



**CLARK ATLANTA UNIVERSITY  
STRATEGIC MASTER PLAN UPDATE**

*FINAL  
MAY 2013*



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## OVERVIEW

### BACKGROUND

Clark Atlanta University (CAU) is a single campus institution and does not operate any off-site locations. The University's 126-acre main campus is located on 223 James P. Brawley Drive about 1.5 miles southwest from the heart of metro downtown Atlanta, Georgia and is accessible from all major arteries – I-20, I-75/I-85, and I-285 of the State and the Hartsfield-Jackson International Airport.

CAU campus is listed as a Historic District on the National Register of Historic Places and contains fourteen mid-nineteenth century buildings and a variety of historic landscapes contributing to the Atlanta University Center Historic District, established in 1976.

CAU is one of five member institutions (Clark Atlanta University; Spelman College; Morehouse College, Morehouse School of Medicine; Interdenominational Theological Center) of the **Atlanta University Center Consortium (AUCC)** the only Historically Black Consortium of private colleges and universities in the nation. A unique benefit afforded students attending one of the AUCC member institutions is that they may cross register for courses at any of the undergraduate schools in the Center. This arrangement provides an opportunity for formal interactions among the AUCC's larger student population of approximately 11,000 students.

### History

The 2005 CAU Master Plan covers the period from 2005 to 2010. Clark Atlanta University began the development of the 2005 master plan in 2004. The work was guided by the 1998 University adopted Strategic Academic Plan that covered a period from 1999 to 2010. It serves as the philosophical basis for future plan developments of University, (1) overall mission, goals and themes, (2) current and future number of students, faculty and staff population, and (3) significant new initiatives planned which have facilities implications. The 2005 CAU Master Plan was updated in 2011 and focused on the following goals, (1) Form, (2) Function and (3) Economy.

### Purpose

The CAU Master Plan establishes priorities for campus development consistent with the University's Mission, Strategic Plan and other current initiatives. The multi-volume document identifies opportunities where the

University can focus resources to meet future demands on its facilities and resources. The aim of the 2013 CAU Master Plan Update is to serve as a concept plan for future development over the next five years.

The University has completed its strategic planning process which incorporates all academic and support operations. A previous Master Plan was completed in 2005 and updated in 2011. The previous Master Plan provides the framework for development on the campus with policies and statements regarding how the University should be developed and landscaped.

The overall goal of this campus Master Plan update is to assist the University in translating the strategic goals and objectives of the various University units into a physical plan which identifies where the University should be focusing its resources to meet future demands on its facilities and land resources. The Master Plan is a key part of the University's Capital Budget Request and 10-year Capital Plan that will be submitted to the Southern Association of Colleges and Schools. The Master Plan and its updates are developed every 20 years to demonstrate Best Practices and respond to external and internal agencies, departments, and donor expectations and requirements. The Master Plan will also guide the capital construction on the campus for at least the next ten years. The Master Plan update covers the period from 2013 - 2018.

### **Scope**

The objective of this effort is to do a minor update of the master plan to reflect the impact of recent improvements to the facilities and the assumption that current enrollment and programs are to change in accordance with the strategic plan. In addition, the update records certain related resources that may be of interest to external agencies. This includes:

- a. 3.11.1 - The institution exercises appropriate control over all its physical resources. (Control of Physical Resources)
- b. 3.11.2 – The institution takes reasonable steps to provide a healthy, safe and secure environment for all members of the campus community (Institutional Environment)
- c. 3.11.3 – The institution operates and maintains physical facilities, both on and off campus, that appropriately serve the needs of the institution's educational programs, support services, and other mission-related activities (Physical Facilities)

### **Team**

The point of contact for Clark Atlanta University, Ms. Bonita Dukes, provided day-to-day communication and guidance. In addition, the following staff members contributed to this effort:

Mr. Mike Anthony  
Ms. Susan Gibson  
Mr. Gary Merrow  
Mr. Narendra Patel

Sizemore Group provided strategic analysis of data, developed the space needs assessment and provided overall management and documentation.

### **GOALS**

By way of background, the premises and goals of the 2004 Master Plan and the 2010 update were revised as noted below.

- *The entering freshmen will have an SAT score of 900 and a High School GPA of 2.25.*
- *The retention from freshmen to sophomore will shift from the current ratio of 61% to 70% by 2018.*
- *All freshmen and sophomores are required to live on campus.*
- *The distribution of undergraduate to graduate will range from 75:25 to 80:20.*
- *The future number of faculty and staff will reflect current ratio to student.*
- *The classroom space utilization target for this model is based on an average of 30 hours per week being used for instruction.*

The Goals established in the 2004 Master Plan remain mostly unchanged. The new Goals are:

#### **FORM**

*Freshman and sophomores will live on campus.  
Provide a safe environment.  
Provide an attractive image.  
Identify opportunities for developing a contiguous campus boundary.*

#### **FUNCTION**

*Focus and center attention on the needs of the students.  
Support quality of education in the programs determined by the strategic plan.  
Keep ratio of undergrad/grad students  
Attract non-traditional students (older).  
Establish collaborations with local businesses and community.*

