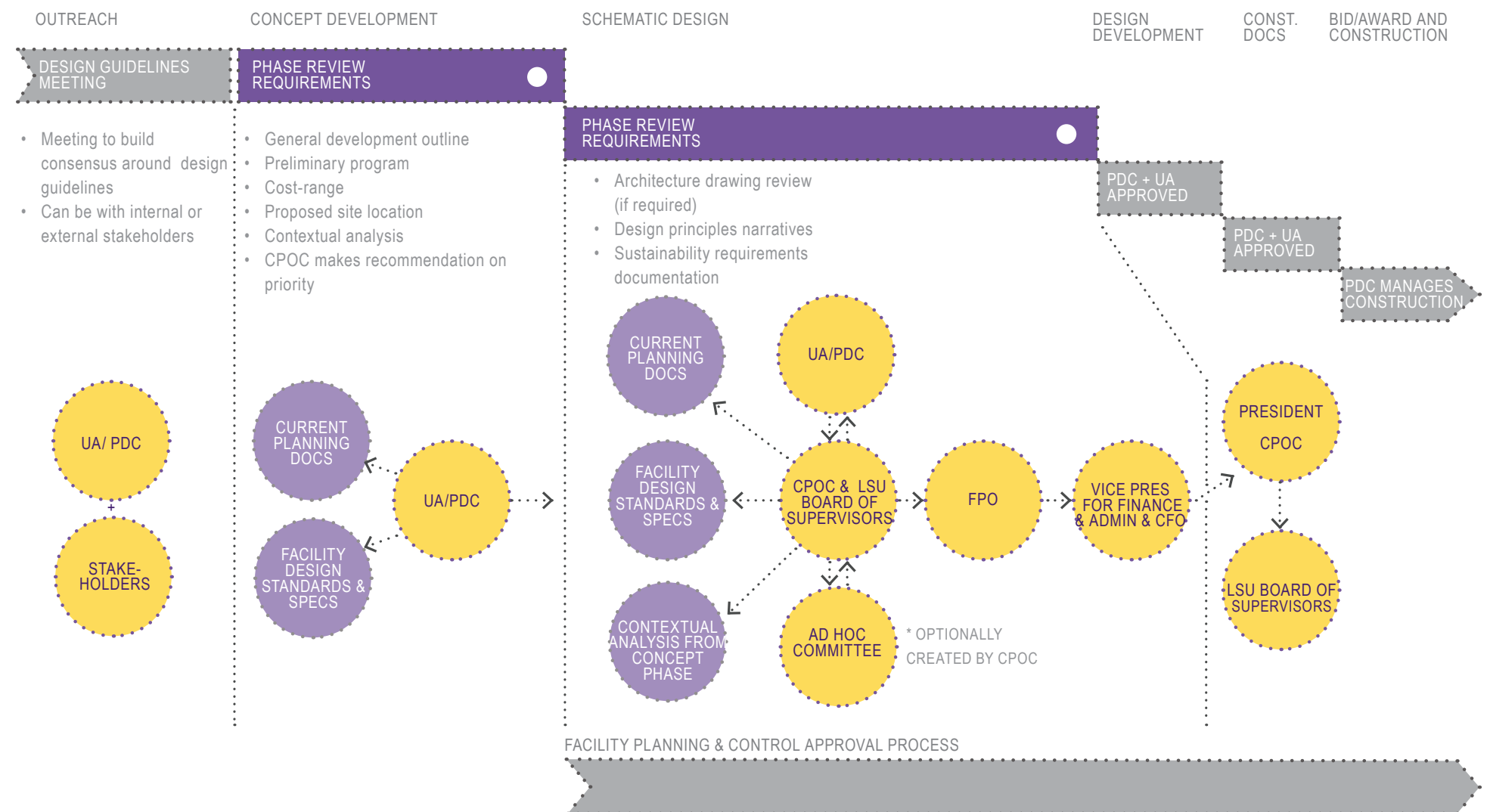
**OUTREACH** - The University Architect (UA) and PDC lead a series of meetings to build consensus about how the project should respond to the design guidelines and goals of the Master Plan. These meetings include project stakeholders and high-level decision-makers should be present. Depending on the project's needs, outreach meetings can also solicit funding.

**CONCEPT DEVELOPMENT** - PDC analyzes and confirms a building site and orientation, building program, budget, and whether this building will be a sustainably-focused building, which requires a higher level of performance and adherence to design requirements. The UA develops a contextual analysis to establish the design intent and context for the project. The UA drafts a contextual design narration.

**SCHEMATIC DESIGN** - The UA works with designers and recommends a design to CPOC and the LSU BOS. The CPOC reviews a schematic building design, narrative about how the building

responds to each principle of the Design Guidelines, a Sustainability Requirement Checklist, and a narrative of how the project meets sustainability requirements. If this project is a sustainability-focused building, the team will also review a narrative responding to the AIA COTE Top 10 framework and a narrative describing the feasibility of meeting a 3rd party certification standard: LEED, Living Building Challenge (full or petal certification), Sites, WELL, or other.

**DESIGN DEVELOPMENT - BID / AWARD** The final construction document completion is managed by PDC, with approval by UA and others to ensure project meets the intent approved by CPOC, high level leadership and the LSU BOS. The goal of this management is to ensure that the design principles and sustainability requirements the team previously identified have been carried through into the construction documents.



STEPS IN THE PROJECT DESIGN APPROVAL PROCESS



# 6.0 APPENDIX

The following additional supporting documents and resources are available at LSU's Office of Planning, Design and Construction.

- A. MASTER PLAN SUMMARY & FINAL PRESENTATION
- B. ACADEMIC SPACE STUDY FINDINGS
- C. ADMINISTRATIVE AND SUPPORT SPACE STUDY FINDINGS
- D. BUILDINGS PORTFOLIO SOLUTIONS (FACILITIES ASSESSMENT) FINDINGS
- E. DESIGN GUIDELINES
- F. SITE AND LANDSCAPE STANDARDS
- G. STORMWATER STUDY FINDINGS & STORMWATER SOLUTIONS KIT OF PARTS
- H. DINING STUDY FINDINGS
- I. WAYFINDING AND SIGNAGE SUPPLEMENTARY DOCUMENTS (DONOR RECOGNITION, GREEK SIGNAGE, RETAIL SIGNAGE)
- J. STRATEGIC CAPITAL PLAN FLOW CHART AND WORKSHEET
- K. SHORT-TERM TRANSIT RECOMMENDATIONS
- L. MOBILITY COMPONENT IMPLEMENTATION MATRIX
- M. COLLEGE OF HUMANITIES AND SOCIAL SCIENCES SPACE DEFRAGMENTATION PLAN
- N. CAMPUS UTILITIES ASSESSMENT FINDINGS
- O. MASTER PLANNING PROCESS MEETING NOTES
- P. ROADWAY NAMING MODERNIZATION PLAN