*Grow the Centers of Excellence.  
Provide flexible and adaptable environments*

**ECONOMY**

*Identify opportunities for collaborations and sharing of resources.  
Develop opportunity that secures the expense side of the  
university's ledger.*

*Identify opportunities to increase the revenue side of the  
university's ledger.*

*Focus on Sustainable initiatives as they yield environmental,  
behavioral, economical, and operational benefits.*

**TIME**

*Plan for two phasing increments: **4300** HC students by 2018 and  
**5000** HC students beyond.*

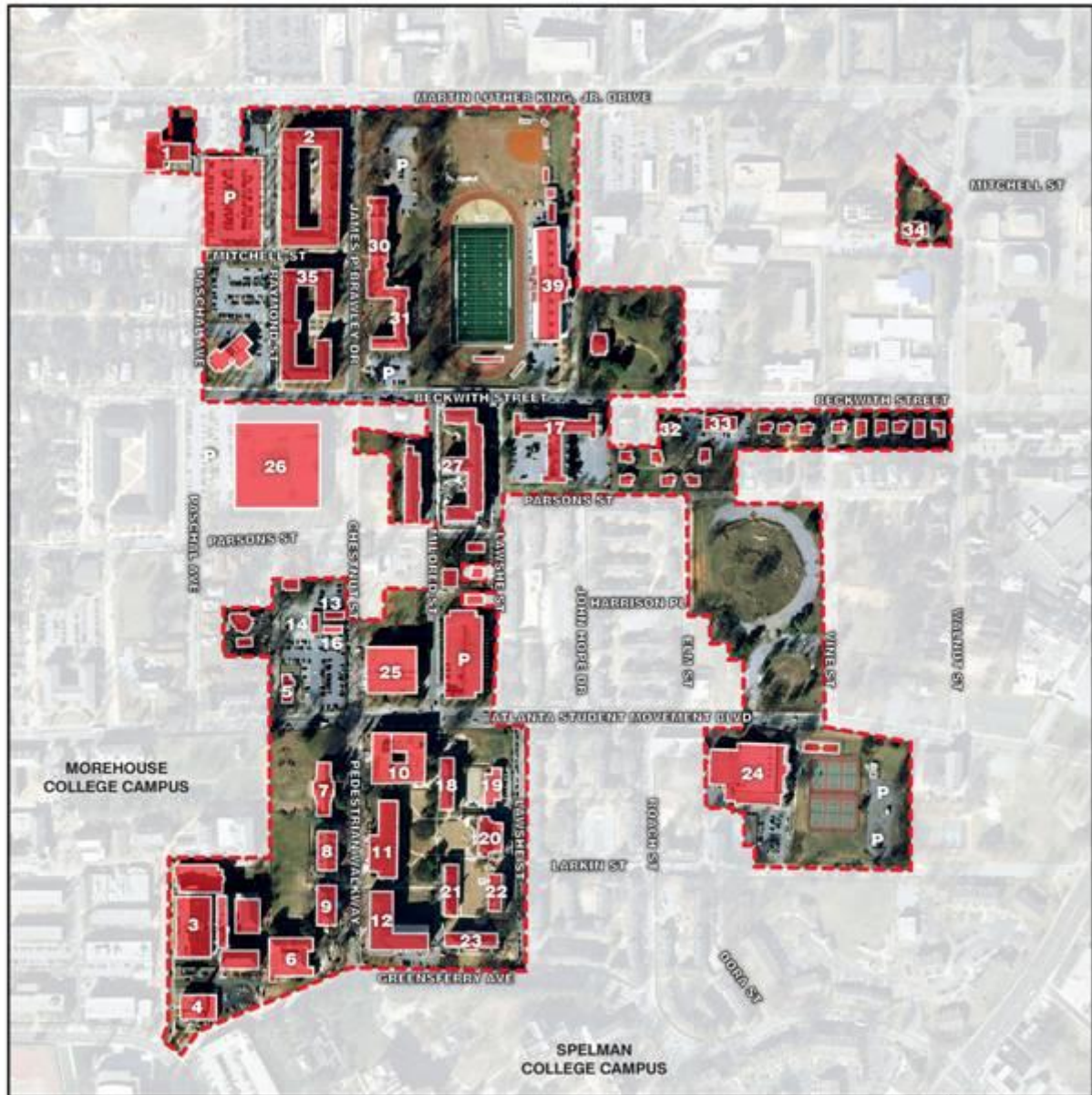
**FACTS**

As part of the initial review, certain key factors were updated to reflect the 2009-10 conditions. In general, the institution occupies approximately 126 acres just west of Downtown Atlanta and within the boundaries of the Atlanta University Center. This consortium includes other institutions such as Morehouse College, Morehouse School of Medicine, Spelman College, and Interdenominational Theological Center. Several of these institutions share a key resource, the Woodruff Library. CAU's profile includes:

3,400 +/- HC students (2946 FTE)  
654 HC faculty and staff (600 FTE)  
2,127 beds (1417 occupied) - two facilities are off  
line  
40 +/- buildings  
1,500,000 gross square feet

Following is a map of current conditions.

## CLARK ATLANTA UNIVERSITY CAMPUS MAP



SCALE: 1" = 100'-0"

### BUILDING LEGEND

- |                                |   |                                       |                                    |
|--------------------------------|---|---------------------------------------|------------------------------------|
| 1 Paschal Center               | 11 Haven-Warren Hall                    | 21 Memer Hall                         | 33 Knowles Hall                    |
| 2 Heritage Commons             | 12 Ware Academic Center                 | 22 Kresge Hall                        | 34 Oglethorpe Hall                 |
| 3 Thomas Cole Research Center  | 13 Career Planning & Placement Ctr      | 23 Holmes Hall                        | 35 Brawley Hall                    |
| 4 Sage-Bacote Hall             | 14 Undergraduate Academic Services      | 24 Vivian Wilson Henderson Center     | 37 Annex H                         |
| 5 Albert H. Watts Alumni House | 15 Faculty & Staff Parking              | 25 Cornelius Henderson Student Center | 38 Park Street Music & Art Complex |
| 6 Trevor Arnett Hall           | 16 Title III                            | 26 Robert W. Woodruff Library         | 39 Clark Atlanta Stadium           |
| 7 Harkness Hall                | 17 CAU Suites / Student Health Services | 27 CAU Suites                         |                                    |
| 8 Wright Young Hall            | 18 Pfeiffer Hall                        | 30 Ware Hall                          |                                    |
| 9 Clement Hall                 | 19 Tanner-Turner Building               | 31 Burnstead Hall                     |                                    |
| 10 McPheeters-Dennis Hall      | 20 Thayer Hall                          | 32 Beckwith Hall                      |                                    |

Renovations recently Completed:

*Instructional:*

- Thayer Hall
- Clement Hall
- Wright Young Hall
- McPheeters-Dennis Hall - PARTIAL

*Residential:*

- Merner Hall
- Pfieffer Hall
- Holmes Hall

*Facilities:*

- Central Plant

**NEEDS Population**

The current and projected population growth is as follows:

STUDENT PROJECTION	Fall 2012 Existing	2018		Beyond	
			% Growth		% Growth
Head Count	3,419	4,300	25.8%	5,000	16.3%
FTE	2,946	3,705	25.8%	4,308	16.3%
% HC/EFT	86.2%	86.2%		86.2%	
WSCH Classroom	43,050	54,143	25.8%	62,957	16.3%
WSCH Laboratory	5,500	6,917	25.8%	8,043	16.3%

FACULTY PROJECTION	2012	2018	Beyond
Full-Time Faculty	170	214	249
Part-Time Faculty*	75	94	110
Temporary	0	0	0
<b>TOTAL FACULTY FTE</b>	<b>208</b>	<b>261</b>	<b>303</b>
<b>TOTAL FACULTY HC</b>	<b>245</b>	<b>308</b>	<b>358</b>
STAFF PROJECTION	2012	2018	Beyond
Full-Time Staff	360	453	526
Part-Time Staff*	33	42	48
Contract	16	20	23
<b>TOTAL STAFF FTE</b>	<b>393</b>	<b>494</b>	<b>574</b>
<b>TOTAL STAFF HC</b>	<b>409</b>	<b>514</b>	<b>598</b>
FACULTY & STAFF TOTALS	2012	2018	Beyond
<b>TOTAL FTE</b>	<b>600</b>	<b>755</b>	<b>877</b>
<b>TOTAL HC</b>	<b>654</b>	<b>823</b>	<b>956</b>



### **Methodology**

As with the 2004 Master Plan, the team used the Council of Educational Facility Planners International (CEFPI) guidelines to measure space use. These were first published in 1985. This is a nationally-recognized method that establishes need using the following factors:

- Student enrollment, faculty, staff and weekly student contact hours (WSCH) projections.

The analysis of space need is done on a per-function basis (Using the Federal Room Use Code). This covers classrooms, labs, offices, library, etc. spaces, and provides a quantitative analysis of the need, assuming all existing space is up to reasonable industry standards.

### **Technology**

These guidelines allow for calibration that reflects the use of technology. This calibration is in the space factors used or can be incorporated by way of annotating specific policies of the institution.

### **Library**

The Robert W. Woodruff Library constructed in 1982, is designed to serve the instructional, informational and research needs of member institutions in the **Atlanta University Center Consortium (AUCC)** the only Historically Black Consortium of private colleges and universities in the nation. It should be noted that **library / study** space was not included in this analysis as the library facility is shared with others.

### **Space**

The space needs generated by these projections are illustrated below on a per function basis. The items in RED illustrate a deficiency. It should be noted this is purely a QUANTITATIVE analysis. These findings were further refined based on a QUALITATIVE assessment of the condition of the facilities.

### **100 - Classroom**

The amount of space needed for classroom is calculated by multiplying the Weekly Student Contact Hours for classroom times a space factor. The space factor considers the average number of hours a week that classrooms are used, an average occupancy of seats and size of seat. The space factor includes configurations that optimize the use of technology. Note this assume ON SITE activity only.

100 CLASSROOM SPACE		25.8% Growth		Phase 1					
		16.3% Growth		Phase 2					
Period	Factor ASF/WSC	TOTAL WSCH	Total Off-Site WSCH	Total WSCH	TOTAL ASF	Existing ASF	Surplus / Deficit		
FALL 2012	1.03	43,050	0%	43,050	44,342	76,666	32,325		
4300	1.03	54,143	0%	54,143	55,767	76,666	20,899		
5000	1.03	62,957	0%	62,957	64,846	76,666	11,820		

### 200 - Laboratories

The guidelines set by CEFPI outline a range of space and utilization factors based on the nature of the academic program. CAU's laboratory space ranges between biological and dance labs. Based on this, a space factor of 6 was established.

Space Adjustment - One significant space adjustment was made, not related to renovation but rather to space use: the amount of "instructional lab" was greatly decreased as it was confirmed that the lab space in the Research Center for Science and Technology is hardly available for instructional purposes.

#### 200 LABORATORY SPACE

Period	Space Factor ASF/WSCH	WSCH	TOTAL ASF	Existing ASF	Surplus / Deficit
FALL 2012	6.09	5,500	33,495	43,934	10,439
4300	6.09	6,917	42,126	43,934	1,808
5000 (5.71)	6.09	8,043	48,984	43,934	-5,050

### 300 - Office

The CEFPI Guidelines calculates office space based on the existing and projected staff and applying to a detailed breakdown by personnel type or an average square foot per person of 155 sf for office and 10 sf per person for office support. For this study, the average was chosen as the unit of measurement.

300 OFFICE SPACE							
	FTE	Office 155 ASF/FTE	Office Support 10 ASF/FTE	TOTAL BASE AREA	Existing ASF		Surplus / Deficit
Period							
FALL 2012	600	93,000	6,000	99,000	160,982		61,982
4300	755	116,964	7,546	124,510	160,982		36,472
5000	877	136,005	8,774	144,779	160,982		16,203

**400 - Library**

**Library / study** space was not included in the calculation as the university shares the use of the Woodruff Library with other members of the AUC Consortium. As part of the agreement CAU allocates resources that support the operation of the library.

**500 - Special Use Athletic or Physical Education**

CEFPI Guidelines address indoor recreational, physical education, and athletic spaces under the 520 category. The Guidelines provide a minimum core space regardless of the size of the campus. The following estimates for building-related recreational space take into account the core requirement of 20,000 ASF plus the number of students above the core of 1,000 students by 5 ASF.

BUILDING-RELATED ATHLETIC/P.E. SPACE									
	Base Area ASF	# of FTE over 1,000	1,000 x 5 ASF	Spectator Seating	BASE AREA	Existing ASF*		Surplus / Deficit	
Period									
FALL 2012	20,000	1,946	9,730	2,500	32,230	17,967		-14,263	
4300	20,000	2,705	13,526	2,500	36,026	17,967		-18,059	
5000	20,000	3,308	16,541	2,500	39,041	17,967		-21,074	

\* Existing ASF = Sum of all spaces under 515,520, 523+ 525 incl. spectator seating  
 \*\* Base Area = Base ASF + ASF for students above 5,000 EFT + spectator seating (not incl. In CEFPI calc - existing a

**Media**

CEFPI recommends a core space of 9,800 ASF for a base count of 4,000 FTE students.

530/535 AUDIO/VISUAL SPACE						
	Base Area ASF	# of FTE over 4,000*	TOTAL SPACE	Existing ASF		Surplus / Deficit
Period						
FALL 2012	9,800	(359)	9,441	1,000		-8,441
4300	9,800	476	10,276	1,000		-9,276
5000	9,800	1,139	10,939	1,000		-9,939

**Greenhouse**

The CEFPI guidelines allow 3 ASF per total FTE for the base number in this category. (An additional 25 ASF per

FTE within selected disciplines may be added if necessary.)

580 GREENHOUSE SPACE						
LOW PRIORITY for CAU						
Period	FTE Students	ASF/FTE Student	SPACE NEEDS	Existing ASF		Surplus / Deficit
FALL 2012	2,946	3.00	8,838	1,200		-7,638
4300	3,705	3.00	11,115	1,200		-9,915
5000	4,308	3.00	12,925	1,200		-11,725

**600 - General Use Assembly Exhibition (610 - 625)**

CEFPI allows an “enhanced core” space of 16,000 ASF for a college of 5,000 or less FTE. An additional 6,450 ASF can be added once college reaches 5,000 FTE. The formula allows for 5 ASF per FTE over 5000.

610/620 ASSEMBLY/EXHIBITION SPACE						
Period	Base Area ASF	over 5,000 @6	SPACE NEEDS	Existing ASF		Surplus / Deficit
FALL 2012	16,000	(12,324)	16,000	34,236		18,236
4300	16,000	(7,769)	16,000	34,236		18,236
5000	16,000	(4,150)	16,000	34,236		18,236

**Food Service (630, 635)**

CEFPI provides a guideline that takes into consideration serving and food preparation and allows for calibration of the seating based on the amount of population served, the turn over rate per meal and the seating type.

Student on Plan	Student off Plan	Faculty and Staff	TOTAL	Turn Over Rate
0.5	0.1	0.05		0.25
1473	295	30	1798	449
1853	371	38	2261	565
2154	431	44	2629	657

630/635 FOOD SPACE						
Period	Seating /Serving	Preparation	SPACE NEEDS	Existing ASF		Surplus / Deficit
FALL 2012	9,887	3,955	13,842	17,620		3,778
4300	12,434	4,974	17,408	17,620		212
5000	14,459	5,783	20,242	17,620		-2,622

**Lounge, Merchandising, Student Services - SUMMARY**

The chart below summarizes the COMBINED need for lounge and merchandising plus student services. Below it is the detailed breakdown for each.

SUMMARY OF LOUNGE & STUDENT SERVICES SPACE						
Period	Base Area of Lounge & Merchandi	Base Area of Student Services ASF	TOTAL BASE AREA ASF	Existing ASF		Surplus / Deficit
FALL 2012	3,546	26,514	30,060	31,901		1,841
4300	4,460	33,346	37,806	31,901		-5,905
5000	5,186	38,774	43,960	31,901		-12,059

**Lounge and Merchandising (650/660)**

According to CEFPI the Lounge and Merchandising space is calculated by adding the total number of classroom and laboratory student stations with the total employees and multiplying by one assignable square feet

LOUNGE & MERCHANDISING SPACE						
Period	Total # of Student Stations	Total Non-Dept Staff @ 1 ASF	BASE AREA ASF	Existing ASF		Surplus / Deficit
FALL 2012	2,946	600	3,546	25,345		21,799
4300	3,705	755	4,460	25,345		20,885
5000	4,308	877	5,186	25,345		20,159

**Student Services (670-690)**

According to CEFPI this category includes recreational rooms (670), meeting rooms (680), and locker areas (690) that are located in a student union facility.

STUDENT SERVICES SPACE						
Period	Student Enrollment	BASE AREA	Existing ASF			Surplus / Deficit
FALL 2012	2,946	26,514	6,556			-19,958
4300	3,705	33,346	6,556			-26,790
5000	4,308	38,774	6,556			-32,218

**DATA PROCESSING (710)**

CEFPI recommends a core space of 4,500 sq ft for campuses up to 5,000 FTE students.

710 DATA PROCESSING SPACE							
Period	Enrollment FTE	BASE AREA	FTE over 5,000 @	BASE AREA	Existing ASF	Surplus / Deficit	
FALL 2012	2,946	4,500	-5,135	(635)	1,451	2,086	
4300	3,705	4,500	-3,237	1,263	1,451	188	
5000	4,308	4,500	-1,729	2,771	1,451	-1,320	

**Shop and Storage Space (720)**

CEFPI develops shops and storage as a percentage of all other spaces to be maintained. The formula includes the total of room types 100 through 715, plus 800's and 900's, times eight percent, to arrive at an assignable square footage for shops and storage. Depending on the university's long term policy regarding hard copy versus electronic storage, this guideline may be decreased.

720/730/740 SHOP & STORAGE SPACE					
Period	Existing ASF (Excl 720)	BASE AREA 8% ASF	Existing ASF	Surplus / Deficit	
FALL 2012	761,241	60,899	31,081	-29,818	
4300	761,241	60,899	31,081	-29,818	
5000	761,241	60,899	31,081	-29,818	

**Residential Space (900)**

CAU currently has the following residential halls available for occupancy. In summary, using only those facilities that are currently open, the institution has capacity to accommodate another 710 students.

Hall	Total Occupancy	Total Capacity	% Occupied
Beckwith	102	285	36%
Heritage	263	456	58%
Holmes	69	112	62%
Merner	80	112	71%
Pfeiffer	58	118	49%
New Brawley	434	466	93%
CAU Suites	411	578	71%
<b>Total Active</b>	<b>1,417</b>	<b>2,127</b>	<b>67%</b>
<b>OFF LINE</b>			
Bumstead		148	0%
Ware		162	0%

Projecting into the future, assuming the same ratio of students are housed on campus in the same type of units, the projected number of beds needed is shown below. In essence, no beds need to be added, however, the university will be at full capacity.

This assessment could change should the university decide to either change the ratio of students enrolled to those housed on campus OR change the mix of housing types they offer.

**900 RESIDENTIAL SPACE**

Students Enrolled	% Housed	Total Occupancy	Total Capacity	% Occupied
3,419	41.44%	1,417	2,127	67%
4,300	41.86%	1,800	2,127	85%
5,000	41.00%	2,050	2,127	96%

### **Parking**

Currently the university has approximately 1400 parking spaces on campus and has access to an additional (approximately) 700 spaces on street. No need for additional on campus parking is anticipated in the foreseeable future.

### **Infrastructure**

As part of the projects CAU implemented in the last eight years, the most significant infrastructure project was the renovation of the Central Plant. This included replacing all the equipment and provided a new distribution system. It has enabled CAU to realize energy efficiencies and to increase the building area served. The current set up, shared with Spelman College and Morehouse College is nearing its capacity. Therefore, one strategic decision that remains to be made is whether the university will continue to grow the concept of central plant (s).

### **Site Improvements**

The university will continue to monitor and prioritize the need to implement site improvements such as repair of existing walks, parking, additional signage, hardscape, landscape and the addition of new gateways or entrances.

The quantitative analysis indicated that the following Academic and Support Spaces are below standard. This list is ranked by priority:

- Student Services
- Audiovisual
- Data
- Athletic / PE / Recreation
- Greenhouse
- Support – shop, storage

A further analysis of the data was done to reflect the fact that a few facilities, as a whole, do not meet reasonable building condition (quality of space) standards. When that space is taken 'off' line and is not available, the total need increases as follows:

- **Park Street Church** – Total of 17,600 ASF:  
2,000 in classroom, 6,000 in lab, 3,000 in office, 6,000 in assembly and exhibition

CAU may address this need by either renovating the existing or building a new facility to house the programs in it plus Mass Media (currently in Woodruff Library). If new



construction is elected, the university will then determine what is the best disposition for Park Street Church.

- **Henderson Gym** – Total of 35,000 ASF:  
3,600 in classroom, 900 in lab, 4,000 in office, 18,000 in athletic/rec, 4,000 in student areas, 4,000 in support

OTHER MINOR CAPITAL PRIORITIES:

Kresge Hall - 19,312 GSF

Knowles Hall - 10,312 GSF

Faculty Row Housing - 17 units at approximately 1100 GSF /ea.

Harkness Hall - 23,216 GSF

Beckwith Residence Hall 65,447 GSF

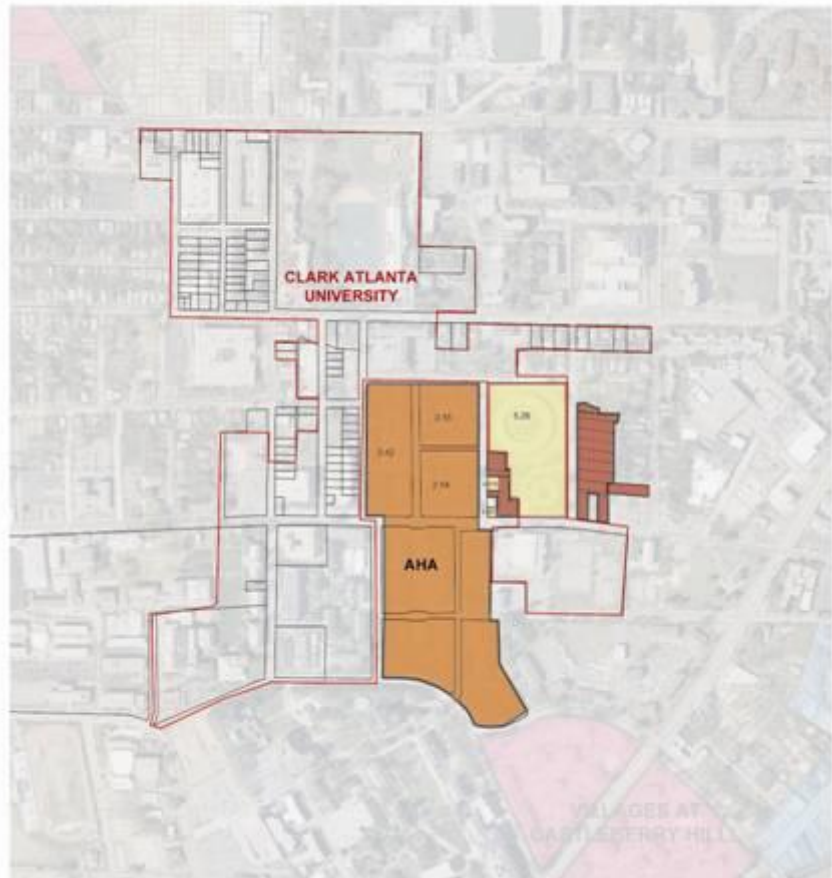
Panther Stadium - 29,551 GSF

Bumstead / Ware Residence Hall - 93,150 GSF

## PHYSICAL PLAN

Several strategic options were discussed, specifically:

1. Renovate Existing Facilities
2. New Construction on Current Property
3. Acquisition and Disposition



### Recommendations / Next Steps

- Finalize Capital Priorities
- Consider a more detailed update of individual components of the original master plan: FCA, Space Inventory, Site Inventory

## APPENDIX CEFPI

Sample reference of the CEFPI formulas used to measure space needs.



### Classroom Space Factors

Seminar:

$$30 \text{ ASF}/(30 \text{ hrs.} \times 62.5\% \text{ occupancy}) = 1.6$$

Classroom:

$$25 \text{ ASF}/(30 \text{ hrs.} \times 62.5\% \text{ occupancy}) = 1.33$$

Lecture:

$$15 \text{ ASF}/(30 \text{ hrs.} \times 65\% \text{ occupancy}) = 0.769$$



### Instructional Laboratory Space Factors

Biological Sciences:

$$50 \text{ to } 65 \text{ ASF}/(22 \text{ hrs.} \times 80\% \text{ occupancy}) = 2.8 \text{ to } 3.7$$

Education:

$$35 \text{ to } 40 \text{ ASF}/(22 \text{ hrs.} \times 80\% \text{ occupancy}) = 1.98 \text{ to } 2.27$$

Dance:

$$100 \text{ to } 150 \text{ ASF}/(22 \text{ hrs.} \times 80\% \text{ occupancy}) = 5.68 \text{ to } 8.5$$

Resources related to (3.11.1) - The institution exercises appropriate control over all its physical resources.

- a. Internal Audit and Risk Management Reports - Office of Finance and Business
- b. Management Letters - OPAR
- c. Documentation of regular physical inventory (this may be a part of the main document) - See space inventory in this document.
- d. Policies related to purchasing, including recording, tracking and disposal of assets - Office of Finance and Business
- e. Links to planning and control documents - OPAR

Resources related to 3.11. 2 - The institution takes reasonable steps to provide a healthy, safe and secure environment for all members of the campus community.

- f. Evidence institutional staff can carry out the safety, security and health plans of the institution. - FEMA training certification and related information available from Public Safety
- g. Current safety, emergency, disaster plan - Office of Compliance
- h. Emergency procedures - Office of Compliance
- i. Inspection reports (Health, safety, etc.) - Office of Compliance
- j. Evacuation plans - Faculty / Staff Policy Handbook
- k. Evidence of Compliance with environmental and occupational regulations - - Office of Compliance
- l. Policies and training regarding harassment, hazardous materials, etc. - Office of Compliance

Resources related to 3.11.3 - The institution operates and maintains physical facilities, both on and off campus, that appropriately serve the needs of the institution's educational programs, support services, and other mission related activities.

- m. Plan for routine preventative and deferred maintenance - see enclosed methodology
- n. Facilities satisfaction survey - Available from DTZ
- o. Most recent capital budget - Available from Facilities
- p. Evidence that institution has facilities that adequately support the mission of the institution - See content of this master plan update.
- q. Video or walking tour of the institution's facilities
- r. Facilities master plan including campus map - See content of master plan update.

**Plan for Routine Preventative Maintenance of CAU Facility Assets:**

DTZ’s approach to establishing day-to-day operations for the CAU site is a two-fold approach. We established initial maintenance program efforts on industry standard preventive maintenance (PM) efforts largely based on manufacturers recommended PM requirements. The majority of operations and maintenance (O&M) program effectiveness are judged by the quality of their PM efforts as identified by the condition of their equipment and the thoroughness of their PM Work Plans. PM program efforts are based on the assumption of a cause-and-effect relationship between scheduled maintenance and systems or equipment reliability. The assumptions are, since all equipment and their parts age and wear-out, the reliability of the equipment is related to operating age. Hence, the frequency of equipment attention in the form of overhaul, component replacement, and calibration efforts would help reduce the likelihood of failure. The only problem is determining the point in the equipment’s lifecycle when these efforts assure reliable operation and potentially extend the equipment’s lifecycle.

During the equipment’s warranty period, steps are performed based on manufacturer’s recommendations to ensure the equipment stays under warranty. The program DTZ is transitioning to is one based on Reliability-Centered Maintenance (RCM) concepts which utilizes an optimum mix of reactive, time- or interval-based, condition-based, and proactive maintenance practices. The strategy is to establish a percentage of effort towards each of the maintenance practices to ensure the most fiduciary expenditure of resources (labor and material) while minimizing the effect of downtime to the operational mission of the facility. The difficulty in establishing the RCM concept is determining and justifying the expenditures for some of the PdM and Condition Based Maintenance (CbM) processes and selling the concept that some of the equipment should be allowed to “run to fail.” The basic application of each strategy is shown in Fig. 1.

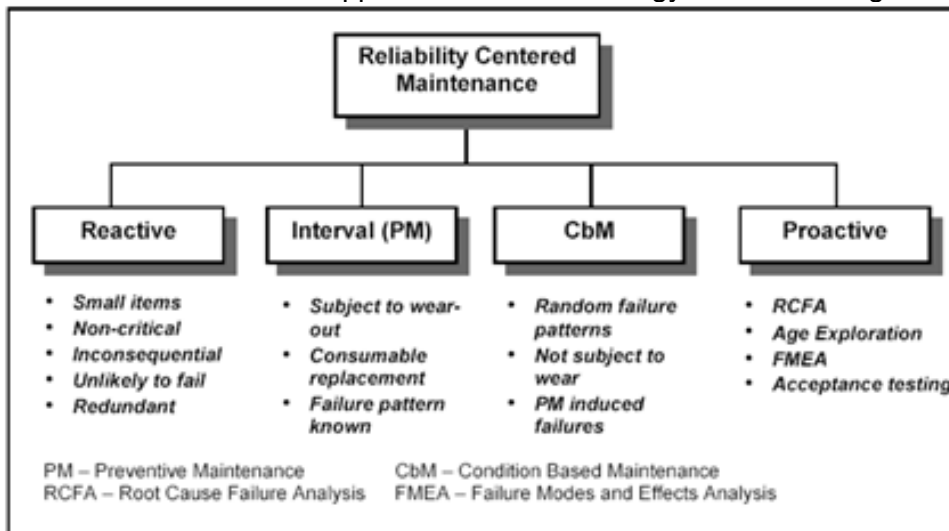


Fig. 1. Components of a RCM Program.

PM programs, as stated earlier, assume failure of equipment or components can be determined statistically and efforts can be accomplished “just-in-time” to prevent failure. Examples are replacement of filters on an air handler unit or changing oil on a compressor on a timed basis. PM efforts are still the prevalent program in most facilities

management organizations, but not with DTZ. We will utilize the building management systems (BMS) installed throughout the CAU complex to data mine, allowing for the identification of precursors of failure and equipment operating conditions with a higher reliability allowing maintenance personnel to schedule appropriate repairs in a more timely manner than possible with traditional PM programs. Other predictive efforts (PdM) recommended will be rounds (nothing beats the eyes and ears of a seasoned maintenance mechanic), and as financially justified ultrasonic, thermographic analysis, etc., to provide cost effective methods for PdM programs and ensuring uptime of systems.

The final, and sometimes least understood component of a RCM program is “run-to-failure.” In systems or components where no failure consequences in terms of mission, environmental impact, safety, security, or lifecycle cost exist, maintenance should simply not be performed.

The first key to a successful O&M program is an equipment inventory, which DTZ is continuously updating. The next key component is to base proactive efforts on Priority Levels. The groundwork for this level is based first on the code “shalls”, then “should”, then all others based on the defined / applied priority levels.

#### **Plan for Addressing Capital Renewal / Deferred Capital Renewal / Plant Adaptation of CAU Facility Assets:**

DTZ supports the Clark Atlanta’s capital and deferred renewal maintenance efforts through the execution of an on-going Facility Condition Analysis macro version. The Facility Condition Assessment (FCA) is a thorough analysis of each campus facility. As the properties are inspected DTZ identifies short term (immediate to three years) and longer term (four to ten years) Capital Renewal, Deferred Capital Renewal, and Facility Adaptation projects. The focus of the inspection determines what needs to be renewed, repaired, or altered. DTZs focus with our FCA efforts is to provide you with a complete, detailed plan of action for renewing CAUs physical plant. It identifies and addresses code upgrade issues and facility use changes, along with the more mundane life cycle renewal needs. A complete Life Cycle Model (LCM) can be provided for each building but is outside the scope of the basic FCA. This FCA effort is based on actual conditions at each individual facility and allows for detailed customization based on the local environment.

The following 10 systems/components are evaluated:

- Accessibility (ADA)
- Electrical Systems
- Exterior Structure/Roof Systems
- Fire/Life Safety
- Health/Food Service/Hazardous Materials
- Heating, Ventilating, and Air Conditioning Systems
- Interior/Finish Systems
- Plumbing Systems
- Site-immediately surrounding the building
- Vertical Transportation (elevators, chair lifts)

The project Category Codes are broken down as follows:

**Example: Category Code = EL5A where:**

- **EL = System Description**
- **5 = Component Description**
- **A = Element Description**

Each deficiency identified as a project will fall within one of these types of systems. In addition, each project will be given a classification and a priority class.

The project classifications are:

- Capital Renewal – Major repairs or the replacement/rebuilding of major facility components (e.g. roof replacement at the end of its normal useful life is capital repair; roof replacement several years after its normal useful life is deferred renewal.)
- Deferred Capital Renewal – Major overhaul, repairs, or replacement of systems or components not accomplished as a part of normal maintenance or capital repair that have accumulated to the point facility deterioration has or soon will impair the proper functioning of the facility.
- Plant Adaptation– Work required to adapt the facility to the evolving needs of the institution and/or to changing standards. These are expenses in addition to normal maintenance. Examples include improvements due to adoption of modern technology and compliance with changing building, life safety, or accessibility codes.

DTZ recommends and will identify proposed projects using one of the following five priority classifications:

- Priority 1: currently critical (year 1)
- Priority 2: potentially critical (year 2)
- Priority 3: necessary, not yet critical (years 3 – 5)
- Priority 4: recommended (years 6 – 10)
- Priority 5: does not meet current codes/standards, but is exempt because it met the codes at the time of construction. If substantial work is undertaken, some existing conditions may need to be corrected.

Based on a visual inspection (non-destructive in nature), repair costs are developed for each deficiency. The cost of replacing each facility will also be estimated based on the cost to demolish, prepare the site for construction, and reconstruct a similar facility under today's standards, without Architectural embellishment. We will utilize RS Means <sup>3</sup>/<sub>4</sub> Costs for facility types as our baseline, localized for the Atlanta market. This established a Facility Replacement Cost to be utilized for the FCNI calculation.

Using this data, a Facility Condition Needs Index (FCNI) can be computed.

FCNI = Deferred Maintenance + Capital Renewal + Plant Adaption / Facility Replacement Cost

The index, which can also be calculated for groups of buildings or the entire campus, will allow for relative comparisons of conditions between different buildings or groups. The index provides the following scale for understanding a buildings needs:

