

BOWIE STATE UNIVERSITY FACILITIES MASTER PLAN 2020-2030

JANUARY 2021



BOWIE STATE UNIVERSITY

University System of Maryland Board of Regents

Linda R. Gooden, Chair
Barry P. Gossett, Vice-Chair
Gary L. Attman, Treasurer
Michelle A. Gourdine, M.D., Secretary
William T. Wood, Assistant Treasurer
Robert D. Rauch, Assistant Secretary
Joseph Bartenfelder ex officio
Ellen Fish
Geoff J. Gonella
James Holzapfel
D'Ana Johnson
Isiah Leggett
Sam Malhotra
Meredith M. Mears
Robert R. Neall
Louis Pope
Kelly M. Schulz, ex officio
Aaliyah Edwards, Student Regent

Bowie State University Administration

Dr. Aminta H. Breaux, President
Dr. Carl Goodman, Provost and Vice President for Academic Affairs
Karen Johnson Shaheed, Esq., Executive Vice President and General Counsel
Kimetta Hairston, Special Assistant to the President for Strategic Engagement
Anthony P. Savia, Vice President for Administration and Finance
Dr. Brian O. Clemmons, Vice President for Enrollment Management
Marivic Weiss, Interim Vice President for Information Technology
Brent Swinton, Vice President for Institutional Advancement
Dr. Demetrius Johnson, Vice President for Student Affairs
Clyde Doughty, Jr., Vice President for Intercollegiate Athletics and Recreation
Cassandra Robinson, Director of University Relations and Marketing

HORD COPLAN MACHT, INC. - ARCHITECTURE, CAMPUS PLANNING

Consultants:

Facilities Planning Associates – Facilities Planning
Carroll Engineering, Inc. – Civil Engineering
Gipe Associates, Inc. – Mechanical Electrical Engineering
speXsys, Inc. – Special Systems Consulting

TABLE OF CONTENTS

INTRODUCTION & ACKNOWLEDGEMENTS	i
EXECUTIVE SUMMARY	1
CHAPTER 1 OVERVIEW OF THE UNIVERSITY	29
Facilities Master Plan Context	
Bowie State University	
Strategic Context	
- Vision	
- Mission	
- Institutional Goals	
- Core Values	
History and Uniqueness	
Strategic Plan-Racing to Excellence	
Learning Experience-Liberal Arts/STEM/Enterprise Entrepreneurship Education	
Academic Programs	
Learning Initiatives-Special Programs Across Disciplines	
Academic Accreditation	
Governance Structure	
Faculty and Staff	
Enrollment	
Facilities	
Transitional Statement	
CHAPTER 2 NEEDS ANALYSIS	63
Needs Context	
Quantitative Analysis (Space)	
Qualitative Analysis (Programs)	
Needs Analysis Conclusion	
CHAPTER 3 THE CAMPUS TODAY	99
Buildings and Their Development	
Site Infrastructure	
MEP Systems	
Technology	
Sustainability	
Site Analysis	
CHAPTER 4 PROPOSED CAMPUS DEVELOPMENT	207
Proposed Capital Projects	
Site Infrastructure	
MEP Systems	
Technology	
Sustainability	
Design Guidelines	
General Campus and Site Recommendations	
Campus Development and Implementation	
APPENDIX	
Bowie State University Post-Pandemic Scenario Planning Study	

INTRODUCTION

This Facilities Master Plan (FMP) establishes a framework for re-imagining the campus, physical growth, and change that can be anticipated for Bowie State University. Examining current and future facilities needs and informed by enrollment projections, it establishes space needs by discipline. Capital projects are identified as “Projects to Meet Critical Needs” (generally 1-10 years) and “Other Projects” (generally 10+ years or sooner if needed or expedient). Some may be undertaken as funds become available and as influenced by Board of Regents policy. For each major project that proceeds, the master plan will need to be followed by programming, design, and construction, unless programming or design have been undertaken already. The master plan does not attempt to design projects, but it does provide a site development plan for the Bowie campus, identifying locations and establishing relationships of major components.

The FMP should be regarded as a working document, which will need to be periodically reviewed and updated; it is recommended that the update should occur by 2025. An early event such as availability of funding for a major project, may suggest an earlier update. As a 10-year master plan, the space needs are projected 10 years from the most recent Fall semester for which data is available, which is 2019. The nominal planning horizon used in this report is 2029, 10 years from that Fall semester. Acknowledging realities and impacts of the Coronavirus, additional recommendations relative to reviews and updates to the FMP are included in the Executive Summary and in Chapter 4 Proposed Campus Development.

This report is both a master plan and facilities assessment. The facilities assessment component provides a current inventory and evaluation for the site infrastructure, buildings, and building systems for the Bowie State University campus. This provides the foundation for the evaluation, both quantitatively and qualitatively, of the facilities and for recommendations for improvements to the site and buildings.

Because of inevitable unforeseen changes in programs, priorities, policies, and funding, this FMP should be viewed as a fluid document that is a conceptual tool and guide for making decisions regarding BSU’s physical resources. This document integrates academic and physical planning on a

campus-wide basis; as facility and site development needs change or are newly identified, they must be incorporated into subsequent plan updates.

The planning process for development of this Facilities Master Plan, based first on precepts established by the Bowie State University Strategic Plan Racing to Excellence, results in a long-range planning document that addresses a broad range of subjects:

- Application of the University’s vision, mission, and academic program emphases to the master plan.
- Needs of the students in terms of their choices of academic programs and degrees, and support for their experience at the University.
- Academic programs and the facilities needed to accommodate those programs.
- Enrollment projections.
- Inventory of existing facilities and patterns of physical development.
- Identification of projects that are needed to support the programs, students, faculty and staff of the University for the next ten years.

The information contained in this FMP serves various purposes. It provides the University a documented reference that can be used to facilitate communication within the BSU community, the University System of Maryland, and with representatives of local and state review agencies. This document provides the rationale for physical improvement and serves as the basis for long-range capital development. Inventory and data describing the existing facilities are collected and presented. Alternative strategies to deliver improved educational facilities have been reviewed and distilled for incorporation into the projects and campus planning embodied in this document. Recommendations are provided for renovation, replacement, and/or new construction as necessary, and general priorities are suggested for the recommended facilities projects. The University will be able to use this document as it evaluates and updates its Capital Improvement Program. In brief, this report examines the inventory of existing facilities and physical resources, identifies current and future facility needs of the University, and then provides a framework for achieving the recommended upgraded and additional facilities. The following planning objectives support and frame recommendations described throughout the FMP.

PLANNING OBJECTIVES

- Provide settings to best fulfill the mission and vision of the University
- Support the University's Strategic Plan
- Make learning, visiting and working on campus a positive experience
- Provide settings to facilitate learning
- Respect the traditions of Bowie State University
- Provide for orderly growth and flexibility in future development
- Establish priorities and a general sequence of development of capital projects
- Reinforce and expand the University's sustainability goals
- Respect and safeguard the natural environment
- Mitigate and, where possible, eliminate pedestrian-vehicle conflicts
- Establish clear identity of the campus and building entrances
- Create memorable spaces
- Enhance accessibility
- Inform State and local agencies and governments and the University community of the salient aspects and needs of the University

THE PLANNING PROCESS

The Facilities Master Plan was developed beginning in October, 2019. Information gathering began with the University providing information on the facilities, institutional history, enrollment, programs and operations. Serving as the basis for current and future space needs, the enrollment and projected enrollment were established by the University, incorporating State (Maryland Office of Planning and Maryland Higher Education Commission) projections and planned program expansion. Using MHEC formulae, space needs were determined and allocated according to HEGIS code. Over forty interviews, focus groups, and workshops were conducted with students, staff, faculty, alumni, public and private sector individuals familiar with BSU, the University leadership, and the Steering Committee for the master plan.

Parallel to these efforts, the buildings were documented photographically and with floor plans of each existing building where plans were available. Relevant reports and publications provided by the University were examined and considered with the consultant team's more current evaluations. Site conditions were evaluated similarly. The consultants visited the campus on several occasions and

assessed the condition of all buildings and the site. Combining considerations of formula-driven space needs calculations, as well as qualitative factors, the consultant team and Steering Committee developed a list of recommended capital projects. Alternative site development plans were developed to accommodate the projects, including renovations, proposed new construction, and demolition where appropriate. A preferred plan was selected and refined, ultimately becoming the selected development plan for this report.

In November, 2020, BSU engaged Hord Coplan Macht to undertake a scenario planning study to explore the impact of the COVID-19 pandemic on the University, particularly regarding BSU's ability to make short term plans including the Spring 2021 semester and for the next 3-5 years afterwards. The Post-Pandemic Scenario Planning Study is included in an appendix at the end of this report. The thrust of the FMP as a long range (10-year) plan has not changed. As a study of a much shorter planning horizon, the pandemic study is regarded as short-term.

REPORTS AND DOCUMENTS PROVIDED BY BSU

The following building programs and site development, market and facilities assessment studies were provided by the University and were reviewed and by the Hord Coplan Macht team during development of the Facilities Master Plan report.

- West Campus Master Plan 2007 Kling Stubbins
- MARC Station Sector Plan Technical Assistance Panel Report 2011 Urban Land Institute
- Part 1 Programs 2016 Grimm + Parker, Facility Planning Associates
 - Facilities Maintenance and Procurement Facility
 - Thurgood Marshall Academic Commons
 - Public Safety and Communications Complex
 - Wellness Fitness Recreation Center
- Student Housing Market Due Diligence 2017 Anderson Strickler, LLC
- Facilities Assessment & Planning Analysis ppt 2019 Sightlines
- MARC Station Sector Plan Conceptual Plan for County Owned Land 2019 Margraves Strategies

ACKNOWLEDGEMENTS

Any project such as this requires a great deal of help from a large number of people. We conducted forty interviews with several members of the University community, including representatives of the administration, faculty, staff, students, BSU Alumni, City of Bowie, Prince Georges County / Maryland National Park and Planning Commission planners, and other planning consultants to the University. All had helpful opinions and information to share. The President of the University, Dr. Aminta Hawkins Breaux, provided the leadership and inspiration that ignited the imaginations of the University community and the consultant team. The members of the Facilities Master Plan Steering Committee have contributed their time, knowledge of the University, and thoughtful comments relative to the University's needs. A core group of BSU staff consisting of Anthony Savia, Vice President, Administration and Finance, Darryl Williford, Director, Facilities Management, John Hammond, Senior Project Manager and University Architect, Michael Harris, Capital Projects Manager, and Gayle Fink, Assistant Vice President for Institutional Effectiveness Office of Planning, Analysis, and Accountability, provided important data, timely decisions, and wise guidance to the benefit of the consultant team and to the betterment of the Facilities Master Plan. In particular, John Hammond, project manager for the Facilities Master Plan, served as the essential link between the University and the consultant team and shared strategic and critical insights throughout the process.

The University's Facilities Master Plan Committee consists of the following persons and groups:

MASTER PLAN STEERING COMMITTEE

Dr. Aminta Hawkins Breaux
Anthony Savia
Brent Swinton
Dr. Brian Clemmons
Dr. Carl Goodman
Cassandra Robinson
Clyde Doughty
John Hammond
Dr. Judith Kirkpatrick
Karen Johnson Shaheed
Marivic Weiss
Dr. Demetrius Johnson
Kimetta Hairston
Darryl Williford

CONSULTANT TEAM

The Consultant Team, led by Hord Coplan Macht, Inc., included the following firms and persons:

Hord Coplan Macht, Inc. Architects, Planners
Paul Lund
Bruce Manger
Matthew Fitzsimmons
Pejman Bahramipour
Facilities Planning Associates Facility Planner
Rich Watkins
Al Robinson
Carroll Engineering, Inc. Civil Engineers
David McMillion
Gipe Associates, Inc.
Mike Purtell
speXsys, Inc. Special Systems Consultant
Jeff Cohen

INTERVIEWS

The Consultant Team and John Hammond met with 41 organizations, groups, BSU departments, and individuals: It should be noted that, while a meeting with BSU Alumni/ae did not occur, several Alumni/ae were represented in other interviews. Interviews are listed in order of occurrence.

President Aminta Breaux
President's Cabinet
Enrollment Management
Capital Projects
Residence Life
Public Safety
Athletics and Recreation
Administration & Finance
Media Operations
Facilities Management
Budget
Staff Council
Planning & Analysis
Auxiliary Services
Academic Computing
Library
College of Education
BSU mechanical & electrical staff
BSU grounds
BSU planning

Student Organizations
Department of Information Technology
Registrar
Student Affairs
College of Professional Studies
University Relations
Students - Residential
Sororities and Fraternities
Traffic, Safety and Parking
Climate Change Coordinating Committee (C4)
Institutional Advancement
Facilities
Provost
City of Bowie
Arts & Sciences
Faculty Senate
School of Business
Graduate Studies
Margraves Strategies
Center for Entrepreneurship & Innovation
Maryland National Capital Park & Planning Commission

EXECUTIVE SUMMARY

INTRODUCTION

A DAY IN THE LIFE of Bowie State University in the year of this Facilities Master Plan (FMP) is extraordinarily different from any day in any other year of the University's existence. Acknowledging each FMP is unlike those preceding it, the confluence of development of this plan with events and circumstances of this year takes it out of the realm of simple uniqueness to degrees not experienced previously. This Plan at this time is pivotal.

During the development of the Plan, the University's leadership has been forced to let go of nearly all of its previous rules of operation in order to be able to establish a workable basis for learning. We are referring here to the impacts of the COVID-19 pandemic. While needing to focus on immediate preparations for and implementation of the Fall 2020 semester, the University's leadership has also made time to help form the direction of campus development as described in this plan. The FMP must look beyond the exigencies of the 2020-2021 school year to the 10-year planning horizon.

Three circumstances have come together during the development of this plan that shape in large part how it sets the course for the development of the BSU campus:

1. This is the first Facilities Master Plan to be undertaken during the term of Dr. Aminta Breaux, president of the university, and her cabinet. That new leadership is marked by new energy, dynamic thinking, and astute perspective of the needs and opportunities of the University. The importance of this plan under Dr. Breaux's leadership is not to be missed.
2. The COVID-19 virus has turned the historic ways Bowie State University and other institutions of higher education have conducted their business upside down. The University has been forced to

re-examine how it delivers the learning experience to its students, and the students have to make choices about adapting to very different modes of learning and living. Some of these changes will have a lasting mark; others will be more temporary. We need only to reflect on historic formulas of square feet per student, furniture configurations, and classroom sizes that won't be fitting in the short term and may even eventually become obsolete to begin to understand the pandemic impacts.

3. Importantly, our society appears to be embracing a long-overdue awareness of the value of the lives of our African American brothers and sisters. To be sure, there is a sea of challenges that will need to be navigated and overcome; that must happen and happen much sooner than later. More than ever, our Historically Black Colleges and Universities must play key roles in formulating and creating permanent and positive change. More than ever, Black Lives Matter. More than ever, HBCUs matter. More than ever, Bowie State University matters .

In the meantime, the goal stays in sight – the 10-year plan. Inherently, the FMP is long-range, shaped by both short and long term needs and precedents. The plan assumes that enrollment increases will occur, based on State projections; that the University will have returned to a more typical mix of face-to-face classes and remote learning, allowing for some growth of on-line classes; and that the demand for on-campus student housing will not have abated and the new units will be filled. Still, it will be necessary for the University to take stock of and measure changes in its enrollment, demand for programs, and changes to its fiscal condition as they all relate to this FMP. This evaluation should occur at least annually, in the Spring semester.

SNAPSHOT IN TIME

This Facilities Master Plan (the “Plan”) addresses the accomplishments, needs and aspirations of Bowie State University (BSU) at a time when the University is poised to continue its track towards first rate facilities, accommodating BSU’s program offerings and the aspirations of its students. The Plan acknowledges the fiscal realities of 2020 capital planning while keeping the needs of the institution as paramount, within the long range vision. The Plan embraces the University’s pride in its history, programs, and campus and lays out a roadmap for development which, if fully implemented, will provide the facilities necessary to satisfy the needs of a modern, comprehensive university.

Major drivers influencing this plan include the following:

- Academics
- Costs and Economics
- Quality of Life
- Legacy

Major considerations include the following:

- Institutional Mission, Vision, and Strategic Plan
- The student experience
- The campus environment

PURPOSE

The Plan was undertaken to establish a framework for the physical growth and change that can be anticipated for Bowie State University over the next ten years. It establishes projected enrollment growth and space needs. Several capital projects are identified and others are suggested. For each major project, the master plan will need to be followed by programming, design and construction. The master plan does not attempt to design projects but it does provide a campus development plan which suggests locations for specific projects and organizes them within the boundaries of the current campus and beyond.

METHODOLOGY

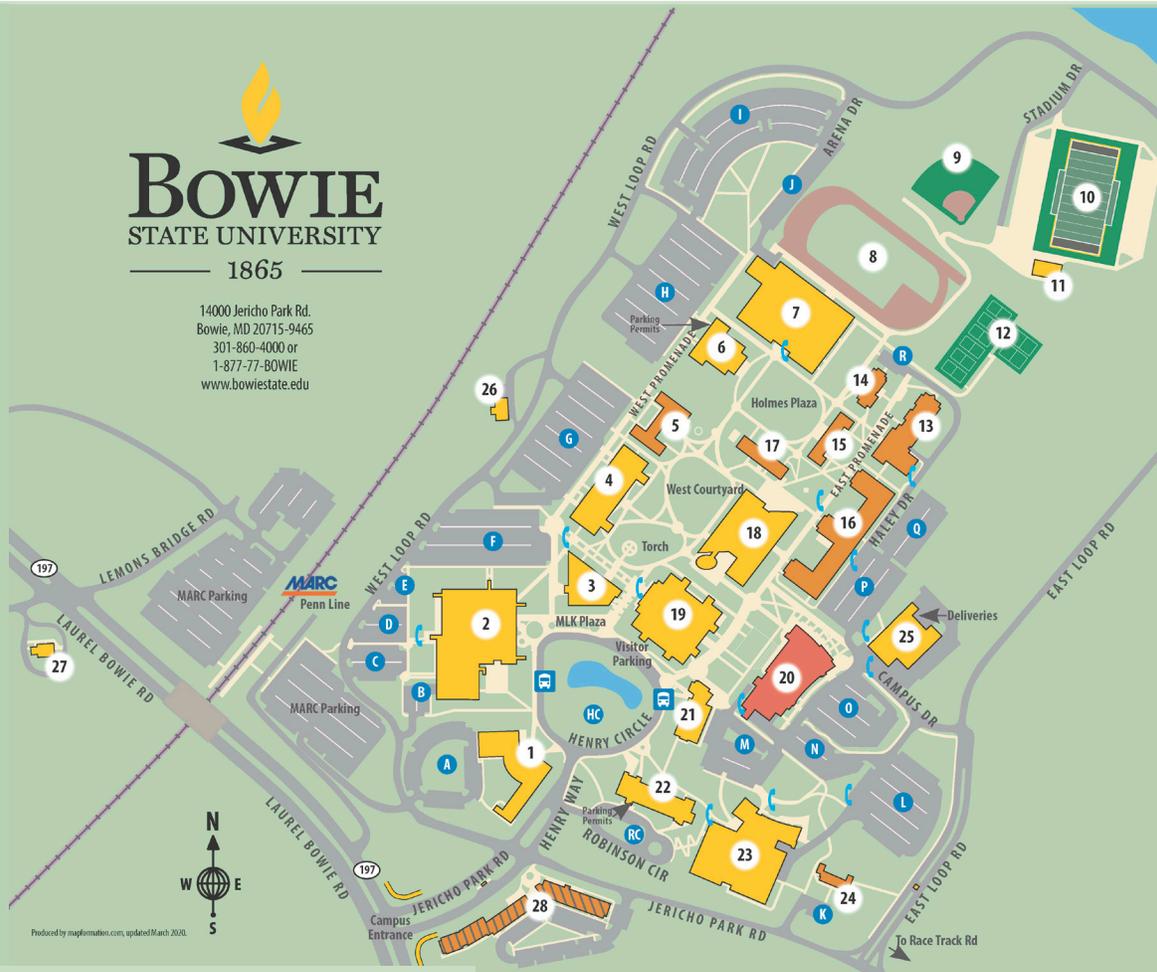
The team has:

- Used existing information to create the base site plan.
- Gathered and evaluated the significant statistics of the University, including population trends, enrollment characteristics and trends, academic programs, and space inventory.
- Reviewed the University’s new Mission, Vision, and Strategic Plan in relation to the setting that they provide for the Facilities Master Plan. In addition, the team reviewed numerous documents related to the academic programs, facilities, operations and planning for the University.
- Canvassed a wide range of internal and external constituencies in a series of forty interviews and focus groups.
- Performed walk-through surveys of existing buildings to gain a sense of their character and condition. This was coupled with data from the University as well as observations of the campus.
- Tabulated and organized by HEGIS code all spaces, compared the existing to the State allowances, and noted deficiencies.
- Evaluated the existing buildings and site to determine the suitability of the facilities for existing and future needs of the University.
- Proposed and evaluated several campus development schemes, consolidating and distilling the most beneficial elements from each into a cohesive campus plan.

BOWIE STATE UNIVERSITY

1865

14000 Jericho Park Rd.
Bowie, MD 20715-9465
301-860-4000 or
1-877-77-BOWIE
www.bowiestate.edu



- | | |
|---|--|
| <p>1 Center for Business and Graduate Studies
BOWIE BUSINESS INNOVATION CENTER
COLLEGE OF BUSINESS
THE GRADUATE SCHOOL</p> <p>2 Martin Luther King Jr. Communication Arts Center
BSU-TV
SAMUEL L. MYERS AUDITORIUM</p> <p>3 William E. Henry Administration Building
ADMISSIONS
FINANCIAL AID
STUDENT ACCOUNTS
UNIVERSITY ADMINISTRATION</p> <p>4 James E. Proctor Jr. Building
COLLEGE OF EDUCATION
COLLEGE OF PROFESSIONAL STUDIES</p> <p>5 Harriet Tubman Residence Hall</p> <p>6 Theodore McKeldin Gymnasium
CAMPUS POLICE
PARKING PERMITS</p> <p>7 Leonidas S. James Physical Education Complex</p> <p>8 Track and Field</p> <p>9 Softball Field</p> <p>10 "Bulldog" Football Stadium</p> <p>11 Field House</p> <p>12 Tennis and Basketball Courts</p> <p>13 Alex Haley Residence Hall</p> <p>14 Towers Residence Hall</p> <p>15 Dwight Holmes Residence Hall</p> | <p>16 Christa McAuliffe Residential Community
HENRY WISE WELLNESS CENTER</p> <p>17 Lucretia Kennard Residence Hall</p> <p>18 Center for Natural Sciences, Mathematics and Nursing
Thurgood Marshall Library</p> <p>19 Thurgood Marshall Library</p> <p>20 Student Center
BOOKSTORE
CAREER CENTER
CONFERENCE SERVICES</p> <p>21 Computer Science Building
COLLEGE OF ARTS AND SCIENCES</p> <p>22 Charlotte Robinson Hall
CAMPUS POLICE
HUMAN RESOURCES
MARYLAND CENTER
PARKING PERMITS</p> <p>23 Fine & Performing Arts Center</p> <p>24 Goodloe Apartments</p> <p>25 Facilities Management Building
DELIVERIES
PROCUREMENT</p> <p>26 Central Steam Plant</p> <p>27 Goodloe House
ALUMNI RELATIONS</p> <p>28 Entrepreneurship Living and Learning Center
(UNDER CONSTRUCTION)</p> |
|---|--|

A Parking Lots
Visitor Parking (Parking Permit Required)
Visitors and contractors must obtain a parking permit from the Campus Police Department in Charlotte Robinson Hall or in Theodore McKeldin Gymnasium (#22 or #6 on the map). Visitor parking is usually available on Henry Circle. A Visitor Parking Permit is valid for any non-reserved space in all lots.

B Metro Bus Stops

C Blue Light Emergency Phones

D Residence Halls

E Student Center

F University Buildings

G Under Construction

OVERVIEW

Bowie State University (BSU) is a nationally accredited four-year Master's (Comprehensive) University (Master's/PhD) by Carnegie classification. Established in 1865, BSU is the oldest of the four Historically Black Institutions (HBIs) of higher education in the State of Maryland and one of the oldest in the nation. Offering 43 bachelor's and master's degree programs, two doctoral, and 14 specialty certificate programs with a focus on computer science, information technology, business, nursing, natural sciences, and education, BSU is one of 12 degree-granting institutions in the University System of Maryland (USM), the state's public higher education system. USM comprises 12 institutions, two regional higher education centers, and a system office. Having evolved from a normal school into a comprehensive university, Bowie State University serves a historically and predominantly African American student population, providing educational opportunities that will enable students to function in a highly technological and interdependent world. The university continues to honor its heritage of providing access to higher education for under-represented populations, with a commitment to reach a diverse student population.

BSU is also a leader in the infusion of technology into the curriculum while maintaining its role as an institution grounded in the liberal arts, and produces graduates who are leaders among their peers in a global community, who think critically, who value diversity, and who are committed to high moral standards. Bowie remains a leader in the graduation of African Americans in teacher education and technological fields.

BSU is in a rural setting adjacent the City of Bowie, and centrally located between the metropolitan areas of Baltimore (25 miles), Washington D.C. (17 miles), and Annapolis (15 miles). The Baltimore-Washington-Annapolis triangle serves as a center of international, national, and regional business, government and technology. Located within close proximity to each of these urban hubs, BSU is connected to the regional highway network and has on-campus access to the regional and local public transit.

HISTORY

For over 155 years Bowie State University has provided an exceptional learning experience to the African American community. Today it continues to position itself to meet the challenges of the 21st Century by continuing to build systems of academic and institutional excellence. The following outline summarizes BSU's legacy and achievements:

- 1865-** First School opened in Baltimore by Baltimore Association for the Moral and Educational Improvement of Colored People.
- 1866-** First normal School classes to train Negro teachers.
- 1867-** Normal school relocates to new building in Baltimore
- 1908-** Renamed Normal School #3, and relocated to current location in Prince George's County
- 1914-** Becomes known as Maryland Normal and Industrial School at Bowie
- 1925-** Started two-year professional curriculum in Teacher Education
- 1935-** Renamed Maryland Teachers College at Bowie, Teacher Education expanded to four years
- 1951-** Established programs to train junior high school teachers
- 1961-** Implemented comprehensive teachers training program for secondary education
- 1963-** Established liberal arts program and renamed Bowie State College
- 1970 -** Authorized to grant Master of Education degree
- 1988-** Renamed Bowie State University to reflect significant institutional growth and began one of 12 constituent institutions of the newly formed University System of Maryland
- 1992-** Became first HBU to expand satellite and continuing education programs overseas
- 1994-** Maryland Higher Education Commission approved new mission for BSU, reaffirming its commitment to the African American community and identifying special focus on computer and technology.
- 2005-** Graduated first class of doctoral candidates (Doctorate of Education) and first class of four-year nursing students
- 2006-** Approved doctoral degree in Computer Science
- 2007-** Established the Climate Commitment Coordinating Committee (C4)
- 2015-** Signed the new Climate Commitment and White House Act on Climate Pledge part of which is the cornerstone to the Paris Climate Agreement.

Bowie State University continues to position itself to meet the challenges of the 21st Century by continuing to build systems of academic and institutional excellence.

VISION, MISSION STATEMENT, CORE VALUES, STRATEGIC PLAN

VISION

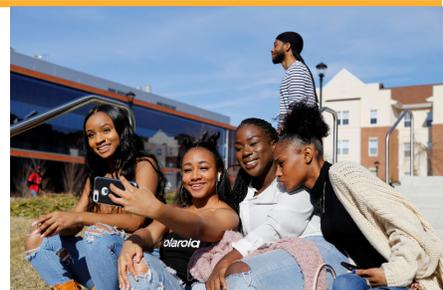
BOWIE STATE UNIVERSITY WILL BE WIDELY RECOGNIZED AS ONE OF THE NATION'S BEST PUBLIC COMPREHENSIVE UNIVERSITIES THAT IS A MODEL FOR ACADEMIC EXCELLENCE, INNOVATION, AND STUDENT SUCCESS.

MISSION STATEMENT

AS MARYLAND'S FIRST HISTORICALLY BLACK PUBLIC UNIVERSITY, BOWIE STATE UNIVERSITY EMPOWERS A DIVERSE POPULATION OF STUDENTS TO REACH THEIR POTENTIAL BY PROVIDING INNOVATIVE ACADEMIC PROGRAMS AND TRANSFORMATIONAL EXPERIENCES AS THEY PREPARE FOR CAREERS, LIFELONG LEARNING, AND CIVIC RESPONSIBILITY. BOWIE STATE UNIVERSITY SUPPORTS MARYLAND'S WORKFORCE AND ECONOMY BY ENGAGING IN STRATEGIC PARTNERSHIPS, RESEARCH, AND PUBLIC SERVICE TO BENEFIT OUR LOCAL, STATE, NATIONAL, AND GLOBAL COMMUNITIES.

CORE VALUES

- EXCELLENCE
- INCLUSIVITY
- INTEGRITY
- ACCOUNTABILITY
- INNOVATION



STRATEGIC PLAN

The BSU 2020-2030 Facilities Master Plan is the campus and community development plan. It seeks to respond to the strategic plan *Racing to Excellence* which has at its core the intertwining of a mindset of entrepreneurship throughout the Bowie State University campus and community. The strategic focus is on activities that will transform the character of the academic, co-curricular, and administrative activities to create a holistic approach to student success. The emphasis is placed on every facet of the university in improving retention, graduation, and post-graduate placement.

This plan has been guided by the Vision, Mission Statement, Core Values, and, especially, the Strategic Plan Goals. The Goals are:

1 - Achieve academic excellence supported by curricular and co-curricular experiences

Bowie State University will achieve academic excellence through quality teaching, learning, and research; high-demand innovative academic programs; high-impact student activities; and strategic partnerships.

2 - Promote a holistic and coordinated approach to student success

Bowie State University will honor its rich heritage and culture by promoting access, affordability, and completion through resources and opportunities that empower students to succeed at every level of learning

3 - Encourage academic and administrative innovation to meet student needs

Bowie State University will engage in academic transformation initiatives which encourage increased levels of student success and we will regularly evaluate administrative processes and leverage new approaches to improve the student experience.

4 - Enhance our campus culture of diversity, inclusion and civic engagement

Bowie State University will embrace, promote, and support a community of cultural inclusivity, diversity and accountability by ensuring that faculty, staff, and students develop a mindset of accountability in teaching, learning, support programs, and extra-curricular campus experiences designed to enhance collaboration and engagement.

5 - Ensure long-term viability of BSU

Bowie State University will create a unified understanding of the elements that define the unique qualities of its value to attract a culturally diverse student body and actively engage alumni, friends, and partners to address critical needs of Prince George's County and the surrounding region. We will leverage fiscal resources from public and private sources to advance strategic priorities that create a sustainable future for the university, the county, and the state of Maryland.

ACADEMIC PROGRAMS

High-quality academic programs are offered by the University. Students are able to choose from 23 undergraduate majors, 20 master's degree programs, 14 specialty certificates and two doctoral programs in a variety of high-demand fields:

UNDERGRADUATE MAJORS:

- Bioinformatics
- Biology
- Business Administration
- Chemistry
- Child & Adolescent Studies
- Communications
- Computer Science
- Computer Technology
- Criminal Justice
- Early Childhood Education
- Elementary Education
- English
- Fine Arts
- History & Government
- Mathematics
- Nursing
- Psychology
- Science Education
- Social Work
- Sociology
- Sport Management
- Theatre Arts
- Visual Communication & Digital Media Art

CONCENTRATIONS:

- Accounting
- Advertising Design
- Animation & Motion Graphics
- Applied & Computational Mathematics
- Art
- Banking & Finance
- Broadcast Journalism
- Business Information Systems
- Community Based Corrections
- Creative Writing
- Digital Cinema & Time-Based Media
- Digital Media Arts
- Economics
- Emerging Media
- Entrepreneurship & Small Business Management
- Fashion Design

- Forensic Science
- General Business
- Government
- Language & Literature
- Management
- Marketing
- Mathematics Education
- Music
- Music Technology
- Print Journalism
- Public Relations
- Pure Mathematics
- Social Justice
- Special Education

MASTERS:

- Applied & Computational Mathematics
- Business Administration
- Computer Science
- Counseling Psychology
- Culturally Responsive Teacher Leadership
- Elementary & Secondary School Administration
- Elementary Education
- English
- Human Resource Development
- Management Information Systems
- Mental Health Counseling
- Nursing
- Organizational Communications
- Public Administration
- Reading Education
- School Counseling
- School Psychology
- Secondary Education
- Special Education
- Teaching

SPECIALTY CERTIFICATES:

- Addictions Counseling
- Applied & Computational Mathematics
- Database Management/ Artificial Intelligence
- Graphics & User Interface
- Geographical Information Systems & Image Processing
- Information Systems Analyst
- Networks & Distributed Systems
- Organizational Communications Specialist
- Project Management

- Psychotherapy
- Scientific Software Development
- Software Engineering
- School Psychology

DOCTORAL:

- Computer Science
- Educational Leadership

ACCREDITATION

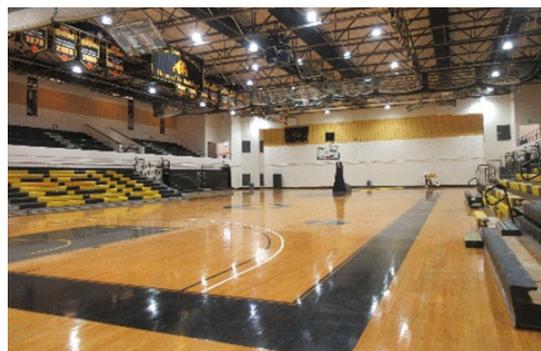
Bowie State University is accredited by the Middle States Commission on Higher Education (MSCHE), an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation. Individual disciplines are accredited by the appropriate accrediting body:

- **Business Administration Programs**
The Accreditation Council for Business Schools and Programs (ACBSP) accredits the Business Administration (BS) and Business Administration (MBA) programs.
- **Computer Science and Computer Technology Programs**
The Computing Accreditation Commission of ABET accredits the Computer Science (BS) and Computer Technology (BS) programs.
- **Counseling Programs**
The Council for Accreditation of Counseling and Related Educational Programs (CACREP) accredits the Mental Health Counseling (MA) and School Counseling (MED) programs.
- **Education Programs**
The National Council for the Accreditation of Teacher Education (CAEP) accredits the following programs: Early Childhood Education (BS), Educational Leadership (EDD), Elementary Education (BS), Elementary Education (MED), Elementary and Secondary School Administration (MED), Reading (MED), School Psychology (MA), Special Education (MED) and Teaching (MA). The Maryland State Department of Education approves the Secondary Education (MED) and Secondary Education (BA/BS) programs.

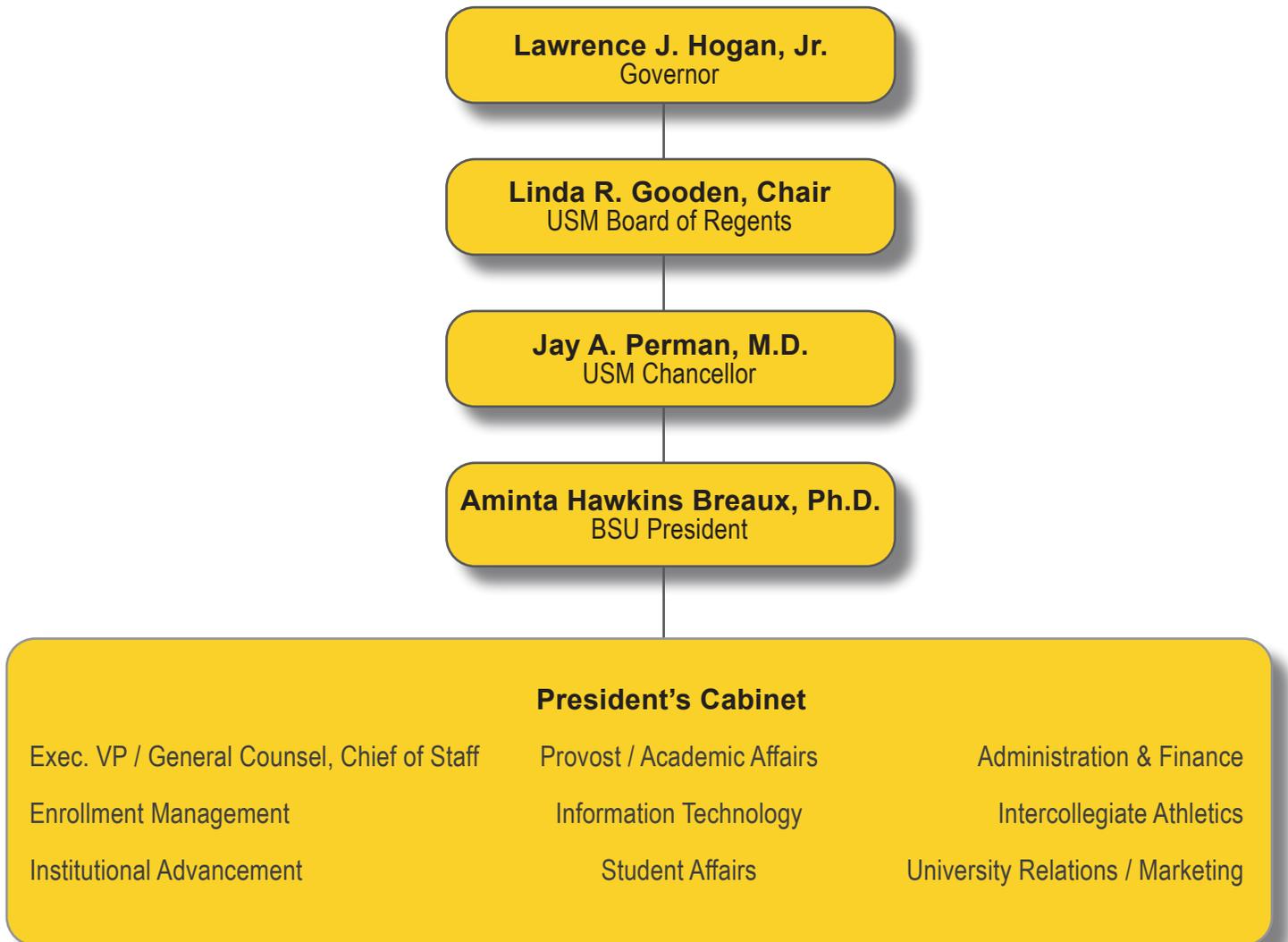
- **Nursing Programs**
The Accreditation Commission for Education in Nursing (ACEN) accredits the Nursing (BS) and Nursing (MS) programs.
- **Public Administration Program**
The Network of Schools of Public Policy, Affairs, and Administration (NASPAA) accredits the Public Administration (MA) program.
- **Social Work Program**
The Council on Social Work Education (CSWE) accredits the Social Work (BS) program.

In addition to the above stated accrediting, Bowie State programs are compliant with the following licensure bodies:

- Maryland Board of Nursing
- Maryland State Department of Education
- National Council on Social Work Education
- National League for Nursing Accrediting Commission



LEADERSHIP STRUCTURE



ENROLLMENT

RECENT TRENDS

In the Fall semester 2019, student headcount enrollment was 6,171 with total undergraduate students numbering 5,227 and graduates accounting for 944 students. First-time freshmen, both full and part-time totaled 834.

Whether measured by Full Time Equivalent Students (FTES) or Headcount, despite minor decreases in the Fall terms 2015 and 2019, the trend line has been steady growth:

- FTES: from Fall 2014 at 4,721 students to Fall 2019 at 5,260 students, averaging 2.2% per year
- Headcount: from Fall 2014 at 5,695 students to Fall 2019 at 6,171 students, averaging 1.6% per year

PROJECTED ENROLLMENT

Projections of enrollments for fall 2020 through fall 2029 represent the recommendations developed by Bowie State University in keeping with the pursuit of BSU's mission through the year 2029. Note the following projections for FTES and Headcount:

- FTES: from Fall 2019 at 5,260 students to Fall 2029 at 6,026 students, averaging 1.4% per year
- Headcount: from Fall 2019 at 6,171 students to Fall 2029 at 7,029 students, averaging 1.3% per year

FACULTY AND STAFF

In the Fall semester 2019, BSU employed 510 faculty and 518 staff. 92% of full-time faculty hold at least a master's degree and 64% hold a PhD. Student-faculty ratio at Bowie is 16:1.

NEEDS ANALYSIS

Anticipated student population increases from fall 2020 through fall 2029 and anticipated impact on campus inventory as the result of the following programmed building projects: 1) Construction of the new Martin Luther King, Jr. Communications Arts and Humanities Building to replace the existing MLK Communication Arts Center and 2) Renovation of Thurgood Marshall Library. These projects will have a significant impact on campus-wide space needs at Bowie State University, replacing and updating outdated and aging academic buildings and providing 21st century learning facilities. BSU currently has an overall space deficit of approximately 500 net assignable square feet (NASF) when space guidelines are applied to existing inventory. By the year 2029, the projected overall deficit will be approximately 34,000 NASF. Space deficits in 9 of 14 major room use categories are projected when the Maryland Higher Education Commission's Space Guidelines for Four Year Public Institutions formulae are applied to BSU's projected (2029) space inventory. The remaining five categories suggest surpluses.

CAMPUS FACILITIES

The facilities inventory at Bowie State's campus consists of 23 state-owned buildings which collectively total approximately 1,535,000 gross square feet (GSF) and contain approximately 920,000 net assignable square feet (NASF) of space. The various academic, administrative and auxiliary enterprise buildings range in age from the 104-year old Goodloe House to the four-year old Center for Natural Sciences, Mathematics and Nursing.



Building Category Summary

Building Category	GSF	NASF
Academic / Research	801,911	456,210
Administration / Institutional Support	236,514	146,710
Auxiliary Enterprise	496,079	314,725
Totals	1,534,504	917,645

Source: Bowie State University Facilities

Campus Buildings

Campus Buildings	Built	Renovated	GSF	NASF	Primary Use
Academic / Research					
James E. Proctor, Jr.	2000	n/a	101,193	58,241	Instruction, Faculty Offices
Martin Luther King, Jr. Communication Arts Center	1973	n/a	149,374	77,082	Instruction, Assembly, Faculty Offices
Thurgood Marshall Library	1977	1996	166,869	107,635	Study
Center for Natural Sciences, Mathematics and Nursing	2017	n/a	148,000	85,022	Instruction, Faculty Offices
Computer Science Building	2002	n/a	47,000	27,641	Instruction, Faculty Offices, Research
Center for Business and Graduate Studies	2007	n/a	66,000	37,944	Faculty Offices, Instruction
Fine and Performing Arts Center	2011	n/a	123,475	62,645	Assembly, Instruction, Faculty Offices
Subtotals			801,911	456,210	
Administration / Institutional Support					
Boiler Plant	1952	1993	2,970	2,970	Inactive
Goodloe House	1916	2003	3,815	2,100	Inactive
Field House	1992	2015	7,909	4,540	Athletics/Physical Education
William E. Henry Administration Building	1996	n/a	37,396	19,027	Administrative Offices
Leonidas S. James Physical Education Complex	1973	n/a	102,135	63,976	Athletics/Physical Education
Facilities Management Building	1967	1973	29,613	20,432	Shops, Storage
Theodore McKeldin Gymnasium	1957	n/a	21,142	15,469	Athletics/Physical Education, Inactive
Charlotte Robinson Hall	1960	n/a	31,534	18,196	Administrative Offices, Inactive
Subtotals			236,514	146,710	
Auxiliary Enterprise					
Alex Haley Residential Community	1994	n/a	90,855	54,929	Residential
Dwight Holmes Residence Hall	1951	1970	21,779	15,114	Residential
Lucretia Kennard Residence Hall	1957	1998	22,646	14,267	Residential
Towers Residence Hall	1973	n/a	40,828	23,518	Residential
Goodloe Apartments	1954	n/a	5,946	5,001	Residential
Harriet Tubman Residence Hall	1921	1971	33,282	19,374	Residential
Christa McAuliffe Residential Community	2004	n/a	185,240	124,305	Residential, Health Center
Student Center	2013	n/a	95,503	58,217	Student Union
Subtotals			496,079	314,725	
State vs. Non-State Supported					
State Supported			1,038,425	602,920	
Non-State Supported			496,079	314,725	
Totals Bowie State University			1,534,504	917,645	

Source: Bowie State University Facilities

PROJECTED SPACE NEEDS

PLANNING ASSUMPTIONS

The base year for this analysis is fall semester 2019. Assumptions made for the application of formulate-driven space guidelines computations for fall 2019 and fall 2029 are shown in the following table. Full-time day equivalent students (FTDE) are calculated from credit hours earned reflected in BSU course data files. Data on faculty and staff are provided by the University. Library Volumes are physical bound volume equivalents calculated from base collections data provided by the University. Refer to the following table.

Planning Assumptions

	FTDE	WSCH Lecture	WSCH Laboratory	Full-Time Faculty	Part-Time Faculty	Full-Time Staff	Part-Time Staff	Library Volumes
Fall 2019	4,485	72,888	9,300	221	289	424	94	416,982
Fall 2029	5,151	82,020	12,303	250	230	460	70	449,393
Percent Change 2019-2029	14.8%	12.5%	32.3%	13.1%	-20.4%	8.5%	-25.5%	7.8%
Average Annual Growth Rate	1.4%	1.2%	2.8%	1.2%	-2.3%	0.8%	-2.9%	0.8%

Sources: Bowie State University Office of Planning, Analysis and Accountability (Enrollment) and Facilities (Faculty, Staff and Library Volumes)

EXISTING BUILDING SPACE INVENTORY

A building-level inventory of assignable space in each building was prepared by the University and given to the consultant team. This inventory of existing spaces serves as the baseline data against which computed space needs are compared. As depicted in the accompanying table and graphic, residential constitutes the largest single classification in Bowie's 917,645 net assignable square feet (NASF) of total campus inventory. Twenty percent of assignable space is classified as classroom and laboratory instruction (classroom 7%, laboratory 13%), 18% as office, 7% as study (library), 23% is a combination of special use, general use and support, and 28% of campus space is classified as residential. The remaining 4% or 39,728 NASF is unclassified space distributed among various buildings at the time of the inventory

Distribution of Existing Space by Room Use Classification

FICM	Room Use	NASF
100	Classroom	66,572
200	Laboratory	121,985
300	Office	160,512
400	Study	58,742
500	Special Use	75,178
600	General Use	109,970
700	Support	28,450
800	Health Care	1,600
900	Residential	254,908
000	Unclassified	39,728
Total		917,645

Source: Bowie State University Facilities

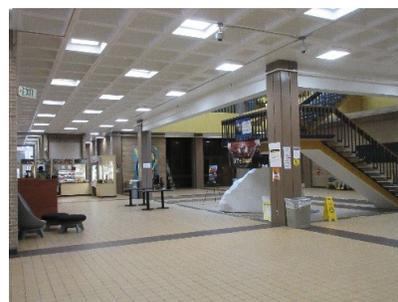
SPACE GUIDELINES APPLICATION AND ANALYSIS

Computation of quantitative need for space is based primarily on the projected program of instruction and the number of weekly student contact hours (WSCH) that it generates. Determinations of current and projected space surpluses and/or deficits are driven by current space inventory and anticipated changes, current enrollment and projected enrollments, and current and anticipated staffing levels. With respect to current and projected space surpluses and deficits as the result of Maryland State Guidelines application, the following space needs are projected by space type:

Classroom (110): A room or space used primarily for instruction classes and that is not tied to a specific subject or discipline by equipment in the room or the configuration of the space. Given the current inventory of classroom space, application of the guideline to the University's weekly student contact hour data suggests a current deficit of 14,334 NASF and a deficit of 24,169 NASF by 2029. This anticipated increased space deficit is attributed primarily to a projected 13.4% increase in enrollment with virtually no net increase in classroom space.

Class Laboratory/Open Laboratory (210/220): A class laboratory or teaching laboratory (210) is space used primarily for formally or regularly scheduled instruction that require special purpose equipment or a specific space configuration for student participation, experimentation, observation, or practice in an academic discipline. Given the current inventory of laboratory space, application of the teaching and open laboratory guidelines to the University's weekly student contact hour data suggests a current surplus of 38,749 NASF for Class Laboratory and a deficit of 550 NASF for Open Laboratory. By 2029, Class Laboratory will have a surplus of 12,843 NASF and Open Laboratory will have a deficit of 3,195 NASF.

Research Laboratory (250): A space used for laboratory experimentation, research, or training in research methods; professional research and observation; or structured creative activity within a specific program or for sponsored research (whether sponsored with federal, state, private, or institutional funds). This category is also referred to as non-class laboratory. Given the current inventory of research laboratory space, application guideline suggests a current surplus of 4,411 NASF and a deficit of 724 NASF by 2029. This anticipated increased space deficit is attributed primarily to a projected 13.1% increase in full-time faculty with a net reduction in research space.



Academic Support Space: These spaces provide environments that directly support the institution's instruction and research activities and include office, study, physical education, media production, assembly, exhibition, lounge, central computer / telecommunications, physical plant, and health care, further described as follows:

Office (300): Office facilities are individual, multi-person, or workstation spaces specifically assigned to faculty, staff, or students in academic, administrative, and service functions of a college or university. This category also includes conference rooms, file rooms, break rooms, kitchenettes, copy rooms, and testing/tutoring space. Given the current inventory of office space, application guideline suggests a current surplus of 34,951 NASF and a surplus of 26,686 NASF by 2029.

Study (400): In this analysis, study space refers to, individually or collectively, three space categories: Study, Stacks, Processing/Service. Given the current inventory of study space, application guideline suggests a current deficit of 31,568 NASF and a deficit of 12,115 NASF by 2029.

Physical Education (520): A room or area used by students, staff, or the public for athletic or physical education activities. Physical Education space includes gymnasias, basketball courts, handball courts, squash courts, wrestling rooms, weight or exercise rooms, racquetball courts, indoor swimming pools, indoor putting areas, indoor ice rinks, indoor tracks, indoor stadium fields, and field houses. This category also includes spaces used for dancing and bowling. Given the current inventory of physical education space, application guideline suggests a current deficit of 20,089 NASF and a deficit of 25,485 NASF by 2029. This anticipated increased space deficit is attributed primarily to a projected 13.4% increase in student enrollment with no increase in current physical education space.

Media Production (530): A space used for the production or distribution of multimedia materials or signals. Includes spaces generally called TV studios, radio studios, sound studios, photo studios, video or audio cassette and software production or distribution rooms, and media centers. Given the current inventory of media production space, application guideline suggests a current deficit of 3,438 NASF and a surplus of 213 NASF by 2029.

Assembly (610): A space designed and equipped for the assembly of many persons for such events as dramatic, musical, devotional, or commencement activities. Includes theaters, auditoria, concert halls, arenas, and chapels that are used primarily for general presentations (speakers), performances (dramatic, musical, dance), and devotional services. Given the current inventory of assembly space, application guideline suggests a current surplus of 17,240 NASF and a surplus of 17,228 NASF by 2029.

Exhibition (620): A room or area used for exhibition of materials, works of art, artifacts, etc., and intended for general use by faculty, students, staff, and the public. This includes both departmental and institutionwide museums, galleries, and similar exhibition areas that are used to display materials and items for viewing by institutional population and the public. Given the current inventory of exhibition space, application guideline suggests a current deficit of 1,789 NASF and a deficit of 3,530 NASF by 2029.

Lounge (650): Lounge space used for rest and relaxation that is not restricted to a specific group of people, unit, or area. A lounge facility is typically equipped with upholstered furniture, draperies, and carpeting, and may include vending machines. This category is exclusive of areas so designated in residence halls. Given the current inventory of lounge space, application guideline suggests a current deficit of 8,287 NASF and a deficit of 6,528 NASF by 2029.



Central Computer or Telecommunications (710): A space used as a data or telecommunications center with applications that are broad enough to serve the overall administrative or academic primary equipment needs of a central group of users, department, college, school, or entire institution. Given the current inventory of central computer or telecommunications space, application guideline suggests a current surplus of 650 NASF and a maintained surplus of 1,327 NASF by 2029.

Physical Plant (720-760): Physical plant facilities, which provide centralized space for various auxiliary support systems and services of a campus, help keep all institutional programs and activities operational. Given the current inventory of physical plant facilities, application guideline suggests a current deficit of 16,255 NASF and a continued deficit of 16,558 NASF by 2029.

Health Care Facilities (800): Space used for patient care areas that is located in separately organized and budgeted health care facilities: student infirmaries and centers, teaching hospitals, stand-alone clinics run by these hospitals, and veterinary and medical schools. Given the current inventory of health care facilities, application guideline suggests a current deficit of 174 NASF and a deficit of 343 NASF by 2029.

Other Classified Space (Ad Hoc): This grouping represents spaces that are not addressed by Maryland's space planning guidelines. These are either specialized spaces for which need is based entirely on programmatic requirements which vary by institution or auxiliary enterprises which are not state-funded. Examples of space needs based on programmatic requirements are armory,

spectator seating, clinic, demonstration, field building, and greenhouse. Auxiliary enterprise categories include day care, residential facilities, and space for student service functions typically housed in a student union building. Student union spaces include food facilities, lounge, merchandising, recreation, and meeting rooms. The current inventory of other classified space equals the allowance, resulting in a net zero surplus or deficit.

Unclassified Space (000): These spaces are assignable areas that are inactive or unassigned; in the process of being altered, renovated, or converted; or in an unfinished state at the time of the inventory. They include inactive areas, alteration or conversion areas and unfinished areas. Inactive areas are spaces that are available for assignment to an organizational unit or activity. Another area of unclassified space is "other organizations." These are spaces that are being occupied by entities other than the University and are not available for University use and are listed as ad-hoc. At the time of the inventory, the only unclassified spaces were inactive areas. The current inventory of unclassified space equals the allowance, resulting in a net zero surplus or deficit.

QUALITATIVE ANALYSIS (PROGRAM-BASED NEED)

Growth or change of some existing programs and the establishment of new ones suggest concomitant growth or change in enrollments and demographics, need for specific, specialized facilities. Taking advantage of opportunities to effectively market the “Bowie Brand” will drive program offerings in the coming years. Many of these programs require specialized classrooms, labs and other facilities that can be flexibly adjusted for a variety of teaching/learning or other settings. In addition to primary academic needs, there are needs for programs and projects focusing on various academic support, institutional support and campus-wide pursuits that collectively create an exceptional atmosphere for students, faculty, staff, alumni and visitors to the Bowie campus. These needs should be viewed in the context of how strategic responses would effectively align with the University’s mission, Strategic Plan, and its planned academic direction. Facilities master planning regimens should strategically focus on programs and projects that will collectively transform the character of Bowie State University’s academic, co-curricular, and administrative activities to create a holistic approach to student success. Strategic focus should allow for flexible and nimble response to future market dynamics. Refer to Chapter 2 Needs Analysis for more specific information and recommendations for the following uses, functions and opportunities:

- Safety, Security and Communications
- Physical Plant Operations
- Wellness, Fitness, Recreation
- Academic Commons
- Welcome and Admissions Center
- Campus Communities
- Athletics and Outdoor Recreation
- Research
- Community-Based Economic Development
- Campus-Wide Systems and Infrastructure Improvements



THE BSU BUILT ENVIRONMENT: THE CASE FOR IMPROVEMENTS

FACILITIES

The development of the BSU campus since its inception in the 1910's has seen relatively consistent growth to its Fall 2019 enrollment of 6,171 students (headcount) and 23 buildings totaling 1,534,504 gross square feet. In that period of just over 100 years, two major building expansions occurred: five buildings in the 1970's totaling nearly 500,000 square feet representing almost 1/3 of the total current inventory, and the other more recent expansion since 2000 totaling approximately 534,000 square feet. The five 1970's buildings have never had major comprehensive renovations; all are in need of complete top-to-bottom renovation or replacement. One, Martin Luther King Jr. Communication Arts Center, is scheduled to be replaced by the planned Communication Arts & Humanities Building now in design. Thirteen of the 23 existing buildings were built prior to 1978, and only the most historic – the 1916 Goodloe House and Harriet Tubman Residence Hall – have undergone major renovations. The average age of all buildings is 44 years.

After a period of modest growth, the University resumed expansion with additional major projects during the period 2000-2016. This expansion addressed many deficiencies, including much needed classroom, laboratory, student center and fine and performing arts spaces. Yet, several of the older buildings which have not had major renovations do not meet the needs of a 21st century comprehensive university. Needs vary from building to building, but the following highlights the issues and deficiencies of several campus buildings:

- The instructional spaces of the now 20-year old **James E. Proctor Building** are outdated and/or in need of major repurposing or reconfiguration, there are few study and gathering spaces for students, and major building systems including mechanical, electrical and technology are in need of upgrade.
- The **Henry Administration Building**,

while having undergone a renovation in 2003, still lacks appropriate and efficient building systems; the renovation never did solve the inherent net-to-gross inefficiency; and the layout discourages interaction between administrative staff with each other and with others.

- As previously mentioned, the **Martin Luther King Jr. Communication Arts Center** will be demolished.
- The **Charlotte Robinson Hall** building envelope is energy inefficient as are the HVAC and lighting systems; renovations over the 60-year life of the building have been piecemeal and seemingly without a compelling, overarching purpose for the building.
- While relatively new, the 2002 **Computer Science Building** is largely comprised of computer classrooms and labs that are too small, and there is virtually no space for students to gather and study collaboratively; in addition, the recent and anticipated growth of computer science programs suggests expanding the building to accommodate that growth and address the small size of the classrooms and labs.
- The 1967 **Facilities Management Building** suffers from a floor plan that does more to disconnect operations contained within the building than unify them, and all office, shop and support spaces are inadequate, outdated and woefully in need of replacement.
- The deteriorating **Central Steam Plant** has been decommissioned for at least the last ten years and serves no relevant purpose; demolition is recommended.
- BSU has done its best to upgrade certain spaces and building systems of the **Leonidas James Physical Education Complex**, now 47 years old, but many more elements of the building still need to be addressed, including the energy-inefficient building envelope, discontinuous circulation patterns and conveying systems, obsolete spaces such as racquetball courts and an unused wrestling

room; in addition, there is a significant deficit of net assignable space requiring expanding the building size.

- The 1957 **Theodore McKeldin Gymnasium** now includes a very small basketball court and spaces for some of the University's Public Safety operations; Public Safety space needs to be consolidated elsewhere, while the building will require a major renovation and expansion to accommodate fitness and wellness programs.
- The older residence halls (**Towers, Dwight Holmes, Lucretia Kennard, Harriet Tubman, and the Goodloe Apartments**) all contain significant deficiencies including: tiny rooms and halls, inadequate ventilation, outdated HVAC, electrical, lighting and technology systems, inaccessible elements not meeting ADA standards, and inefficient building envelopes. This report recommends re-investment in Kennard and Tubman, and removal of Towers, Holmes, and Goodloe Apartments.

SITE IMPROVEMENTS

In addition to building upgrades and replacement, key campus infrastructure systems are in need of upgrade, expansion and replacement. Thanks to recent upgrades and regular maintenance, paved systems including roadways, parking, and pedestrian systems are in generally good condition. This report does recommend some reconfiguration related to proposed building construction and improved safety and connections. Also due to recent major investment in identity and wayfinding, campus signage has been skillfully implemented. Other infrastructure systems, including water, storm water, sanitary sewer, gas, electric, and technology are necessary for proper functioning of all campus facilities. The extent of needed replacement of some portions of storm and sanitary sewer systems, most specifically underground piping, is not fully known, and study is needed and recommended to determine the scope of work for these systems.

Similarly, and critically, campus technology systems will need major upgrade, replacement and expansion in order to meet the anticipated, growing demands of communications, academic and administrative computing, audio-visual, and security systems and equipment. The technology infrastructure is already in need of correcting deficiencies; in addition, rebuilding the network, replacing and expanding fiber and equipment, network nodes and terminal units must be undertaken to be ahead of proposed building projects. This will require significant investment in technology systems between and in buildings, such as a new backbone optical fiber network. A technology master plan is recommended to establish the scope and cost of all aspects of technology systems on campus, and it should be undertaken soon. This should be of the highest priorities for the University. The technology master plan needs to be performed first to establish the scope and extent of the upgrades

NEEDS ANALYSIS CONCLUSION

Data leading up to and including the quantitative and qualitative needs establishes the necessity for renovated and/or additional facilities at Bowie State University to meet its present and future requirements for space and programs. Potential strategies for meeting these identified requirements are addressed, in physical terms, in the impending chapters. Bowie State University's response to needs for space and programs manifests itself in a series of projects that will culminate in an orderly long-term physical development of Bowie's campus community. Priorities and sequencing of specific projects will allow for integration of this Facilities Master Plan into Bowie's Capital Improvement Program (CIP) and related financial planning required to implement this Plan.

CAMPUS DEVELOPMENT

The proposed Campus Master Plan provides a framework for logical, sequential phased development over a ten-year period and beyond. The master plan strives to respect and build upon the successful aspects of the existing campus, while building a new innovative academic community. The physical plan enhances existing traditions as well as offers new opportunities for ceremonies and celebrations. The plan identifies the location of future academic, administrative, residential and athletic facilities as well as building forms that give shape to shared outdoor spaces.

The key development strategies include the following:

1. Strengthens Henry Circle as a visitor destination, hub of campus activity and node to other campus spaces
2. Creates an innovative living-learning residential neighborhood between Jericho Park Road, Henry Circle and MARC station
3. Improves the arrival experience, spatial definition and pedestrian connections within the existing campus core
4. Reconfigures the athletics precinct to enhance the experience and strengthen access to sports events
5. Leverages MARC station to develop convocation center as an anchor for a future mixed-use TOD neighborhood.
6. Protects and enhances sensitive environmental features surrounding the campus

AERIAL VIEW: PROPOSED CAMPUS DEVELOPMENT PLAN



PROPOSED CAMPUS DEVELOPMENT PLAN



PROPOSED PROJECTS

SUMMARY DESCRIPTIONS, PROPOSED SEQUENCE

Note: All proposed projects must begin with a facilities program which will establish 1) the extent of spaces to serve programs and activities in the building or extent of campus-wide systems and 2) estimated costs. Gross areas indicated in the list of proposed projects should be viewed as orders of magnitude only, to be confirmed or modified during program development. The proposed sequence is a blueprint for orderly development; specific timing will ultimately be a function of the University's Capital Improvement Plan.

PROJECTS TO MEET CRITICAL NEEDS

1. Technology Infrastructure Upgrades

This extensive project, critical to the future needs of the University, will involve upgrades to and expansion of the campus fiber network, equipment, and some related software. In addition, partial-to-extensive re-cabbling will be required in several buildings. Refer to the Technology Recommendations in chapter 4D for additional information.

2. Public Safety and Communications Complex. (N2)

This 48,000 SF project, to be located on the current site of the Goodloe Apartments, will provide a replacement facility for the existing and aging Public Safety spaces in McKeldin and Robinson and DIT offices and data centers in Thurgood Marshall and Kennard. This project should be the first building project, preceding the Thurgood Marshall Library renovation, so that the Department of Information Technology spaces in the library can be relocated before the library work begins.



3. Site Utilities Upgrades Certain site utilities including some lengths of sanitary sewer and

storm water piping are broken and in need of replacement. This project addresses those current needs and should also anticipate replacement of other older pipe and utility systems including water, gas, and power.

4. Install Electric and Gas Meters at Each Building.

In order to assess the efficiency of campus-wide energy use, it will be necessary to install gas and electric meters at each building. Tracking and measurement of both gas and electric will provide the University with critical information to be able to assess energy use on a square-foot basis for each building, allowing BSU to make decisions relative to equipment, controls, envelope, operations, and disposition of all buildings, which should result in energy savings for several buildings.

5. Thurgood Marshall Library Renovations (N12.)

This large project will take advantage of the extensive space of the 167,000 SF library building by re-envisioning the library as a 21st century learning commons, with corresponding support functions such as library offices and processing space, tutoring, writing labs, help desk, group study rooms, maker space, faculty support center, and more. The library has needed a major top-to-bottom renovation for several years. As the learning hub for the campus, this project is key to support of the continued improvements to BSU's academic programs. It is the next high priority large project for the University. The 20,000 SF Welcome and Admissions Center addition should occur in conjunction with the Library Renovations. It would serve to receive first-time visitors, house Admissions and related functions, and accommodate a proposed Center for Bowie State University History, Culture, and Traditions.



6. McKeldin Gym Renovation and Addition (N3).

As a Wellness Center, this 21,142 SF building plus proposed 32,000 SF addition will provide long-needed space for wellness, fitness, and recreation functions.

When completed, the renovation and addition will allow more flexibility in use and continued renovations to the James Complex.



7. New Residence Hall (N7). This first of three proposed new student housing projects will be located west of the Jericho Park Road connector to Maryland Route 197, across from the Entrepreneurship Living Learning Community now under construction.

It is proposed as a 200-bed apartment project; capacity defined by the size of the site; estimated area 130,000 SF.



8. James Complex Renovation and Addition (N4).

A much-needed overhaul of those portions of the existing 102,135 SF building not recently renovated plus upgrades to the building infrastructure, envelope and a proposed 40,000 SF addition will provide additional practice, team rooms, strength and exercise, locker/shower facilities, and training spaces.

Continuing with recent renovations will help achieve the still-needed comprehensive renovation to this building.



9. Facilities and Maintenance Building (N5). This 44,000 SF project will replace the existing 29,600 SF Maintenance Building now located east of the CMRC parking lot, moving it to a new site adjacent to the northwest section of the campus loop road. It will provide new space for most of the same functions currently housed in the existing aging building and much needed additional site area for parking and storage.



10. Computer Science Addition and Renovation (N6). Responding to the need established by the Computer Science leadership, this project acknowledges shortcomings of the existing building, mostly in the form of classrooms that are too small, with renovation of all existing spaces and an 18,000 SF 3-story addition to the south side of the building, providing additional and flexible learning spaces, labs and offices.



OTHER PROJECTS SUPPORTING BSU'S MISSION AND STRATEGIC PLAN

All of the following projects are important to the continued improvement and development of the BSU campus. Some may be viewed as critical. Some, including a proposed Convocation Center, Athletics and Recreation Field House and Fields, and Innovation and Incubator Center, will depend in small or large part on private development and/or funds generated by others with BSU participation and may be located on land not now owned by the University. Further study, including program development, is recommended to better define these and other projects listed below. Priorities will ultimately depend on funding and will be influenced by development of the Projects to Meet Critical Needs.

Proctor Building Renovation Now 20 years old, Proctor is showing signs of age. In particular, building systems including MEP, IT and AV systems are in need of upgrade and update, and since the Nursing program moved to the CNSMN building, configuration of those spaces should be reconsidered. A comprehensive renovation for the 101,200 SF building is recommended.



Tubman Hall Renovation As the oldest building on the main campus, Tubman is one of three historic buildings located in the “Historic Triangle” engaging both the Holmes and main academic quads. Further study is recommended to determine/confirm its continued use as a residence hall and the extent of renovation and construction (original building vs original plus wings vs original and replacement of wings).

Charlotte Robinson Hall Renovation A successful renovation two years ago provided space for Human Resources and University Relations & Marketing, and the two classrooms have been retro-fitted twice in the past five years. The

remainder of the building, including the building envelope, is in need of major renovation and upgrade. The proposed attached to Robinson and renovate Robinson or 2) build the first wing and replace Robinson with a concurrent or future second wing attached to the first; this latter scenario is illustrated in the proposed Campus Development Plan.

Stadium Complex (N8). The proposed campus master plan calls for complete replacement of the existing football stadium and grandstands, to be located immediately north of the track and west of the existing Field House. This location would take advantage of the natural slope down from the track, providing views not only to the football field but to the forested area beyond. A new softball field is shown to be located on the current site of the football field.



Steam Plant Demolition This small building, unused for at least 10 years, has no value to the University, has been deteriorating, and should be removed.

Alex Haley Residence Community The 90,900 SF residence hall is now 26 years old and should be undergo a comprehensive renovation.

Future Academic Building (N9). This new 100,000 SF building is referred to in the Charlotte Robinson Hall Renovation described above. It is envisioned as an L-shaped footprint, the N-S wing to be



completely new and the E-W wing to incorporate Robinson Hall or to replace it. Programs to occupy space in the building to be determined at a later date.

New Residence Halls. These two projects providing approximately 500 beds are integral to the “Innovation Village” envisioned at the southwest corner of the campus. They will expand the critical mass of on-campus student housing as well as inject additional vitality to the proposed location. This is also a high priority, facilitating continued expansion of the University’s goal of increasing on-campus student housing to a larger critical mass. Demolition of the existing Martin Luther King Jr. Communication Arts Center must precede this project.



Site Improvements. Separate from site utility work, the site improvements here would include improved pedestrian routes, lighting, landscaping, special features such as an amphitheater, and site amenities such as benches, trash and recycling containers, and bike racks. Related to these improvements would be reconfiguration of the Greek Plots, suggested to be located along the East Promenade and possibly in part of the Holmes quad. A study is needed to program the plot locations, size, and character.

Building Systems Upgrades. Systemic upgrades to buildings such as lighting, HVAC systems, door hardware and security controls may be undertaken to improve those systems on a more campus-wide basis than as part of individual renovation projects. Specifically, more efficient lighting systems are recommended to save energy, and hardware and security control systems should be undertaken to provide uniform systems throughout all buildings. IT systems upgrades are addressed elsewhere.

Parking. Additional parking is recommended at key locations throughout campus and in different forms:

- New parking lots east of Alex Haley and CMRC residence halls
- A parking garage on the current MARC Station surface lot east of the station. This need not be more than two-to-three levels, keeping a low profile.
- Convenience parking at the proposed new Academic Building
- Stadium parking north of the proposed new stadium location.
- Parking associated with the proposed new Facilities and Maintenance Building.
- Parking associated with the proposed new Public Safety and Communications Building

Future Residence Hall (N11). This 200-bed residence hall is envisioned as an Y-shaped footprint, to be located on the site of the current Maintenance Building. That location is convenient to existing residence halls and the central academic precinct of the campus. It will help define the “gateway” entrance experience for persons entering the campus along the east stretch of the loop road. Academic space is envisioned for the ground floor.



Goodloe House. Located across Maryland Route 97 from the BSU campus, Goodloe House is an important, iconic reminder of the rich history of Bowie State University. It currently serves as offices for the BSU Alumni Association. At 3,800 square feet and occupying about three acres, possibilities for future development are limited, unless the University and/or alumni were to acquire additional, adjacent land. If that were to occur, possible development could include, in addition to alumni functions, a center for conferencing, special events, studies, research, BSU history, University development and more.

Convocation Center. The FMP embraces the idea of locating this project in the Transit Oriented Development (TOD) parcel west of the MARC train station as previously proposed by Prince George’s County and suggested by others.



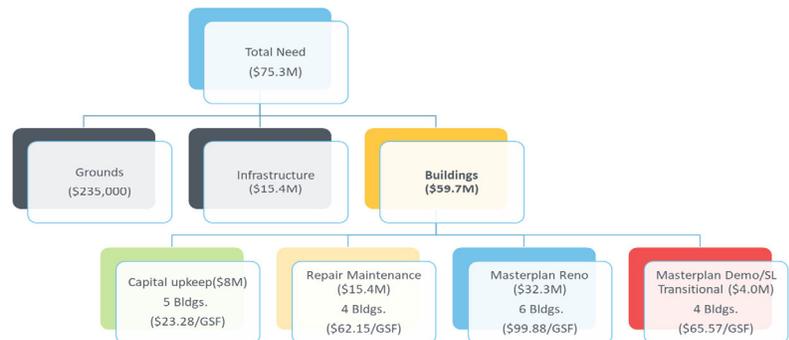
The Convocation Center will provide large and small scale conference, assembly and meeting space for the University as well as for nearby surrounding institutions, business organizations, and communities. The TOD envisions a development with office, retail, housing, institutional, parking, and other uses in addition to the Convocation Center. Further study is needed to determine the scope and size of this project.

Athletics and Recreation Field House and Fields. While the main BSU campus already accommodates practice and athletic fields, and the FMP further develops and recommends improvements to those elements, a robust slate of athletics and recreation programs will require additional space and facilities. A convenient location for additional practice and athletic fields can be found at the old Bowie Race Track site, about a mile to the east from the campus. Support facilities ranging from modest storage,

maintenance, locker and bath facilities to a large field house accommodating indoor sports and practice space would complement the practice fields. Joint use by BSU and the community is anticipated.

Innovation and Incubator Center. Shown in the proposed campus development plan to be located in the south campus area known in this report as “Innovation Village”, this 30,000 SF project is envisioned as a public-private partnership, fostering initiatives related to University programs and research, possibly in the fields of health, computer science and/or business. It may also be located in the TOD west of the MARC station. It may be a stand-alone building or joined as part of another. As with other projects above, further study is needed to determine size and scope.

The afore-described projects are summarized in the following Proposed Projects table and are recommended for development. Specific timing will be a function of the University’s Capital Improvement Plan.



Construction costs are not included in this report. However, a 2018 Sightlines study identified a total need of over \$75M in deferred need for the campus grounds, buildings and infrastructure. Allowing for escalation, this figure would be approximately \$80M in 2020 dollars. Sightlines further projected “a total need of \$102.3M coming due over the next 10 years” (to 2028). Projects identified in the Sightlines study do not include all projects subsequently recommended in the FMP.

PROPOSED PROJECTS

Bowie State University		Proposed Projects		
Projects to Meet Critical Needs				
	Renovation (GSF)	New (GSF)	Category	Remarks
1 Technology Infrastructure Upgrades			Systems Upgrades	Campus-wide and in buildings
2 Public Safety & Communications Complex*		48,000	Admin. & Support	On Goodloe Apartments site
3 Site Utilities Upgrades			Systems Upgrades	Storm, sanitary, water, gas, power, lighting
4 Install Electric & Gas Meters at Each Building				Excluding vacant and buildings to be demolished
5 Thurgood Marshall Library Renovation & Addition	166,869	20,000	Academic & Admin.	See Note 2
6 McKeldin Gym Renovation & Addition - Wellness Center	21,142	32,000	Wellness, Recreation	Addition size function of available footprint to south
7 New Residence Hall - 200 Beds (Apartments)		130,000	Student Housing	Replaces Towers beds
8 James Complex Renovation & Addition	102,135	40,000	Academic	Completes James renovation - by BSU over time
9 Facilities & Maintenance*		44,000	Admin. & Support	Incl Facilities Maintenance Building demolition
10 Computer Science Renovation & Addition	47,000	18,000	Academic	Renovation + expansion
Total: (not including Residential)	337,146	202,000		
Other Projects Supporting BSU's Mission and Strategic Plan				
	Renovation (GSF)	New (GSF)	Category	Remarks
Proctor Building Renovation	101,193		Academic	Comprehensive renovation
Tubman Hall Renovation	33,282		Student Housing	Further study recommended to determine best use
Charlotte Robinson Hall Renovation	31,534		Academic	Not required if Future Academic Building proceeds
Stadium Complex and Athletics Field		50,000	Wellness, Athletics	Incl Bleachers, Training, Concessions, Gateway
Steam Plant Demolition				Building unused for at least 10 years
Alex Haley Residence Community	90,855			
Future Academic Building		100,000	Academic	Replaces Robinson Hall
New Residence Hall - 250 Beds (Suites)		155,000	Student Housing	Replaces Holmes beds
New Residence Hall - 250-Beds (Apartments)		170,000	Student Housing	Expansion of total beds
Site Improvements				Non-utility - e.g. sidewalks, amphitheater
Building Systems Upgrades			Systems Upgrades	HVAC, plumbing, electric, lighting, security
Additional Parking				As needed
Future Residence Hall - 200 beds (Suites)		125,000	Student Housing	Market determines timing
Total: (not including Residential)	132,727	150,000		
*GSF based on prior program and available footprint				
Extended Campus Potential Development Projects. All projects need further study.				
	Renovation (GSF)	New (GSF)	Category	Remarks
A. Convocation Center				TOD site; Size TBD
B. Athletics & Recreation Field House and Fields		80,000	Wellness, Athletics	BSU and community joint use - Race Track site
C. Innovation & Incubator Center		30,000		South Campus or TOD site
Notes				
1. Two projects currently underway are not included in the above-recommended projects: A.) the 169,188 GSF Entrepreneurship Living Learning Community student housing now under construction, and B.) the 183,527 GSF Communication Arts & Humanities Building now in design.				
2. The proposed Thurgood Marshall Library renovation assumes Student Services and Administration relocate to the Library, vacating the Henry Building which then would be demolished. The proposed addition would include Admissions and Welcome Center.				
3. The following properties represent development opportunities: Goodloe House and property, Transit-Oriented Development (TOD) site adjacent to the AMTRAK right-of-way west of the campus, and the Bowie Race Track site. The University owns and controls the Goodloe House and property.				

SUSTAINABILITY

Bowie State University is already making great sustainability strides. Its commitment and implementation of various initiatives on campus has resulted in many substantial achievements over the last several years. BSU recognizes the importance of stewardship, responsibility, accountability, and leadership on global environmental issues and challenges. The University acknowledge that addressing resiliency in addition to climate action and sustainability can yield positive effects on the environment, ecology, economy, equity, and the overall health and well-being of their campus and its occupants. Since the 2011 Facilities Master Plan, the University has made significant strides towards making the campus and its operations sustainable and friendly to the BSU community.

ACCOMPLISHMENTS INCLUDE:

- Updating the 2009 Climate Action Plan (2020); established a Climate Change Coordinating Committee
- Established the Bowie Green Ambassador program (2013)
- Initiated and continued annual green events, including Earth Day programs, Recycle-mania, Food Day, Shred Day, Green Expo, Campus Clean-Ups
- Committed to the Presidents' Climate Commitment, Endorsed the Paris Climate Agreement
- Added a Sustainability fee
- Created and manage a BSU Sustainability web page, energy and sustainability dashboards
- Promoted health and well-being with campus improvements
- Implemented replacement of site lighting with LED and light-pollution limiting fixtures
- Established green roofs and rain gardens
- Implemented bikeshare program, installed bike racks at all residence halls and several academic buildings
- Established bus shuttle service for students commuting from off-campus housing
- Introduced hybrid and fuel-efficient campus fleet vehicles, charging stations, and parking discounts for efficient/hybrid/fuel-efficient vehicles
- Achieved 15% carbon reduction
- Installed seven large solar panel arrays producing 18% of total campus electrical power
- Installed solar charging stations
- Implemented solar hot water heating for swimming pool
- Implemented building management systems for most campus buildings
- Built two LEED projects – one Platinum, one Gold
- Now using green cleaning products in all buildings
- Increased recycling containers and use
- Introduced paper reduction and electric lamp and printer toner recycling programs
- Food service: Implemented tray-less cafeteria, increased healthy food options
- Implemented food pantry program in conjunction with Food Lion



RECOMMENDATIONS

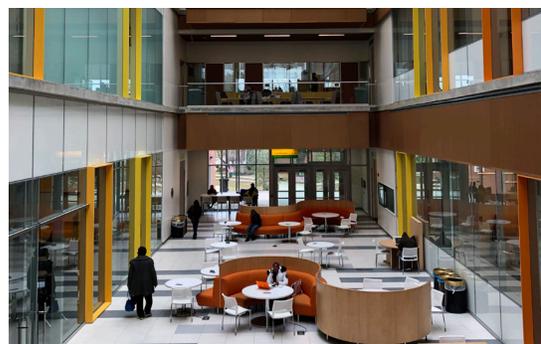
A sampling of recommendations follow. Refer to Section 4E Sustainability, Climate Action, Resiliency, and Well-Being for all recommendations.

- **Engagement / Outreach.** Reinforce the Presidents' Climate Commitment / Second Nature Statement.
- **Coordinate and consolidate information gathering and data collection** within and between sustainability website, newsletters, access to sustainability library resources, sustainability dashboards and BSU sustainability app.
- **Academics.** Consider campus-wide mandate, program, or degree; existing C4 faculty members: include sustainability into curriculum and a few other instructors
- **Health and Well-being.** Encourage and incentivize health and wellbeing of students, faculty and staff on campus;
- **Site / Grounds / Land Use.** Establish target goal of open space, natural habitat, and urban heat island; consider creation of additional outdoor classrooms /learning opportunities
- **Water.** Establish baseline metric and target goal for water use reduction
- **Transportation/Parking.** Establish baseline metric and target goal for % increase



in biking and alternative transportation usage / % decrease in parking permits and traffic.

- **Energy/Carbon.** Set energy reduction targets for new buildings and existing buildings in addition to campus wide goals: e.g. consider zero energy or solar ready for all new buildings; track and monitor energy (and water) usage in a portfolio manager.
- **Buildings.** Ensure an integrated design team and process for any improvement projects; plan and design for flexibility and adaptability for future change
- **Existing Buildings.** Retro/ Re- commission existing buildings as upgraded
- **New Buildings.** Consider LEED Gold as minimum target; consider other rating systems, e.g. Living Building Challenge, WELL Building Standard
- **Materials: Indoor Air Quality (IAQ) / Waste / Recycling.** Establish IAQ mandatory strategies for all new building and major renovations that enhance student learning, occupant satisfaction, and overall health and well-being – e.g. lighting, thermal comfort and control, access to daylight and views, connections to nature / biophilic design strategies
- **Food Service.** Establish target goal for decreased % of food waste.



1 OVERVIEW OF THE UNIVERSITY

FACILITIES MASTER PLAN CONTEXT

Writing near the end of the first century B.C.E., Roman architect Vitruvius Pollio identified three elements necessary for a well-designed building: firmitas, utilitas, and venustas. Firmness or physical strength secured the building's structural integrity. Utility provided an efficient arrangement of spaces and mechanical systems to meet the functional needs of its occupants. And venustas, the aesthetic quality associated with the goddess Venus, imparted style, proportion, and visual beauty. Rendered memorably into English by Henry Wotton, a seventeenth century translator, "firmness, commodity, and delight" remain the essential components of all successful architectural design.¹

"If you've spent any amount of time on a well-designed, beautifully constructed university campus, then you understand the importance of architecture when it comes to influencing higher education. Not only can architecture inspire imagination and creativity, but it can unite students, faculty, staff, administrators, and the community to create a space that feels energized, organic, and magnetic."² However, buildings and the built-environment do not exist in a vacuum. They are a response to the needs of people, programs, activities, and stuff essential to human beings. A campus is more than a collection of buildings. Higher education institutions are change agents for communities and societies as a whole. Higher education is important in the 21st century because of its impact on the economy, individual health and well-being, civic engagement, personal development, improved communication, realization of passions, acute sense of discipline, and a sense of accomplishment to the betterment of communities and societies.

Supporting access and success while integrating well-being in students, faculty, staff, administrators and the immediately surrounding community are a couple of essential elements of engagement on a higher education campus. High expectations and high support are required. The Association of American Colleges & Universities (AAC&U) has been a stalwart supporter for liberal education. AAC&U is convinced that a liberal education offers the best preparation for work, citizenship, and life.

In 2001, the National Science Foundation (NSF) adopted Science, Technology, Engineering, and Mathematics (S.T.E.M.) as the acronym to replace Science, Math, Engineering and Technology (SMET) the then used term for these academic disciplines. In *Rising Above the Gathering Storm*³, a group of U.S. Senators and members of Congress asked the National Academies to respond to the following questions:

"What are the top 10 actions, in priority order, that federal policymakers could take to enhance the science and technology enterprise so that the United States can successfully compete, prosper, and be secure in the global community of the 21st century? What strategy, with several concrete steps, could be used to implement each of these actions?"⁴

STEM was implicated as a move forward in addressing, education policy, curriculum, workforce development, national security concerns, and immigration policy.

In 2006, Secretary of Education Margaret Spellings's Commission on the Future of Higher Education issued its final report⁵. It called for systemic changes at the nation's colleges and universities. The report took a hard look at the United States global competitiveness and made six recommendations:

¹ <https://www.lib.uchicago.edu/collex/exhibits/firmness-commodity-and-delight/>

² <https://schmidt-arch.com/how-architecture-design-affect-higher-education/>

³ THE NATIONAL ACADEMIES PRESS; *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*; Washington, DC; 2005. Initial report released in 2005, with the final, edited book issued in 2007.

⁴ *Ibid.*; p.ix

1. Expand access and success by improving preparation and persistence, and by addressing non-academic barriers such as finance;
2. Restructure the financial aid system to provide incentives for the measurement of costs and institutional productivity;
3. Create a robust culture of accountability and transparency;
4. Embrace a culture of continuous innovation and quality improvement through the development of new pedagogies, curricula, and technologies;
5. Develop a national strategy for lifelong learning; and
6. Increase federal investment in areas critical to the nation’s global competitiveness.

To date, these recommendations have not been fully implemented at the federal level but are recognized at the state and USM levels. They inform the state constitutional mandate to support public higher education.

Bowie State University (BSU) continues to be informed by those recommendations and to build upon them. Bowie State is the first historically black college or university in Maryland to host a small business incubator and one of only a few in the country to offer an academic program in entrepreneurship. Today’s global workplace is powered by innovators who use entrepreneurial thinking to drive their success. Bowie State University’s commitment to entrepreneurial education shapes a learning environment that prepares graduates who can create innovative approaches to problem-solving within a workplace or chart their own course to launch their own ventures. BSU’s university-wide focus on entrepreneurship primes students to think critically, solve problems and adapt to change. Special high-impact learning activities provide opportunities for students to hone their ideas and sharpen their skills in real-world environments to prepare for career and personal success.

Upon becoming Bowie State University’s 10th president in its illustrious 150-year history, President Aminta H. Breaux strategically began building a campus-wide synergy embracing teamwork to further address the integration of liberal arts education, STEM and entrepreneurship. In the same manner by which Vitruvius viewed the elements of firmness, commodity, and delight as essential to successful architectural design, Dr. Breaux has established student success, academic excellence, and innovation as essential to Bowie State University’s continuing viability.

In support of the foregoing, the built environment greatly impacts every aspect of Bowie State University.

“When trustees, presidents, and senior college administrators meet, one topic dominates the conversation: how to keep education quality high and costs down. To keep quality high, college leaders need to have strong faculties and state-of-the-art facilities for teaching and research. Quality counts but it also costs, and that’s where the pressures come in: Institutions need to determine how best to balance investments in quality, such as modern facilities that will attract and retain students and faculty, and at the same time keep costs in check.”⁶

“Survey research conducted by Reynolds and Cain concludes that “institutional characteristics and facilities have a direct correlation with a student’s decision to attend a particular school, both initially and after enrollment” (p. 41). Their research suggests that while facilities play an important role in students’ decision-making process when they select a particular institution, the quality of facilities is even more important when students reject an institution.”⁷

⁵ U.S. Department of Education; A Test of Leadership: Charting the Future of U.S. Higher Education, Washington, D.C.; 2006

⁶ Kadamus, James A.; Change, THE MAGAZINE OF HIGHER LEARNING; March-April 2015;

⁷ Ibid.

The MD State Finance and Procurement Code §3-602 (2018) requires the Department of Budget and Management (DBM) to study each capital project proposed by any unit of State government including the University System of Maryland. Accordingly, DBM established a process requiring facilities master plans (FMP) and facility programs (i.e., Part 1 for preliminary planning, and Part 2 for design) for the orderly development of built environments.

“The State of Maryland provides guidance to State Agencies in the collection, projection, and analysis of data, the identification of facility needs, and the development of recommendations to meet these needs over a 10-year period.

Recording this information systematically will enable the Agency to identify, evaluate, and address the conditions that affect its capital program. This will permit the development of sound capital programming to guide the physical development of the Agency’s facilities. The Department of Budget and Management will benefit by being able to utilize the master plans to assist in preparing annual and five-year capital budgets that reflect each Agency’s needs and priorities.”

As provided in the MD State Finance and Procurement Code §3-602 (2018), DBM is required to:

- (a) The Department shall study each capital project proposed by any unit of the State government.
- (b) Except for a capital project designated as an emergency by the unit of the State government proposing the project, any unit of the State government requesting a capital project shall submit its request to the Department on/or before

June 30 of the fiscal year preceding the fiscal year in which the capital project is to begin.

(c) Each request for a capital project by a unit of the State government, including the University System of Maryland, St. Mary’s College of Maryland, and Morgan State University, shall include a detailed list of all proposed expenditures for capital improvements to be funded from grants or nonbudgeted revenues.

(d)(1) Before an appropriation may be authorized for preliminary planning of a proposed capital project:

- (i) the unit of the State government requesting the appropriation shall submit to the Department a program describing, in detail, the scope and purpose of the project; and
- (ii) The Secretary of Budget and Management must approve the program.

(d) (2) Before an appropriation may be authorized for construction of a proposed capital project:

- (i) the unit of State government requesting the appropriation shall submit to the Departments of Budget and Management and General Services a detailed design program, which shall include all information required by the Departments; and
- (ii) both the Secretary of Budget and Management and the Secretary of General Services must approve the detailed design program.

⁸ Department of Budget and Management, Office of Capital Budgeting; Guidelines for Submission of a Facilities Master Plan to the Maryland Department of Budget and Management; June 2016; p.1

THE MARYLAND CHARTER FOR HIGHER EDUCATION⁹

In 1988, The Maryland Higher Education Commission (MHEC) replaced the State Board for Higher Education. In Chapter 246, Acts of 1988 MHEC implemented a reorganization of Maryland universities and colleges. MHEC coordinates the growth and development of post-secondary education in Maryland.¹⁰ In consultation with the governing boards and agencies concerned with postsecondary education in Maryland, MHEC is required to develop and update every four years the State Plan for Higher Education. MHEC has six segmental partners:

1. The Maryland Association of Community Colleges (MACC)
2. The Maryland Association of Private Colleges and Career Schools (MAPCC)
3. The Maryland Independent College and University Association (MICUA)
4. Morgan State University (MSU)
5. St. Mary's College of Maryland (SMCM)
6. The University System of Maryland (USM)

Postsecondary education in Maryland also complies with the State's equal educational opportunity obligations under state and federal law, including Title VI of the Civil Rights Act. Maryland Code, Education §10-204 (2018) states:

Public institutions of higher education shall:

- (1) Provide postsecondary education to students;
- (2) Transmit culture and extend knowledge through general higher education;
- (3) Teach and train students for careers and advanced study;
- (4) Protect academic freedom;
- (5) Promote civic responsibility;
- (6) Enhance economic development of the State through research, training, and extension services to business and industry;
- (7) Provide public services for citizens of the State; and
- (8) Assure that women and minorities are

equitably represented among faculty, staff, and administration, so that the higher education community reflects the diversity of the State's population.

The current 2017-2021 Maryland State Plan for Higher Education, Increasing Student Success with Less Debt has as its principles of public higher education in Maryland:¹¹

- The people of Maryland expect quality in all aspects of public higher education: teaching, research, and public service;
- Public higher education should be accessible to all those who seek and qualify for admission;
- Public higher education should provide a diversity of quality educational opportunities;
- Adequate funding by the State is critical if public higher education is to achieve its goal;
- The people of Maryland are entitled to efficient and effective management of public higher education; and
- The people of Maryland are entitled to capable and creative leadership in public higher education

⁹ Annotated Code of Maryland, Education Article, Division III §10-201 (2018)

¹⁰ Annotate Code of Maryland, Education Article §11-105 (2018)

¹¹ Annotated Code of Maryland, Education Article §10-202 (2018)

THE UNIVERSITY SYSTEM OF MARYLAND

VISION -- “THE USM IN 2010” REVISITED: AN UPDATE OF THE USM STRATEGIC PLAN:¹³

The University System of Maryland is the state’s public higher education system of USM’s 12 institutions, 3 regional centers, and system office. It was created in 1988 when campuses and components of the University of Maryland merged with the six members of the State University and College System of Maryland and named the University of Maryland System. In 1997, the System was renamed the University System of Maryland. The charge for USM is to achieve and sustain national eminence with each component fulfilling a distinct and complementary mission.

In order to benefit students, Maryland and its citizens, USM:

- Offers expansive access to affordable, high-quality educational opportunities.
- Performs groundbreaking research.
- Instills a culture of innovation and entrepreneurship.
- Promotes economic growth and workforce development.
- Provides vital services to communities and individuals.
- Partners with business, governmental, nonprofits, and organizations to improve quality of life.

The vision of USM is to be a preeminent system of public higher education, admired around the world for its leadership in promoting and supporting education at all levels, fostering the discovery and dissemination of knowledge for the benefit of the state and nation, and instilling in all members of its community a respect for learning, diversity, and service to others. Mission:

MISSION

The mission of the University System of Maryland is to improve the quality of life for the people of Maryland by providing a comprehensive range of high quality, accessible, and affordable educational opportunities; engaging in research and scholarship that expand the boundaries of current knowledge; and providing knowledge-based programs and services that are responsive to the needs of the citizens of the state and the nation. USM fulfills its mission through the effective and efficient management of its resources and the focused missions and activities of each of its component institutions.

USM FACTS¹²

- Undergraduate Students: 135,126
- Graduate Students: 41,297
- Full-time Faculty: 8,905
- Part-time Faculty: 9,429
- Staff (various categories): 21,565
- Facilities: Nearly 120 sites
- Buildings: Nearly 1,100, including 24 libraries
- Operating Budget: \$5.8 billion (FY 2019)

¹² https://www.usmd.edu/about_usm/

¹³ The USM through 2020: A Renewed Vision for Powering Maryland Forward; https://www.usmd.edu/about_usm/

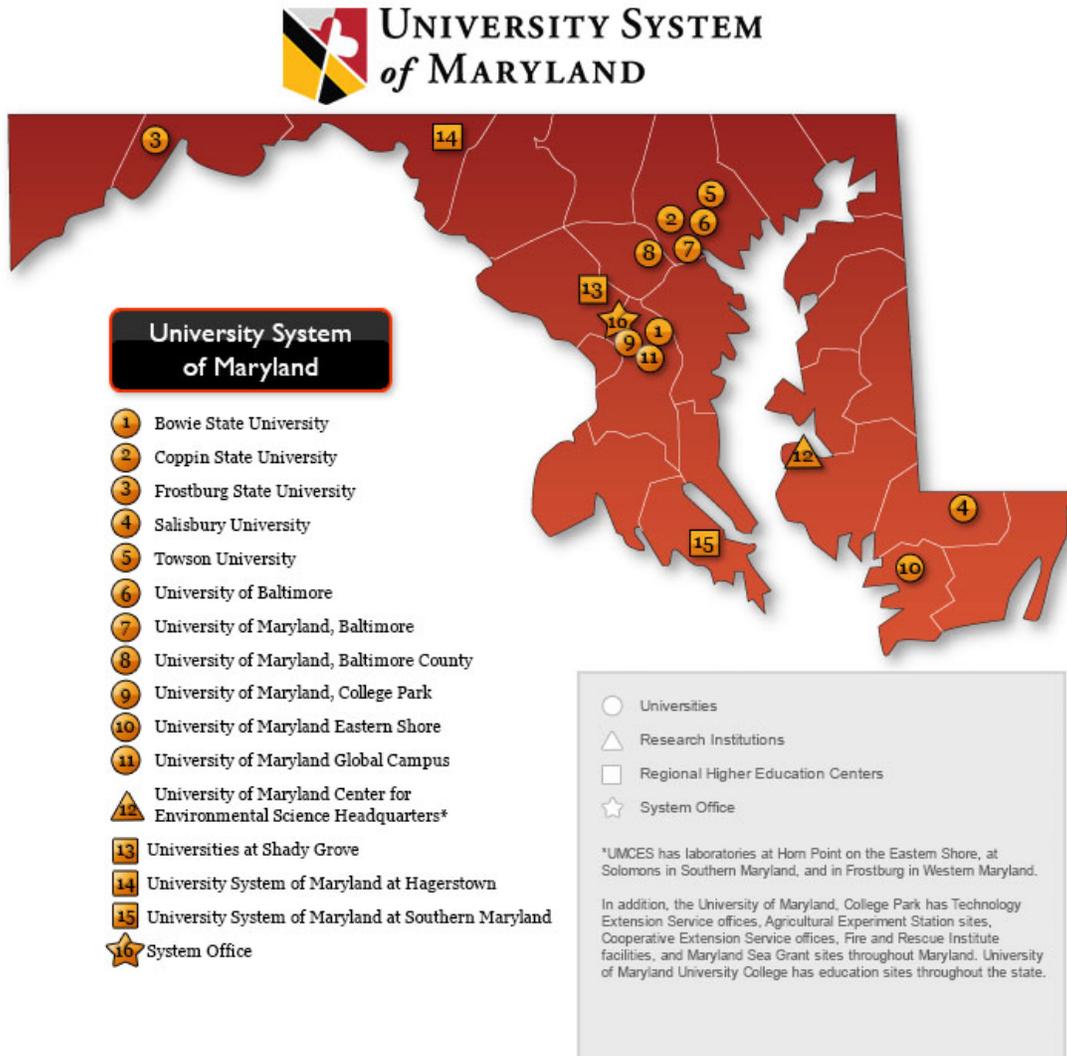
CORE VALUES

1. We value the intellectual development of our students, and we are dedicated to providing them with an education that is of the highest quality and that fully meets their professional and personal needs.
2. We value the creation and dissemination of knowledge, and we are dedicated to using the knowledge developed in our institutions to advance the state's economy and to improve the quality of life for Maryland's citizens.
3. We value integrity, and we are dedicated to the highest ethical standards in all our endeavors and to creating a culture that promotes civility and probity in the daily conduct of all faculty, staff, and students.
4. We value the free and open exchange of ideas, and we are dedicated to producing graduates who are well prepared to be contributing members of a democratic, pluralistic society and the larger global community.
5. We value diversity and are dedicated to creating an environment that both celebrates and is enriched by the multiple perspectives, cultures and traditions reflected in humankind.
6. We value the talents and contributions of our faculty and staff, as well as their participation in the shared governance of our institutions and the System, and we are dedicated to recruiting and retaining exceptional people and providing them with the resources and professional development opportunities to ensure their success.
7. We value the natural and cultural resources of Maryland, and we are dedicated to using our knowledge and talent to preserve, protect, and promote these irreplaceable assets.
8. We value our historic role of serving the public good and we are dedicated to using our considerable human and physical resources for the benefit of our state and nation.
9. We value our role as the state's leader in higher education and we are dedicated to serving as an exemplar of academic quality and of principled, effective, and efficient use of resources.

GOALS

- I. USM academic programs will respond to meet the changing educational and leadership needs of our state, our nation, and a growing and increasingly diverse undergraduate and graduate student population.
- II. Throughout its educational, research, and outreach activities, the USM will strive to produce graduates who are knowledgeable of and sensitive to the cultural, environmental, and technological issues facing a global economy; who understand the importance of and the responsibilities inherent in citizenship and community; and who have the knowledge, skills, and integrity to effectively lead the people and organizations they serve.
- III. USM research and scholarship will position Maryland as a national and international leader in science and technology, the arts and humanities, and the professions, creating and disseminating knowledge to ensure the state's continued economic growth, sustainable development, and international competitiveness.
- IV. The USM will achieve national eminence as mandated by the state legislature and will relentlessly pursue its fundamental mission to serve the public good.
- V. The USM will adhere to the highest standards of stewardship in all of its endeavors, and will promote the effective, efficient, and principled use of state and private resources.

Figure 1.1: University System of Maryland



POLICY ON FACILITIES MASTER PLANS¹⁴

1. A facilities master plan is for the purpose of establishing a framework for orderly growth and development of capital improvements that is responsive to an institution's current and projected needs and sufficiently flexible to accommodate changes that can be expected to occur in a dynamic environment. The plan is to describe the optimal development of the available space consistent with the approved mission statement of the institution. The plan is a working document that will require evaluation and updating periodically to ensure its consistency with revised mission statements and with other circumstances. The plan does not constitute a commitment to a specific timetable for the completion of projects. A facilities master plan is a component of the overall planning responsibility of the Board of Regents.
2. As a part of its planning responsibility, the Board of Regents shall approve the facilities master plan for each institution.
3. Each President or Director shall prepare a facilities master plan which:
 - a. Includes
 - 1) Information about the institution's role and mission and how these relate to facilities requirements;
 - 2) an analysis of space and program needs to implement the approved mission;
 - 3) a description of existing land and facilities, including a description of the possible new or revised use of existing land and facilities;
 - 4) projections of needs over the next 10 to 20 years; and
 - 5) assumptions and criteria to meet identified needs.
 - b. Is consistent with the mission of the institution as the mission statement has been approved by the Board of Regents and the Maryland Higher Education Commission.
 - c. Is consistent with State requirements for facilities master plans, including those for the Maryland Higher Education Commission.
 - d. Is to be updated on a periodic basis, including when substantial changes to the institution's mission statement have

taken place, or at least every five years coincident with the resubmission of an updated mission statement.

4. The institution's facilities master plan shall be reviewed by the Chancellor for consistency with the Systemwide goals and objectives established by the Board of Regents.

... A facilities master plan is for the purpose of establishing a framework for orderly growth and development of capital improvements. . .

The Bowie State University Capital Improvement Program Logic Model complies with all of the policies, procedures and processes outlined in the foregoing. It seeks to build on the legacy of the institution while "Racing to Excellence" in an ever changing transformational global economy. Bowie State University seeks resiliency in all of its endeavors. It seeks to incorporate that throughout campus life and in partnership with the surrounding community.

- Innovation Based Economic Development -- Workforce Development Initiative
- Health and Well-Being
- Excellence in Education and Research

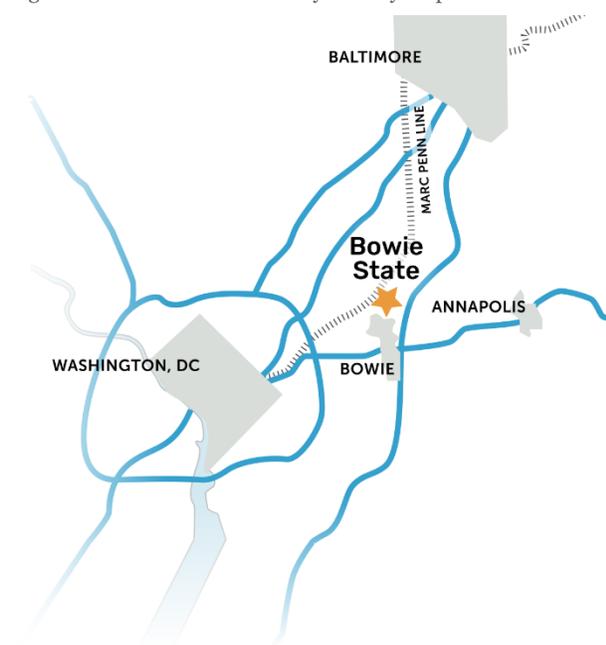
In order to be intentional and focused in its use of resources to attain its vision, mission, values and goals, Bowie State University must have a framework for the orderly growth of the campus (i.e., updated facilities master plan). Accordingly, BSU completed the University's Strategic Plan and the National Institute of Learning Outcomes Assessment (NILOA) Excellence in Assessment Designation in 2018. This ongoing self-study affords BSU the opportunity to investigate its priorities of accreditation and assessment, advising and retention, curriculum, and student success. It further prepares BSU for its 2021 Middle States Commission on Higher Education (MSCHE) reaccreditation. The reaffirmation process includes a self-study report to show compliance with the Standards for Accreditation and Requirements of Affiliation. BSU's self-study design was heralded by MSCHE as a model of excellence and exemplar for other institutions.

¹⁴ 295.0 VIII-10.00 – Policy on Facilities Master Plans, Approved by the Board of Regents, September 27, 1990, <https://www.usmd.edu/regents/bylaws/SectionVIII/VIII1000.html>

Additionally, BSU undertook the development of a strategic enrollment management plan, housing market study, a facilities assessment, utilities study, parking and traffic study, and the development of a comprehensive strategy to activate areas around the campus edges.

BOWIE STATE UNIVERSITY

Figure 1.2: Bowie State University Vicinity Map



Bowie State University (BSU) is building a bold future on a proud heritage. Founded in 1865, Bowie State University is Maryland’s first historically black public university and is one of the 10 oldest HBCUs in the country. The university’s 337-acre campus is centrally located in Bowie, Maryland, near Washington, DC, Baltimore, and

Annapolis, positioning students for prime access to internships and job placements with government agencies and industry leaders as well as a wealth of cultural experiences

A comprehensive, regional university, BSU embodies a diverse population of students to reach their potential by providing affordable, high-quality academic programs and innovative, transformational experiences inside and outside of the classroom, as they prepare for careers, lifelong learning, and civic responsibility. BSU has been recognized as one of the nation’s best value universities by Money.com, and U.S. News & World Report ranks Bowie among the top 25 HBCUs.

QUICK FACTS

- Undergraduate Students: 5,227
- Graduate Students: 944
- Full-time Faculty: 221
- Part-time Faculty: 289
- Full-time Staff: 424 Part-time Staff: 94
- Facilities: 337 acres
- Buildings: 23
- Operating Budget: \$146.5 million (FY 2019)

STRATEGIC PLAN CONTEXT

The University System of Maryland Board of Regents appointed Aminta Hawkins Breaux, Ph.D. as president of Bowie State University effective July 1, 2017. As BSU’s first female president, Dr. Breaux hit the ground running seeking to lead the next phase of BSU’s growth and development. Prior to her official start date, Dr. Breaux drove to the campus to get an informal look around. She noticed facilities staff out working on a Sunday morning. She saw students out and about cleaning up the grounds. “They were out taking care of

¹⁵ <https://www.capitalgazette.com/maryland/bowie/ph-ac-bb-bowie-state-president-0511-20170509-story.html>

their home and I think that says a lot about how they value their university, that reassured me that I made the right decision – because I saw that care in this community.”¹⁵ At a reception, Dr. Breaux was formally introduced to students and faculty. She outlined her tenure as emphasizing teamwork, partnerships, and getting faculty members and students needed resources.¹⁶ “Heavily involved with community building, Dr. Breaux wants to enrich the neighborhoods surrounding the University while preparing students for the ever changing workforce.”¹⁷ In Dr. Breaux’s first year at BSU, she championed a campus-wide strategic planning process. BSU’s Racing to Excellence is its roadmap for strategic campus and community development and it involves every aspect of campus and community life. It prioritizes academic excellence, student success, and long-term viability of the institution as its metrics of excellence. The creation and immersion of an entrepreneurship mindset throughout Bowie State University while building on its legacy is an intentional approach to its people, programs, activities, and the tools required for excellence. Bowie BOLD is the university’s brand. It reflects the essence of the University community and educational experience. It lays the foundation for how we tell our story of excellence and achievement.¹⁸ By *Racing to Excellence*, BSU will be an exemplar of public education at its best and fulfill its mission and role as a member institution of the USM.

VISION

Bowie State University will be widely recognized as one of the nation’s best public comprehensive universities that is a model for academic excellence, innovation, and student success.

MISSION STATEMENT

As Maryland’s first historically black public university, Bowie State University empowers a diverse population of students to reach their potential by providing innovative academic programs and transformational experiences as they prepare for careers, lifelong learning, and civic responsibility. Bowie State University supports Maryland’s workforce and economy by engaging in strategic partnerships, research, and public service to benefit our local, state, national, and global communities.

GOALS

1. Achieve Academic Excellence Supported by Curricular as well as Co-curricular Experiences
2. Promote a Holistic and Coordinated Approach to Student Success
3. Encourage Academic Administrative Innovation to Meet Students Needs
4. Enhance our Campus Culture of Diversity, Inclusion and Civic Engagement
5. Ensure Long-term Viability of BSU

CORE VALUES

- Excellence
- Inclusivity
- Integrity
- Accountability
- Innovation

¹⁶ *ibid*

¹⁷ <http://baltimoretimes-online.com/news/2017/sep/22/dr-aminta-hawkins-breux-makes-history-bsus-first/>

¹⁸ <https://bowiestate.edu/about/administration-and-governance/university-relations-and-marketing/bowie-bold-brand-campaign-2019.php>

HISTORY AND UNIQUENESS

Bowie State University is building a bold future on a proud heritage. Founded in 1865, Bowie State University is Maryland's first historically black public university and is one of the 10 oldest HBCUs in the country. The university's 337-acre campus is centrally located in Bowie, Maryland, near Washington, DC, Baltimore, and Annapolis, positioning students for prime access to internships and job placements with government agencies and industry leaders as well as a wealth of cultural experiences.

Bowie State University was founded by the Baltimore Association for the Moral and Educational Improvement of Colored People in 1865 as School #1. Housed in an inadequate facility on the corner of Calvert and Saratoga streets, within two years it relocated to the Old Friends Meeting House at the corner of Saratoga and Courtland Streets and renamed the Baltimore

Normal School for Colored Teachers. By 1910, the state legislature had authorized the Board of Education to assume control of the school and to relocate the school to Bowie, Maryland on the 187-acre tract formerly known as Jericho Farm dating to 1716. Don Speed Smith Goodloe was the first black man to head the school as its principal. In 1914 the name was changed to the Maryland Normal and Industrial School at Bowie. In 1925 under President Leonidas James, the school began a two-year professional curriculum in teacher education. A four-year program to teach elementary school teachers was introduced in 1935 and the school renamed Maryland Teachers College at Bowie in 1938. During the 25-year tenure of President William Henry, the institution added programs in junior high and secondary education on its way to becoming a liberal arts college.

Figure 1.3: Aerial Map of Bowie Circa 1938



In 1963, the Maryland State Legislature authorized the college to become Bowie State College. In 1969 under President Samuel Myers, the college established its first graduate degree program, the Master of Education. The first director of the graduate division was Dr. J. Alexander Wiseman. Dr. Wiseman was a graduate of the Maryland Teachers College at Bowie and the first African-American to earn a doctorate degree from the University of Maryland College Park.

Figure 1.4: Aerial Map of Bowie State University Circa 1984



In 1988 under President James Lyons, Bowie State College became Bowie State University. Simultaneously, the institution became a member of the newly formed University of Maryland System (UMS). In 1997, UMS was renamed University System of Maryland (USM) as it stands today.

Today, Bowie State University is a comprehensive, regional university. Bowie State emboldens a diverse population of students to reach their potential by providing affordable, high-quality academic programs and innovative, transformational experiences both inside and outside of the classroom, as they prepare for careers, lifelong learning, and civic responsibility. Bowie State has been recognized as one of the nation's best value universities by Money.com, and U.S. News & World Report ranks Bowie among the top 25 historically black colleges and universities (HBCUs).

Under President Aminta H. Breaux's leadership, the university initiated a new marketing campaign entitled *Bowie Bold* and a Five-Year Strategic Plan (FY19-FY24), *Racing to Excellence*. Part of this plan is to expand the impact and value of Bowie State in the community through increased partnerships. To this end, President Breaux and Baltimore City Community College (BCCC) President Debra L. McCurdy announced a comprehensive partnership to enable more BCCC students to transfer seamlessly to Bowie State to earn a four-year degree and receive specialized scholarships. This action marked the first such agreement between the institutions.

Students also enjoy a vibrant campus life with 50+ clubs and organizations, as well as extensive leadership development opportunities. Thirteen Bulldog athletics teams (eight women's and five men's teams) compete in the NCAA Division II Central Intercollegiate Athletic Association (CIAA), the oldest African American athletic conference in the United States, and have brought home 13 conference championships in the last decade.

The university is accredited by the Middle States Commission on Higher Education and is in the process of preparing for a successful 10-year reaccreditation visit in 2021. A great deal of data about Bowie State can be viewed on the University System of Maryland Data Dashboard at: <https://www.usmd.edu/IRIS/>.

Points of Pride

- #1 nursing program among HBCUs (TopRNtoBSN.com)
- #2 among public historically black colleges and universities (HBCUs)
- ranked as best-value schools (Money.com)
- #3 among historically black colleges and universities (HBCUs) (BestColleges.com)
- One of the nation's top 25 HBCUs (U.S. News & World Report)
- Named the safest campus in the state (YourLocalSecurity.com, an ADT Security authorized provider)
- Best value among Maryland's four-year colleges and universities (The Economist)
- A top 5 university in Maryland for graduating African Americans with bachelor's degrees in

nursing, biology and computer/information sciences (Diverse: Issues in Higher Education)

- Leader in green building design with the Center for Natural Sciences, Mathematics and Nursing (LEED Platinum), making BSU one of three Maryland universities with a building having this distinction, and Student Center (LEED Gold)
- 80% of BSU graduates remain in Maryland and contribute to the state's economic prosperity
- U.S. News and World Report ranked the MPA program on its Best Public Affairs Program list, and NoGRE.com selected it as Maryland's #1 MPA program on its list of the Best-Priced Accredited MPA Programs, with no entrance exam requirements
- Designated as a Military Friendly® School

STRATEGIC PLAN – RACING TO EXCELLENCE

The BSU 2020-2030 Facilities Master Plan is the campus and community development plan. It seeks to respond to the strategic plan *Racing to Excellence* which has at its core the intertwining of a mindset of entrepreneurship throughout the Bowie State University campus and community. The strategic focus is on activities that will transform the character of the academic, co-curricular, and administrative activities to create a holistic approach to student success. The emphasis is placed on every facet of the university in improving retention, graduation, and post-graduate placement. The goals are:

1. Achieve Academic Excellence Supported by Curricular as well as Co-curricular Experiences
2. Promote a Holistic and Coordinated Approach to Student Success
3. Encourage Academic Administrative Innovation to Meet Students Needs
4. Enhance our Campus Culture of Diversity, Inclusion and Civic Engagement
5. Ensure Long-term Viability of BSU

The associated objectives permeate BSU. They seek innovation in program offerings, modes of instruction and experiential learning; partnerships to expand the impact and value of BSU in the community; advancing the importance of inclusion

and accountability will create an environment that embraces cultural diversity and encourages civic responsibility. Racing to Excellence outlines a way forward to ensure the growth and long-term viability of Bowie State University as an institution committed to transforming lives with public education for public good. In turn, Bowie State University will be consonant with its mission, the mission of the University System of Maryland, Board of Regents policy governing facilities master plans; the principles of public higher education in the current 2017-2021 Maryland State Plan for Higher Education, Increasing Student Success with Less Debt; and the Maryland Charter for Higher Education. In order to start operationalizing Racing to Excellence, Bowie State initiated an updated plan for how it is to be perceived.

TAKING TOMORROW. BOLDLY

Our university brand is our identity – it reflects the essence of the university community and educational experience. It lays the foundation for how we tell our story of excellence and achievement. The Bowie State University community is Taking Tomorrow. Boldly.

Bold takes on big ideas. Bold takes on the world. Bold takes on tomorrow. Bowie State University has built its more than 150-year legacy and commitment to excellence on providing an empowering education for our students. Our future is bright and is rooted in our bold vision for tomorrow.

PRESIDENT BREAUX'S STRATEGIC FOCUS

- Student Success -- Access, Retention, Completion, nearly 1/4 of Md high school students don't enroll
- Academic Excellence - - consistency with mission, vision, and goals set in strategic plan; relationship building across campus and surrounding community; motivating and empowering those in academic and research units
- Innovation -- Grow Maryland's economy, incentivize innovation, and advance the

quality of life, social mobility and economic opportunity. The “new economy”: entrepreneurial, IT-driven, globalized, and innovation- and knowledge-based.

STRATEGIC GOALS AND OBJECTIVES

GOAL 1 - Achieve academic excellence supported by curricular and co-curricular experiences

Bowie State University will achieve academic excellence through quality teaching, learning, and research; high-demand innovative academic programs; high-impact student activities; and strategic partnerships.

OBJECTIVES

- 1.1 High-demand, innovative academic programs – Modify existing academic programs, and create and support new, high-demand programs that will promote the ongoing growth and development of the institution.
- 1.2 High-impact activities – Integrate and enhance opportunities for students to participate in study abroad, service learning, civic engagement, internships and other experiential learning activities, with University financial support available to assist those with limited means.
- 1.3 Engaged faculty – Recruit and retain faculty committed to student success through continuous development of excellence and innovation within their pedagogical course delivery. Provide support for faculty scholarship, research, and academic presence in their respective fields. Enhance faculty skills and capacity for applying for and managing external funding.
- 1.4 Cultivate external relationships – Increase corporate, educational, and government partnerships to help provide career-oriented opportunities for our students and alumni.

1.5 Undergraduate education – Re-examine the undergraduate general education experiences to prepare students for success in their majors, promote lifelong learning, and provide a foundation for personal and professional success after graduation.

1.6 Graduate education – Re-examine our approach to graduate education and revise as necessary to address the unique needs of the adult learner population and to grow enrollment.

1.7 Learning outcomes assessment – Continue to mature our system of assessing student learning outcomes and implementing curricular improvements resulting from assessment findings.

GOAL 2 - Promote a holistic and coordinated approach to student success

Bowie State University will honor its rich heritage and culture by promoting access, affordability, and completion through resources and opportunities that empower students to succeed at every level of learning.

OBJECTIVES

2.1 Enrollment Management Division – Create a comprehensive enrollment management approach that promotes a student-centered philosophy through a coordinated, consolidated, and streamlined system of enrollment management operations and retention activities using data, information, and program evaluation to inform continuous improvement and long-term strategic enrollment management.

2.2 New student experience program – Develop a comprehensive new-student experience program for all levels that sets standards and expectations of what it means to be a successful Bowie student.

2.3 Admission policies and procedures – Align admission policies and procedures to ensure that the University is honoring its historical mission of access and opportunity.

2.4 Financial aid awarding strategy – Develop a comprehensive financial aid awarding strategy that leverages institutional, private, state, and federal resources to strategically align resources to support student success.

2.5 Student retention and progression strategy – Develop and implement a comprehensive undergraduate and graduate retention and progression strategy by encouraging innovation and collaboration between academic and non-academic units in efforts to support student success.

2.6 Holistic student development – Integrate deliberate academic and co-curricular programs and services with the goal of developing our students intellectually, emotionally, socially, physically, artistically, creatively, and spiritually.

GOAL 3 - Encourage academic and administrative innovation to meet student needs

Bowie State University will engage in academic transformation initiatives which encourage increased levels of student success and we will regularly evaluate administrative processes and leverage new approaches to improve the student experience.

OBJECTIVES

3.1 Faculty experimentation/innovation – Leverage internal fiscal and physical resources and USM Academic Transformation grants and other opportunities to promote experimentation and innovation. Examine current human resource practices, promotion, and tenure expectations and the faculty merit process to recognize faculty efforts in these areas.

3.2 Academic programming through alternative formats – Offer targeted programs through alternative modalities, online delivery, at regional higher education centers, and in the community, in order to meet the needs of all prospective students and of the state, national, and global workforce.

3.3 Leverage current and new technologies to support student success – Assess the capabilities of current technologies to promote efficiency and effectiveness in administrative and academic processes and have a transparent and inclusive process for evaluating new technologies.

3.4 Construct an analytics capacity – Develop a data warehouse that incorporates a reporting tool to provide actionable information to support student retention, progression, and graduation.

GOAL 4 - Enhance our campus culture of diversity, inclusion and civic engagement

Bowie State University will embrace, promote, and support a community of cultural inclusivity, diversity and accountability by ensuring that faculty, staff, and students develop a mindset of accountability in teaching, learning, support programs, and extra-curricular campus experiences designed to enhance collaboration and engagement.

OBJECTIVES

4.1 Community of inclusion – Sustain our commitment to fostering and supporting a safe, civil and welcoming environment for students, faculty, and staff by being intentional about how our community encourages involvement, respect, and connection among its members.

4.2 Culturally responsive pedagogies – Expand the use of culturally responsive pedagogies through faculty development.

4.3 Multicultural programs and services – Establish an Office of Multicultural Programs and Services that promotes an appreciation of inclusion and diversity on campus and assists with the retention and graduation of international students.

4.4 Culture of historical richness – Cultivate a culture of historical richness through campus displays and events that celebrate significant events and outcomes.

4.5 Civic responsibility – Continue to educate the next generation of global citizens to build stronger, more engaged communities through coordinated and deliberate activities aimed at improving the quality of life in our community and strengthening our democracy through political and nonpolitical engagement.

GOAL 5 - Ensure long-term viability of BSU

Bowie State University will create a unified understanding of the elements that define the unique qualities of its value to attract a culturally diverse student body and actively engage alumni, friends, and partners to address critical needs of Prince George’s County and the surrounding region. We will leverage fiscal resources from public and private sources to advance strategic priorities that create a sustainable future for the university, the county, and the state of Maryland.

OBJECTIVES

5.1 Entrepreneurship/workforce development – Develop entrepreneurship education for equipping the future workforce with leadership and entrepreneurial mindset required in the twenty-first century.

5.2 Engaged employees committed to student success – Recruit and retain employees committed to student success, and support them through ongoing professional development opportunities and opportunities for advancement and engagement.

5.3 Alumni engagement – Implement strategies to solidify mutually beneficial and intentional connections between alumni and the university to expand opportunities for personal and career development for both alumni and students through the BSU for Life program.

5.4 Service for the public good/community engagement – Cultivate collaboration with business, government, economic development, and community organizations to serve the public good by using the University’s resources

5.6 Resource development – Grow a culture of philanthropy and enhance external funding from public and private giving, grants, contracts, partnerships and sponsorships and promote and demonstrate effective stewardship of resources to achieve the university’s strategic priorities.

5.7 Sustainability and facilities development – Continue to develop a campus infrastructure that supports a commitment to environment-friendly practices in expanding facilities that enhance student development, living and learning environments and innovative instructional practices.

STRATEGIC PLAN – FIVE PRELIMINARY CAMPUS DEVELOPMENT STUDIES

Student Housing Market Due Diligence -- – Anderson Strickler (an MGT company)

- Fall 2016 five residence halls opened at 102% occupancy
 - Apartments opened at 100% occupancy
 - Incremental Demand within the range of 616 to 858 additional beds with a midpoint of 737
 - Qualitative factors (e.g., type of housing, living-learning community, amenities, etc.) are as important as quantitative factors (e.g., price, size of the building, mix of offerings, etc.)
- Note:** Subsequent November 19, 2019 MGT Housing Study increased the range from 1,101 to 1,429 additional beds with a midpoint of 1,265.

Enhancing On-Campus Student Housing Performance (Fresh Eyes) (Capstone On-Campus Management)

- “Seek first to understand and then to be understood” Steven R Covey
- On-Campus Housing – Centrality and Impact on Students
- Students value – convenience, community, value, safety and security
 - HBCU experience
 - “Feel” and culture
 - Family
 - Student Leadership
- Recruitment, Retention, Graduation

- Residence Life
- 600 beds FTFT in campus core and 300 apartment beds at front of campus

Facilities Assessment & Planning Analysis (Sightlines) (Gordan*company) 20 Buildings, 975,053 GSF

- Kick-off
- Initial Data
- Building Walk Through
- Supervisor Interviews
- Supervisor Follow-ups

Roadways and Parking Demand (Street Traffic Studies, LTD)

- Meet acceptable operations standards
- Adequate traffic control for safe and efficient traffic flow
- Maintain pedestrian core
- Parking constrained by operations, not supply

Campus Development (Margraves) – Real Estate Opportunities to Meet Institutional Goals

- Leverage institutional demand
- Activate campus edges
- Create vibrant walkable place
- Attract and retain top talent
- Better connect Bowie State University to its surroundings

LEARNING EXPERIENCE – LIBERAL ARTS/STEM/ENTERPRISE ENTREPRENEURSHIP EDUCATION

The aforementioned studies begin to contextualize some of the campus built environment constraints. Combined they outline an inward look at opportunities and threats to the viability of Bowie State University. Together they inform the facilities master planning process and its focus inward at land, buildings, and projects in response to Racing to Excellence as well as outward as to needs in the immediate, local, state, national and global markets. Critical to actualizing Racing to Excellence is Bowie State’s approach to inquiry, discovery, and innovation. Bowie has a firm academic underpinning as evidenced in its Points of Pride. The following contextualizes the Bowie State University academic and learning experience

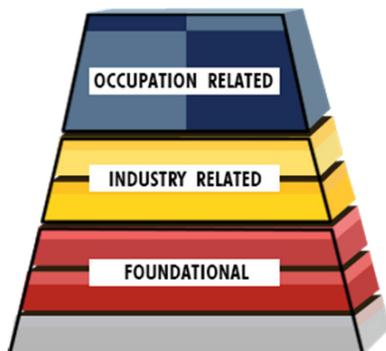
socially, politically, and culturally around Liberal Arts, S.T.E.M. and Enterprise/Entrepreneurial Education.

President Breaux believes that Bowie State and the community working together will lead to excellence for all. Dr. Breaux’s strategic priorities are academic excellence, student success and the long-term viability of Bowie State University. She believes strongly in partnerships and collaboration. In an effort to advance the university’s mission to make quality education accessible to all, she accepted an appointment to the Governor’s P-20 Leadership Council of Maryland that seeks ways to improve education and create a highly skilled workforce.

The P-20 Leadership Council of Maryland is a partnership of education and the business community throughout the state of Maryland. The Council’s workforce development model is consistent with the United States Department of Labor Employment and Training Administration Competency Initiative. The models serve as a resource to inform discussions among industry leaders, educators, economic developers, and public workforce investment professionals as they collaborate to:

- Identify specific employer skill needs
- Develop competency-based curricula and training models
- Develop industry-defined performance indicators, skill standards, and certifications
- Develop resources for career exploration and guidance

Figure 1.5: U.S. Department of Labor Industry Competency Model



The nine tiers are as follows:

Foundational Competencies

- Tier 1 – Personal Effectiveness Competencies
- Tier 2 – Academic Competencies
- Tier 3 – Workplace Competencies

Industry Related

- Tier 4 - Industry-Wide Technical Competencies
- Tier 5 - Industry-Sector Technical Competencies

Occupation Related

- Tier 6 - Occupation-Specific Knowledge Competencies
- Tier 7 - Occupation-Specific Technical Competencies
- Tier 8 - Occupation-Specific Requirements
- Tier 9 - Management Competencies

In turn, this allows the members of the P-20 Council to explore areas of workforce shortages such as the following:

- Healthcare
- Computer Science and Cyber Security
- Teachers
- STEM
- Precision manufacturing

Since all levels of education are at the table, it allows for a robust look at the education continuum across segments. For example, if the issue were a matter of Career and Technical Education (CTE), the Council might explore the following:

- College and career readiness
- College Completion Strategies implemented
- Recruitment, retention, graduation
- Teacher quality and retention
- Teacher professional development
- Strengthen STEM
- Continuous learning (life-long learning and learners)
- Governor’s Workforce Development Board that is focused on improving workforce development

In turn, this informs post-secondary education in areas it might need to adjust at the 2-year, 4-year, or both levels to ensure there is an excellently prepared workforce to meet business and industry demands while preparing jobseekers with the requisite competencies.

In addition to the aforementioned, today's learners (i.e., faculty and students) must possess 21st Century skills:

- Learning and Innovation skills
- Digital Literacy skills
- Career and Life skills

These additional skills reflect the impact of globalization and the need for all learners to be conversant in not just United States standards but International Standards to reflect a more diverse economy. Individuals need to be conversant in gap analysis and benchmarks for success. They need to build on their liberal arts education to determine for themselves how best to contribute.

Bowie State University is a Carnegie Classification of Master's Colleges and Universities: larger Programs Four-year, medium, primarily residential. Since 1961, Bowie State has been regionally accredited by the Middle States Commission on Higher education (MSCHE). It was last reaffirmed accreditation by MSCHE in 2016. Its next Self-Study Evaluation is 2020-2021. Its next Mid-Point Peer Review is 2025. The self-study report is to demonstrate compliance with Standards for Accreditation and Requirements of Affiliation.

The completion of Racing to Excellence and the National Institute of Learning Outcomes Assessment (NILOA) Excellence in Assessment Designation in 2018 create a firm foundation upon which Bowie State has undertaken its self-study for MSCHE. Key to this self-study is the opportunity for the Division of Academic Affairs to investigate accreditation and assessment, advising and retention, curriculum, and student success. The Bowie State University Facilities Master Plan 2020-2030 is building on this solid foundation.

The "Standards-Based Approach" is being used for the review and evaluation of compliance with each standard by the self-study work groups. Each group has been charged to apply the three institutional priorities of academic excellence, student success, and viability of the university. The Bowie State University Facilities Master Plan 2020-2030 has been developed using that methodology so as to comport with Racing to Excellence and Racing to Reaffirmation. In order to know what the built environment must be responsive to requires and understanding of the Bowie State University learning environment that builds on its legacy while transforming to meet the needs of people, programs, activities and stuff.

ACADEMIC PROGRAMS¹⁹

High-quality academic programs are offered by the University. Students are able to choose from 23 undergraduate majors, 20 master's degree programs, 14 specialty certificates and two doctoral programs in a variety of high-demand fields:

UNDERGRADUATE MAJORS:

- Bioinformatics
- Biology
- Business Administration
- Chemistry
- Child & Adolescent Studies
- Communications
- Computer Science
- Computer Technology
- Criminal Justice
- Early Childhood Education
- Elementary Education
- English
- Fine Arts
- History & Government
- Mathematics
- Nursing
- Psychology
- Science Education

- Social Work
- Sociology
- Sport Management
- Theatre Arts
- Visual Communication & Digital Media Art

CONCENTRATIONS:

- Accounting
- Advertising Design
- Animation & Motion Graphics
- Applied & Computational Mathematics
- Art
- Banking & Finance
- Broadcast Journalism
- Business Information Systems
- Community Based Corrections
- Creative Writing
- Digital Cinema & Time-Based Media
- Digital Media Arts
- Economics
- Emerging Media
- Entrepreneurship & Small Business Management
- Fashion Design
- Forensic Science
- General Business
- Government
- Language & Literature
- Management
- Marketing
- Mathematics Education
- Music
- Music Technology
- Print Journalism
- Public Relations
- Pure Mathematics
- Social Justice
- Special Education

MASTERS:

- Applied & Computational Mathematics
- Business Administration
- Computer Science
- Counseling Psychology
- Culturally Responsive Teacher Leadership
- Elementary & Secondary School Administration
- Elementary Education
- English
- Human Resource Development
- Management Information Systems
- Mental Health Counseling
- Nursing
- Organizational Communications
- Public Administration
- Reading Education
- School Counseling
- School Psychology
- Secondary Education
- Special Education
- Teaching

SPECIALTY CERTIFICATES:

- Addictions Counseling
- Applied & Computational Mathematics
- Database Management/ Artificial Intelligence
- Graphics & User Interface
- Geographical Information Systems & Image Processing
- Information Systems Analyst
- Networks & Distributed Systems
- Organizational Communications Specialist
- Project Management
- Psychotherapy
- Scientific Software Development
- Software Engineering
- School Psychology

DOCTORAL:

- Computer Science
- Educational Leadership

¹⁹ <https://www.bowiestate.edu/academics/explore-our-programs/>

LEARNING INITIATIVES – SPECIAL PROGRAMS ACROSS DISCIPLINES:

(Student Success, Blended Learning, Student/ Faculty Engagement)

The provost is working with faculty and staff to bolster the curricular programming to keep it current with a rapidly changing world and student needs, to grow experiential learning opportunities, and to develop additional partnerships to open new pathways for students. Bowie State has strong academic underpinnings, student, staff, faculty and civic engagement; and several initiatives that are being touted as exemplars, curricular and co-curricular. Bowie State University's focus is not just on the student learner at the undergraduate, graduate, doctorate, and specialty certificate levels, rather it is equally focused on academic excellence and academic transformation. Academic transformation includes: curriculum design and innovative pedagogy, technical integration, faculty development, and partnerships. Academic accreditation across individual disciplines and multidisciplinary endeavors support Racing to Excellence. Several learning initiatives are highlighted to demonstrate the context within which the built environment must reflect and support.

1. Pedagogical Enterprise/ Entrepreneurship Education ²⁰
Entrepreneurship Education (EE) research is not advancing as fast as entrepreneurship because it has not experienced the same level of scholarship. Bowie State University's Racing to Excellence allows for not only the transference of knowledge to the student, rather, the transformation of the learning continuum (i.e.; inquiry, discovery, and innovation) theoretical and applied both on and off-campus; and faculty research and development. It conveys ownership of the process to all involved, application of resources to support successful outcomes; and innovation to benefit those beyond the

Bowie State campus.

“Adopting an enterprise education approach allows greater pupil/student ownership of the learning process. Practical implications – Enterprise education as pedagogy advocates an approach to teaching where specific learning outcomes differ across and between different educational phases and subject areas but which has a clear and coherent philosophical underpinning. Originality/value – Enterprise education should not be equated solely with business, as it is a broader, deeper and richer concept. Components of enterprise education are: pedagogy, entrepreneurship, citizenship and civic responsibility.

The ontology, axiology, and epistemology of entrepreneurial teaching and learning offer opportunities for scholarship, application and innovation. The core of human, social, and behavioral activities is in entrepreneurship, therefore, the most important instruments in entrepreneurship are individuals themselves.” ²¹

The above was the state of Enterprise and Entrepreneurial Education research as viewed over a thirty-year period by its authors. The National Survey of Entrepreneurship Education is a research initiative of Dr. George Solomon of the George Washington Center for Entrepreneurial Excellence. Bowie State has been a contributor to this survey since its inception. In January 2006, The Kauffman Foundation of Enterprise in Kansas City convened a multidisciplinary panel on entrepreneurship curriculum in higher education. The panel's findings included that in 1985, studies indicated there were about 250 entrepreneurship courses offered across all college campuses (i.e., 2-year and 4-year) in the United

²⁰ Neck, Heid M; Corbett, Andrew C.; <https://journals.sagepub.com/doi/full/10.1177/2515127417737286>; January 9, 2018

²¹ <https://idus.us.es/bitstream/handle/11441/58275/Towards%20a%20conceptual%20understanding%20of%20entrepreneurial%20pedagogy.pdf?sequence=4&isAllowed=y>; p6

WESTERN TEACHING AND LEARNING – LIBERAL ARTS EDUCATION

States. In January 2006 there were more than 5,000 offerings.²² The America COMPETES Act (P.L. 110-69 110th Congress) enabled the President to convene a National Science and Technology Summit to examine the health and direction of the United States' science, technology, engineering, and mathematic enterprises.

A key charge was to identify recommendations to increase women and minority representation in STEM fields at all levels.²³ Bowie State University has embraced the aforementioned challenges as opportunities to transform its academic focus:

- Enterprise/Entrepreneurial Education
- Liberal Arts
- S.T.E.M.

The following are key considerations for Excellence in Teaching and Learning

ACADEMIC TRANSFORMATION

Principles and Framework of Teaching

- Understanding Learning
- Course design

Pedagogies and Strategies

- Interactive Lecturing
- Active Learning

Reflecting & Assessing

- Assessing Learning
- Assessing Teaching

Challenges & Opportunities

- Preparing to Teach
- Class Management
- Integrating Technology

Populations & Context

- Specific Audiences
- Specific Contexts

Pedagogical Considerations

- Hidden Curriculum
- Learning Space
- Learning Theories
- Distance Learning
- Teaching Resource Adaptation

Pedagogical Approaches

- Critical Pedagogy
- Dialogic Pedagogy
- Student-Centered Learning

Experiential Learning

- Concrete experience
- Reflective Observation
- Abstract conceptualization
- Active experimentation

In response to an everchanging higher education landscape, technological demands (e.g., blended learning), and Racing to Excellence, Bowie State University has developed and launched a number of Education Innovation Initiatives (EI²). They are briefly listed below with strategic implementation and strategic implications on academic excellence, student success, and long-term viability of Bowie State University.

²² Kauffman The Foundation of Entrepreneurship; "A Report from the Kauffman Panel on Entrepreneurship Curriculum in Higher Education"; Kansas City, MO; July 15, 2008.

²³ P.L. 110-69; August 9, 2007

EDUCATION INNOVATION INITIATIVE

The Education Innovation Initiative (EI²) is a preK-20 pipeline program that promotes academic success and exposes students from underrepresented groups to careers in science, technology, engineering and mathematics (STEM).

Our EI² programming aims to achieve the following goals:

- Develop students' identity by building learning communities, providing undergraduate research learning opportunities and providing career-related mentoring, including attending conferences on science, technology, engineering and mathematics (STEM)
- Integrate real world problem-solving and entrepreneurship in the STEM curriculum by adopting technology into STEM courses and expanding student access to maker spaces to support multidisciplinary learning
- Build a critical mass of faculty as change agents by providing professional development to faculty on experiential learning and evidence-based teaching
- Build a preK-20 STEM pipeline through partnerships by hosting STEM competitions for elementary, middle and high school students and collaborating with the Prince George's School district to enable high school students to enroll in Bowie State credit-bearing courses

STRATEGIC IMPLEMENTATION

- Student Support Services
 - Living and Learning Communities
 - Holistic Advising
- Experiential Learning
 - Near-Peer Mentors
 - Robotics Clinics
- Research and Graduate School Preparation
 - Summer Undergraduate Research Institute
- Partnerships to Strengthen STEM Pipeline
 - Early Career Exposure

SUMMER UNDERGRADUATE RESEARCH INSTITUTE (SURI)

The intensive nine-week program guides Bowie State students through the process of developing research that they can publish in scholarly journals or present at conferences. At the end of the program, participants present their findings at the SURI Research Symposium

Cybersecurity Initiative:

The Research Experience for Undergraduates (REU) in Cybersecurity, a project of the Summer Undergraduate Research Institute (SURI), is a nine-week program where students work collaboratively and engage with faculty members in research teams. Student participants learn how to use the most current cyberinfrastructure tools with individually designed training sessions targeted to their specific degree of preparation. Each student receives a stipend up to \$5,400, free housing in university residence halls, and travel expenses to and from Bowie, Maryland. A funding allocation is also available to support each proposed project.

FIRST IN THE WORLD (FITW)

The First in the World program is funded by a First in the World FIPSE Grant awarded to Farmingdale State College by the United States Department of Education. The Mid-Atlantic Consortium consists of Farmingdale State College and its four partners (Bowie State University, Central Connecticut State University, Kean University, and The SUNY College at Old Westbury). The goal of the Consortium is to improve 4-year graduation rates by 20% over each college's baseline for both incoming first-year students and transfer students. The most innovative aspect of the proposal is that – beyond on-campus research – the Consortium will place both faculty and students in mentored research experiences off-campus in national laboratories, research universities, business accelerators, and other research venues.

MCNAIR SCHOLARS PROGRAM

Bowie State University's Ronald E. McNair Post-baccalaureate Achievement Program is designed to prepare undergraduate students for doctoral studies through involvement in research and other scholarly activities.

McNair participants are either first-generation college students with financial need, or members of a group that is traditionally underrepresented in graduate education and have demonstrated strong academic potential. The goal of the McNair Scholars Program is to increase graduate degree awards for students from underrepresented segments of society.

Throughout the academic year, our participants benefit from the following:

- Working one-on-one with a faculty mentor
- Help with graduate school application process
- Free or reduced fee waivers when applying to select graduate schools
- Opportunity to network with other undergraduates from across the United States
- Opportunities to present research at McNair research conferences
- Opportunities to attend graduate school visits
- Visits to local significant educational, research, and cultural institutions

RESEARCH 4 ME

The Office of Undergraduate Research, Academic Affairs, and the McNair Scholars Program have collaborated to promote research and opportunities for undergraduate students.

During the Spring 2019 semester, we launched the first Is Research for You? research fair to encourage students to apply to research and internship opportunities offered across the country. The fair was a great success and students received help with searching and applying to various research programs for Summer 2019.

ENTREPRENEURSHIP ACADEMY

The Entrepreneurship Academy assists students create their own business opportunities or become innovative thinkers and problem-solvers at established companies. This university-wide initiative is for faculty, students, alumni, and community. Its goals are:

- To infuse entrepreneurial thinking across disciplines
- To help Bowie State students to launch businesses
- To provide high school students with entrepreneurial activities
- I-Corps: faculty, students, alumni and community accelerated research to customer discovery

INTERNATIONAL OPPORTUNITIES

- Study Abroad
- Global Learning Visits

SCHOLAR'S STUDIO – MCNAIR SCHOLARS

- Post-baccalaureate to doctoral studies
- Desktop-Simulation-Real World Continuum

HONORS PROGRAMS

- Classroom instruction in special honors sections
- Special honors projects to obtain honors credits
- Honors colloquia to enhance independent study
- Field trips to historic sites
- Rigorous intellectual challenges in a culturally and socially diverse atmosphere

WOMEN OF DISTINCTION MENTORSHIP INITIATIVE

- One-on-one shadowing experience
- Develop entrepreneurship, leadership and life skills

ACADEMIC ACCREDITATION

Bowie State University is accredited by the Middle States Commission on Higher Education (MSCHE), an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation. Individual disciplines are accredited by the appropriate accrediting body:

- **Business Administration Programs**
The Accreditation Council for Business Schools and Programs (ACBSP) accredits the Business Administration (BS) and Business Administration (MBA) programs.
- **Computer Science and Computer Technology Programs**
The Computing Accreditation Commission of ABET accredits the Computer Science (BS) and Computer Technology (BS) programs.
- **Counseling Programs**
The Council for Accreditation of Counseling and Related Educational Programs (CACREP) accredits the Mental Health Counseling (MA) and School Counseling (MED) programs.
- **Education Programs**
The National Council for the Accreditation of Teacher Education (CAEP) accredits the following programs: Early Childhood Education (BS), Educational Leadership (EDD), Elementary Education (BS), Elementary Education (MED), Elementary and Secondary School Administration (MED), Reading (MED), School Psychology (MA), Special Education (MED) and Teaching (MA). The Maryland State Department of Education approves the Secondary Education (MED) and Secondary Education (BA/BS) programs.
- **Nursing Programs**
The Accreditation Commission for Education in Nursing (ACEN) accredits the Nursing (BS) and Nursing (MS) programs.
- **Public Administration Program**
The Network of Schools of Public Policy, Affairs, and Administration (NASPAA) accredits the Public Administration (MA) program.
- **Social Work Program**
The Council on Social Work Education (CSWE) accredits the Social Work (BS) program.

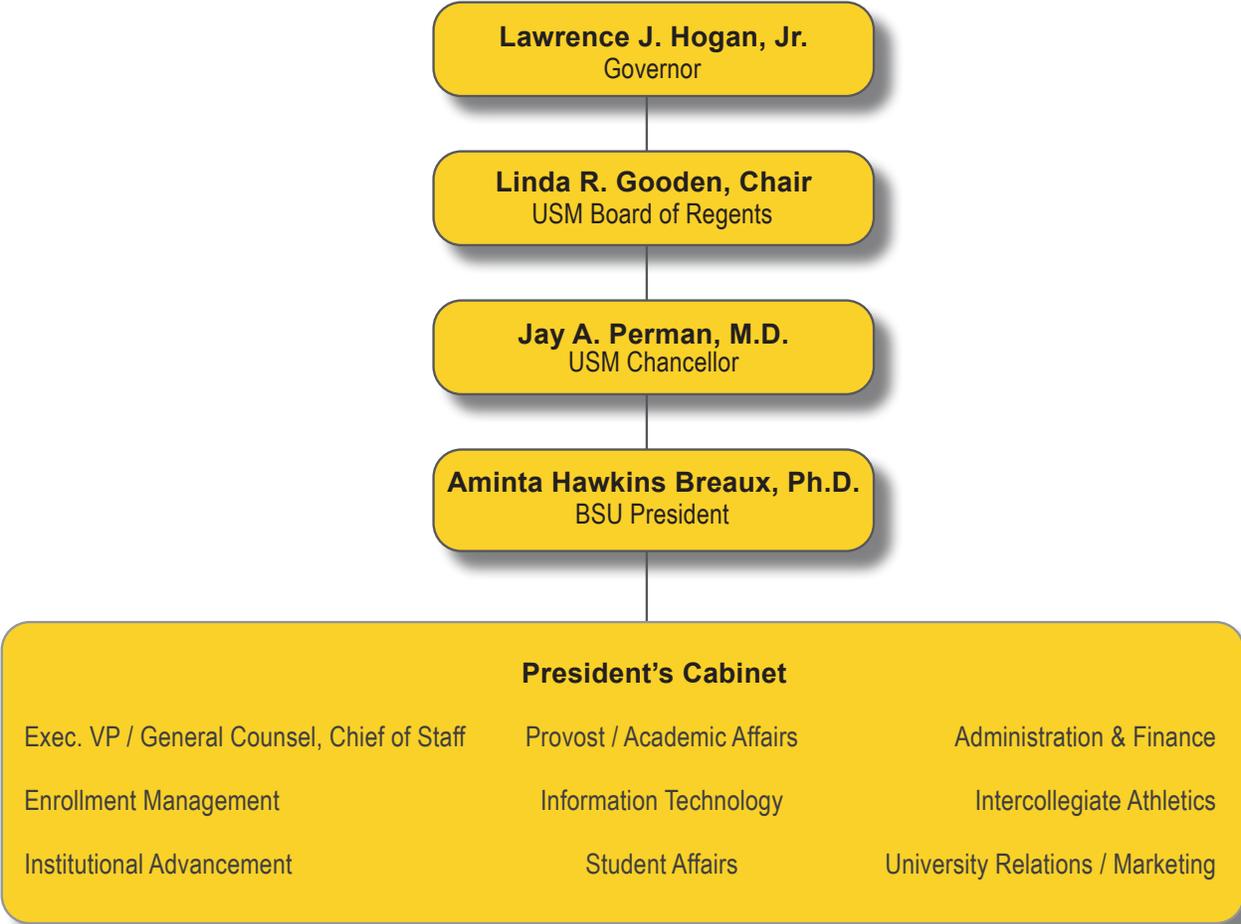
In addition to the above stated accrediting, Bowie State programs are compliant with the following licensure bodies:

- Maryland Board of Nursing
- Maryland State Department of Education
- National Council on Social Work Education
- National League for Nursing Accrediting Commission

Bowie State maintains memberships in the following professional organizations:

- American Association for Higher Education
- American Association of Colleges of Nursing
- American Association of Colleges of Teacher Education
- American Association of State Colleges and Universities
- American Association of University Women
- American Council on Education
- Association of American Colleges and Universities
- Association of Teacher Education and Institutions
- College Entrance Examination Board
- Council for the Advancement of Secondary Education
- Maryland Association of Higher Education
- National Association for Equal Opportunity in Higher Education
- National League for Nursing

LEADERSHIP STRUCTURE



Source: BSU Administration

The University System of Maryland (USM) is the state’s public higher education system. USM’s 12 institutions, 3 regional higher education centers, and system office work closely together to leverage their collective expertise and resources, share best practices, increase the system’s effectiveness and efficiency, and advance USM’s mission to improve the quality of life in Maryland.

Bowie State’s leadership structure reflects a commitment to creating a caring, diverse community that demonstrates respect and encourages the success of each person on campus. Faculty, staff, and students have multiple opportunities to positively impact campus policies and decision-making, encouraging a spirit of collaboration and inclusion within a collegial environment. The university’s shared governance bodies are the Faculty Senate, Staff Council, Student Government Association, and the Graduate Student Association, as well as the University Council, which includes representation from the four groups.

Equal Employment Opportunities initiatives:

- Affirmative Action
- Discrimination, as outlined in Title VII of the Civil Rights Act of 1964
- Sexual Harassment
- Title IX of the Education Amendments of 1972
- Americans with Disabilities Act (ADA) of 1990, as amended
- Section 503 of the Rehabilitation Act of 1973
- Section 504 of Rehabilitation Act of 1973
- Training and Outreach

In 2007, the university established the Climate Commitment Coordinating Committee (C4) to initiate the development of a comprehensive plan to achieve climate neutrality on campus. In 2015, the university also signed the new Climate Commitment and White House Act on Climate Pledge part of which is the cornerstone to the Paris Climate Agreement.

Part of BSU's goal is to be conscious of how energy resources are utilized in buildings. The University's Lucid Energy dashboard touchscreen displays are located in the Student Center between the Bowie Card Office and the BSU Ticket Office and in the Center for Natural Sciences, Mathematics and Nursing (CNSMNS) on the entrance facing the torch as you walk in (to the left). See real-time data on energy utilization in the Student Center here: [Bowie State Center Dashboard](#). See real-time data on energy utilization in the CNSMNS here: [Bowie State CNSMNS Dashboard](#).

The campus now has a large-scale solar panel installation which generates about 18% of the campus electrical power needs. The panels are located at seven locations on campus.

BSU FOUNDATION

The Bowie State University Foundation, Inc. (BSUF) is a 501(c)3 public, non-profit corporation existing under and by virtue of the laws of the state of Maryland. BSUF mission is to facilitate fundraising efforts that seek from private sources contributions in support of the activities and mission of Bowie State University. BSUF assumes oversight of gift administration for contributions to the university including gift acceptance, acknowledgement, and stewardship.

FACULTY AND STAFF

The Table below reflects the faculty and staff headcounts as of fall 2019. BSU employed 510 faculty and 518 staff. 92% of full-time faculty hold at least a master's degree and 64% hold a PhD. Student-faculty ratio at Bowie is 16:1.

Table 1-1: Faculty and Staff 2019

Category	Full-Time	Part-Time	Total	FTE
Faculty	221	289	510	293
Staff	424	94	518	448
Totals	645	383	1,028	741

Data Source: Bowie State University Office of Planning, Analysis & Accountability (OPAA)

ENROLLMENT

In the Fall semester 2019, student headcount enrollment was 6,171 with total undergraduate students numbering 5,227 and graduates accounting for 944 students. First-time freshmen, both full and part-time totaled 834.

Table 1-2: Faculty and Staff 2019

	Full-Time Headcount	Part-Time Headcount	Total Headcount	Credit Hours	FTE Enrollments
Undergraduate	4,329	898	5,227	70,243	4,683
Graduate	476	468	944	6,922	577
Totals	4,805	1,366	6,171	77,165	5,260

Data Source: Bowie State University Office of Planning, Analysis & Accountability (OPAA)

The needs section will detail the impact of faculty and staff and the current ongoing increase in student enrollment on programs and activities qualitatively and quantitatively and *Racing to Excellence*.

CAMPUS FACILITIES

“It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change.” --Charles Darwin

The facilities inventory at Bowie State’s campus consists of 23 state-owned buildings which collectively total approximately 1,535,000 gross square feet (GSF) and contain approximately 920,000 net assignable square feet (NASF) of space. The various academic, administrative and auxiliary enterprise buildings range in age from the 103-year old Goodloe House to the two-year old Center for Natural Sciences, Mathematics and Nursing.

Table 1-3: Building Summary

Building Category	GSF	NASF
Academic / Research	801,911	456,210
Administration / Institutional Support	236,514	146,710
Auxiliary Enterprise	496,079	314,725
Totals	1,534,504	917,645

Source: Bowie State University Facilities

In addition to the buildings, there are other major on-campus facilities. They include: 1) Track and Field, 2) Softball Field, 3) “Bulldog” Football Stadium, 4) Tennis and Basketball Courts, and 5) 10 Parking Lots. Locations for each of BSU’s facilities are depicted on the following campus map.

Figure 1.7: Bowie State University Campus Map



The table below shows the distribution of campus surface parking spaces. Refer to Figure 1.7 for campus locations.

Table 1-4: Campus Parking Lots

Surface Parking Lots	Spaces	Surface Parking Lots	Spaces
A	116	L	208
B	16	M	92
C	66	N	49
D	57	O	138
E	17	P	127
F	232	Q	89
G	250	R	10
H	322	Robinson Circle	30
I	380	Henry Circle	35
J	75	Behind Facilities	13
K	20		
Total Parking Spaces		2,342	

Source: Bowie State University Facilities

Under the direction of President Aminta H. Breaux, Ph.D., Bowie State University continued to rollout its *Racing to Excellence* Strategic Plan in 2018. BSU engaged Sightlines, a GORDIAN® company to undertake a facilities assessment and planning analysis in October 2018. The graphic below demonstrates their approach to understanding total campus need and an approach to reinvesting in campus development.

Figure 1.8: Approach to Reinvesting in Campus Development

Think Both “Bottom-Up” and “Top-Down”



sightlines
a GORDIAN company

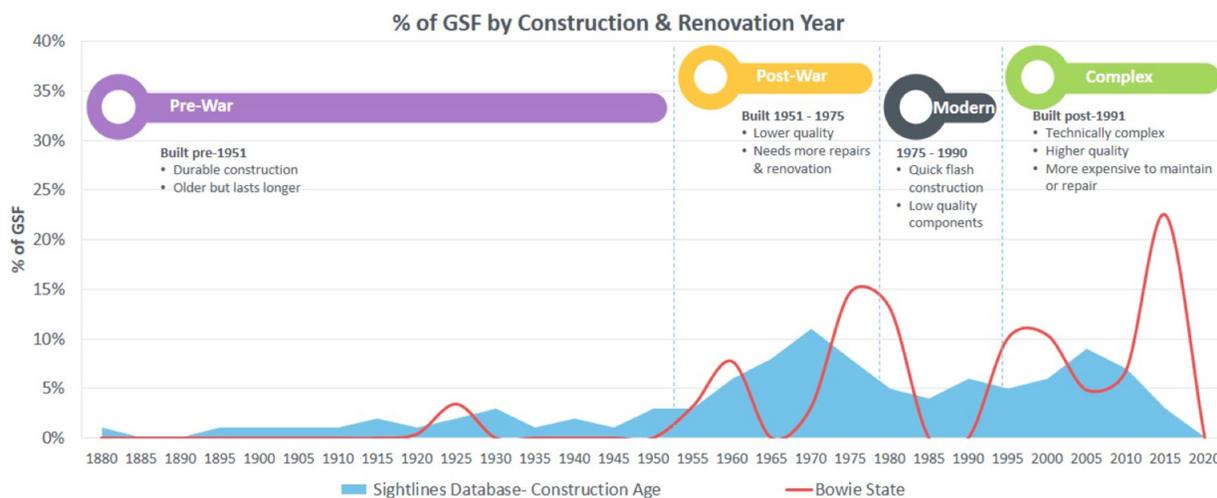
As a part of the analysis, the consultants grouped BSU’s buildings according to their construction era as a means to demonstrate competing facility needs. The age, design and construction impact the lifespan of buildings and infrastructure.

Figure 1.9: % of GSF by Construction and Renovation Year

Putting Your Campus Building Age in Context



Construction Era's illustrate competing needs of aging buildings



sightlines
a GORDIAN company

6

© 2017 Sightlines, LLC. All Rights Reserved.

Once the total campus competing needs of aging buildings was derived, the consultants sought to create an investment strategy through the use of a portfolios approach to segment the campus into different building groups. Tying building condition and total need to the master plan would then allow BSU to strategically examine transitional buildings to either demolish, repurpose or divest from, while focusing available funding into higher value spaces. This approach would assist decision-making on projects with the highest Return on Investment (ROI) to the campus based upon available funding.

Another key component of Bowie State University's strategic plan and this facility master plan is its roadway and parking. Street Traffic Studies, Ltd. was engaged to undertake a traffic and parking demand study. Accessing the campus and the internal campus network found all roadways and intersections operating within acceptable standards during peak and off-peak periods. The study found that the campus is constrained operationally and not by supply. The issue is the available parking is not a convenient distance to classrooms and offices. The central pedestrian core with all access roads and parking located on the perimeter are an attribute. However, approximately 25% of undergraduates live on campus. This number is artificially suppressed due to the limited student housing.

The current parking and roadway capacity is projected to be overwhelmed in the near term.²⁴ Based upon the Strategic Enrollment Management Plan 2019-2022 and University System of Maryland (USM) enrollment projections, BSU projected to grow from its current student body of approximately 6100 students to a student body of approximately 7,000. In 2017, the campus experience using Royall/EAB for undergraduate recruitment exceeded the campuses capacity for housing, student support, course sections, and classroom availability for a freshman class of more than 1,000 students. The demand for a Bowie State University education is continuing to climb. The campus focus on academic excellence, student success, and the long-term viability of the institution will continue to place demands on campus development.

²⁴ Street Traffic Studies, Ltd., Bowie State University Traffic and Parking Study, Spring 2019, p7

Another factor placing demand on the campus infrastructure and operations is the planned opening of the Entrepreneurship Living Learning Community in fall 2021. This 500 plus residence, business innovation center, BSU home for the Entrepreneurship Academy and public retail space will be the new gateway to the Bowie State University campus. See concept rendering 2019 below:



This near-term development will add housing capacity but will not address the issues raised in the Sightline study regarding existing aged buildings. BSU has begun a systematized and ongoing approach to deferred maintenance. The campus approach is informed by these recent studies (e.g., facilities assessment (Sightlines), student housing

(Anderson Strickler 2017 and MGT 2019), and roadways and parking (Street Traffic Studies, Ltd.) Additionally, the campus undertook a more comprehensive study to determine how to leverage institutional demand and activate the campus edges to create a vibrant walkable place that attracts and retains top talent and better connects Bowie State University with the immediately surrounding communities.²⁵ The study methodology centered on demand, supply and synthesis. The campus development was viewed through a lens focused on campus organization and site design, vehicular circulation and parking, pedestrian circulation and campus open spaces; and wayfinding. The initial findings were that Bowie State University has the opportunity to create its market at its campus edge. Additionally, the Maryland Code, Transportation §21-1008 requires each public institution of higher education provide reasonable accommodations necessary for bicycle access, including parking for bicycles.

Racing to Excellence requires an organized, coordinated, integrated and strategic approach to campus, community, and economic development. The built environment is a response to the people, programs, activities and staff essential to mission accomplishment. Bowie State University's facilities must address both the campus community, surrounding community and the needs of the citizens of Maryland.

An ongoing impediment to operations and services is the amount of deferred maintenance that has accrued over time. The practice of postponing necessary maintenance, repairs, upgrades, and replacements on both real property and personal property occurs when there is a need to save costs,

be compliant with budgeted funding levels, or modify available budget funds to address more immediate and critical needs. Below are typical areas:

Plumbing

- Bathroom Renovations
- Piping
- Domestic Hot Water (DHW) Generation

HVAC (heating, ventilation, air conditioning)

- Air Handlers
- Chillers
- Ductwork
- Expansion tanks
- Heat Pumps

Exterior Shell

- Roof
- Windows
- Exterior Doors

Interior Shell

- Flooring
- Ceilings
- Painting

Electrical

- Building Wiring
- Automatic Transfer Switch
- Emergency Circuit Wiring

Mechanical

- Kitchen Equipment
- Elevators

Safety/Code

- Sprinklers
- Asbestos
- Fire Alarm Systems

²⁵ MARGRAVE STRATEGIES and U3 ADVISORS; Bowie State University Interim Review

Bowie State University has been actively pursuing capital improvements to further create an environment conducive to the expectations of students, faculty and staff and that see Bowie State as a home away from home. To that end, it has submitted requests in the Governor's capital budget as well as the USM System Funded Capital Improvement Program. The University has been successful in garnering support from the state for new construction. There are nevertheless facilities renewal issues that will only worsen over time if not addressed in a near-term timeframe. BSU has request capital support in those areas that support life safety and legal mandates, facilities renewal, and projects with a direct impact on accomplishing the BSU mission and giving the citizens a Return on their Investment (ROI) in Bowie State University.

TRANSITIONAL STATEMENT

The Bowie State University Facilities Master Plan 2020-2030 must be consistent with the University System of Maryland Board of Regents Policy on Facilities Master Plans VIII-10.00. A facilities master plan establishes a framework for the orderly growth and development of capital improvements responsive to an institution's current and projected needs and is sufficiently flexible to accommodate changes that can be expected in a dynamic environment. The plan does not constitute a commitment to a specific timetable for the completion of projects. It is a component of the overall planning responsibility of the Board of Regents.

Bowie State University's built environment is a response to need. Need is defined by people, programs, activities and stuff (e.g., furniture and equipment, tools, materials, supplies, miscellaneous objects, library volumes, etc.). In this context, adaptability and flexibility are characteristic of a built environment that accommodates the strategic emphasis on academic excellence, student success, and the long-term viability of Bowie State University. BSU's needs-based facility master plan is more than a notion. Bowie State requires the facility master plan incorporate the vision, mission, well-conceived goals and objectives identified in *Racing to Excellence*, provide built-environment strategies to operationalize responses to the needs, must be consistent with USM Board of Regents *Policy on the Capital Budget of the University System of Maryland VIII-10.20*, and complies with *the Maryland Post-Secondary Plan for Higher Education* now in effect. In addition, it must comport with the USM Board of Regents *Policy on Facilities Renewal for Auxiliary and Non-Auxiliary Capital Assets VIII-10.10*. This policy recognizes the Board of Regents power to maintain the capital assets under its jurisdiction, including land, structures and infrastructure for auxiliary and non-auxiliary programs. The *Bowie State University Facilities Master Plan 2020-2030* races to excellence.

2 NEEDS ANALYSIS

NEEDS CONTEXT

The purpose of this section is to provide context to the meaning of needs as expressed in this facilities master planning document. Needs is more than about space. Needs for development of Bowie State University's campus facilities and infrastructure are influenced by four principal factors. These factors are: 1) BSU Mission, 2) BSU Strategic Plan¹, 3) P.P.A.S., pronounced "pass" (People, Programs, Activities and Stuff) who or what must be accommodated, and 4) the need for improvement of operations and services. These four principal factors apply to institutional-wide needs, campus-wide needs, building needs, or individual space needs. Recognizing its community, regional, international and political contexts, Bowie State's orderly development of campus facilities and infrastructure is in response to these factors.

The University System of Maryland charges each of its institutions with developing its campus facilities in ways that best accommodates the needs of students, faculty and staff, while pursuing plans that benefit all stakeholders in the success of the campus and the larger community.

Maryland's capital budget process and the University System of Maryland's building program are each project driven. The need for projects must be demonstrated by:

- current and future anticipated space deficits,
- building condition,
- programmatic obsolescence,
- prior funding, and
- recognition in the institution's Master Plan as approved by the Board of Regents.

Projected needs are the results of future demand on facilities and infrastructure. The need for academic facilities should be viewed in the context

of how the process of learning may evolve over time. Due to ever changing technology for both teaching and learning, much of higher education must rethink its learning environments. Although the lecture/lab instructional delivery mode will continue to be used, colleges and universities will increasingly supplement that delivery modality with specialized learning environments that allow for both scheduled and unscheduled instruction and learning in discipline-related simulated environments.

Central to Bowie's efforts to enhance and refine its learning environments are the major thrusts of restoring and maintaining existing and planned facilities, as well as the aesthetic environment. These thrusts are to be developed, guided, and modified within the parameters of systematic, coordinated planning efforts. The short and long-term outcomes of each planning methodology will provide direct evidence of the revitalization of levels of integrity that reflect optimal teaching and learning environments.

Contemporary learning environments are required so the University can continue to successfully attract and retain a representative level of its market's available student population. Contemporary teaching/learning environments include the provision of detailed and unique needs for classroom, laboratory, research and office space, as well as ancillary spaces required for supporting future programmatic impetus.

Improved literacy and refinement of technology in educational institutions dictate the provision of instructional spaces that are designed for both unique and/or shared functions. These spaces will further require adequate consistency with a global reconfiguration that increases the utilization efficiency ratio.

¹ Bowie State University, Racing to Excellence FY19-FY24 Strategic Plan <bowiestate.edu/strategicplan>

Future environments should be such that distinction between a computer lab and a lecture classroom will disappear because technology and furnishings will be unobtrusive but available on demand. All furnishings will be easily movable, or the instructional area will automatically be able to configure the furnishings based upon immediate need. Except for science labs, athletic and recreation spaces, and some arts studios, the idea of rooms belonging exclusive to an instructional area will disappear. Credit classrooms would be available to continuing education learners and vice versa.

Electronic presentation that allows integration and manipulation of complex data into the learning environment is becoming more and more the norm. Teleconferencing and online learning capabilities will make partnerships with other schools and businesses, even ones in other countries, commonplace. Modernization of instructional delivery requires that instructional spaces be configured relative to future disciplinary/ programmatic goals whose objectives and functions dictate more efficient organization and effective utilization of space.

In addition to academic needs, there are needs for projects focusing on various academic support, institutional support and campus-wide pursuits that collectively create an exceptional atmosphere for students, faculty, staff, alumni and visitors to the Bowie campus. These needs should be viewed in the context of how strategic responses would effectively align with the University's mission, *Strategic Plan*, and its planned academic direction.

In order to make campuses more attractive and responsive to prospective students, institutions are creating single points of entry that create a sense of arrival, appeals to all senses, and provides clear wayfinding. Welcome centers are direct responses to the current state of higher education. Many universities and colleges are in the process of creating welcome centers due to a highly competitive market. In addition to making a grand statement as a dynamic first point of entry to the campus, welcome centers have been shown to have a memorable impact on students, prospective students, alumni and visitors. Such centers are effective vehicles for recruiting and retaining students, brand promoting, being responsive to community and statewide needs, alumni, and business partners.

Recent trending towards collective and shared collection development highlights the importance of a common's archives and special collections. Such unique library materials are means for institutions to differentiate themselves, but more importantly, acknowledge and underscore the importance of research.

Jerry Crawford II, assistant professor of journalism at University of Kansas, observed that "*When we talk about HBCUs, we're not just talking about schools, we're talking about cultures, and it's important we not lose them.*" He is talking about culture continuation. The concept of a modern academic commons speaks to continuation of culture at Bowie State University. As a hub for academic discussion and discovery, contemporary faculty and student support functions with their collaborative learning and research environments, innovative academic commons programs will also be dedicated to collecting, preserving, and providing access to records and artifacts that exemplify the University's rich cultural heritage as an HBCU, and will serve as the collective historical memory for the Bowie State University community.

Residential development that addresses the unique needs of freshmen, sophomores through seniors, graduate students, married students, faculty and staff is considered an essential element in fostering student success. The very presence of campus communities of differing residential intensities generates attendant needs for enhanced academic support facilities and services including retail services, laundry facilities, areas for wellness/fitness/ recreation, socialization, public safety services, communications and digital engagement services, facilities maintenance, health and counseling services, and childcare.

There is a compelling need for contemporary campus development to provide for all athletic facilities that are commensurate with the standing and quality of the University's athletic programs now and in the future. Existing outdated athletic facilities are insufficient, inadequate and inappropriate for the needs of even current athletic programs. There is the corresponding need for a

single large venue that can bring the Bowie State University community together at one place at one time to share a single experience. There is an acknowledged need to pursue opportunities for advantageous expansions of the campus community into a oneness with the transit-oriented development site to the west and the Bowie Race Track site to the east.

There is ongoing need to address conditions and capacities of infrastructure utilities, telecommunications, parking and open space. There is also ongoing need to maintain and modernize campus circulation for pedestrian and various transportation modes as well as connection with larger circulation systems within the greater campus community.

BSU will consider the merits of removing some obsolete facilities from inventory, renovating and/or renewing other existing facilities, as well as providing new facilities.

GLOSSARY OF TERMS

This glossary contains brief definitions of generic terms related to educational facilities planning and explanations of the acronyms and abbreviations referred to in analysis of space needs.

Class Laboratory	Spaces that are used primarily for formally or regularly scheduled classes that require special purpose equipment for a specific room configuration for student participation, experimentation, observation, or practice in an academic discipline
Classroom	Spaces that are not tied to a specific subject or discipline by equipment or room configuration
Core Space	Space necessary because of existence of the institution or program without regard to other factors
Credit Hour	A numerical value awarded a student for successfully completing a course
Facilities Inventory	Room-by-room and building-by-building listing of assignable spaces, their primary use, their size and their capacity
Full-Time Equivalent Faculty (FTEF)	A base factor statistic equal to a full-time faculty plus 25% of all part-time faculty Note: This statistic is used in this document for facilities planning purposes only, and the calculation may differ from the FTEF computed for budgetary or other reporting purposes.
Full-Time Equivalent Student (FTE or FTES)	The total number of on-campus credit hours taught during a given semester/term, divided by 15 for undergraduate and by 12 for graduate students. Note: This statistic is used in this document for facilities planning purposes only, and the calculation may differ from the FTE computed for budgetary or other reporting purposes.
Full-Time Day Equivalent Student (FTDE or FTDES)	The total number of on-campus credit hours taught before 5:00 p.m. during a given semester/term, divided by 15 for undergraduate and by 12 for graduate students Note: This statistic is used in this document for facilities planning purposes only, and the calculation may differ from the FTDE computed for budgetary or other reporting purposes.
Gross Square Feet (GSF)	The sum of square feet of space in a building included within the outside faces of exterior walls for all stories or areas that have floor surface Included are all structural, mechanical, service and circulation areas.
Net Assignable Square Feet (NASF)	The sum of all areas on all floors of a building assigned to, or available for assignment to an occupant for specific use Excluded are spaces defined as structural, mechanical, service and circulation areas.
Physical Bound Volume Equivalent (PBVE)	The physical space required to accommodate a variety of library materials in amounts equal to one single typical book
Student Contact Hour	A measure of time of scheduled interface between students and teacher that is usually expressed in terms of Weekly Student Contact Hour (WSCH), which is the number of hours per week of required interface Note: This statistic is used in this document for facilities planning purposes only, and the calculation may differ from the WSCH computed for budgetary or other reporting purposes.
Use Codes	Space use codes represent the recommended central or core concepts for classifying the assignable space, by use, within campus facilities. Sometimes referred to as HEGIS or FICM codes.

QUANTITATIVE ANALYSIS (SPACE)

The purpose of quantitative space needs analysis is to assess, at a macro-level, the extent to which the total amount of space for instruction and other campus activities is sufficient to support future enrollments and programs. Specifically, quantitative space needs analysis incorporates the concept of supply and demand. It is the process of estimating the needed supply of learning, support and resource space given a projected demand of academic programs and co-curricular activities, faculty and staffing levels, and student enrollments.

SUMMARY OF KEY FINDINGS

Space deficits in 9 of 14 major room use categories are suggested when the Maryland Higher Education Commission's Space Guidelines for Four Year Public Institutions (space guidelines) formulae are applied to Bowie State University's projected (2029) space inventory. The remaining five categories suggest surpluses.

Anticipated student population increases from fall 2020 through fall 2029 and anticipated impact on campus inventory as the result of the following programmed building projects: Construction of the new Communications Arts and Humanities Building and Renovation of Thurgood Marshall Library, as well as demolition of the existing Martin Luther King, Jr. Communications Arts Center, will have a significant impact on campus-wide space needs at Bowie State University. BSU currently has an overall space deficit of approximately 500 net assignable square feet (NASF) when space guidelines are applied to existing inventory. By the year 2029, the projected overall deficit will be approximately 34,000 NASF.

A comprehensive summary of computed space needs is presented in Table 2-1 at the end of this section. The table is organized into four broad categories of space: Academic Space, Academic Support Space, Other Classified or Ad-Hoc Space, and Unclassified Space.

ACADEMIC SPACES

Academic Spaces includes the space categories of Classroom, Class Laboratory, Open Laboratory, and Research Laboratory.

Guideline application to academic space inventories suggests a current surplus of 28,276 NASF and a projected deficit of 15,245 NASF in 2029.

The University currently owns 118% of the space allowance in this grouping. The data suggests that by 2029, the University will own 92% of its computed space allowance.

ACADEMIC SUPPORT SPACES

Academic Support Spaces include the core and support space in the categories of Office, Study, Physical Education, Media Production, Assembly, Exhibition, Lounge (Non-Auxiliary), Central Computer/Telecommunications, Physical Plant, and Health Care.

Guideline application to academic support space inventories suggests a current deficit of 28,759 NASF and a projected deficit of 19,105 NASF in 2029.

The University currently owns 93% of the space allowance in this grouping. The data suggests that by 2029, the University will own 96% of its computed space allowance.

OTHER CLASSIFIED SPACES (AD-HOC)

Other Classified or Ad-Hoc Spaces, comprising 310,817 NASF and representing 33.9% of BSU’s existing inventory, are not addressed by Maryland’s space guidelines. These are either specialized spaces for which need is based entirely on programmatic requirements which vary by institution or auxiliary enterprises which are not state-funded. For these ad-hoc categories of spaces, existing space is the guideline. Categories, which are shown but excluded from this analysis, include:

- Spectator Seating
- Greenhouse
- Recreation
- Demonstration
- Food Facility
- Meeting Room
- Field Building
- Merchandising
- Residential Facilities

UNCLASSIFIED SPACES

Unclassified Spaces represent categories that are either available for assignment, but unassigned at the time of the inventory or spaces that are being occupied by entities other than the University and are not available for University use. BSU assigned 39,728 NASF of inactive space to this group which is also excluded from this analysis.

Table 2-1: Summary of Computed Space Allowances

Space Use Category	Use Code	Base Year (Fall 2019)			2020-2029 Net Change ^a	Projected Year (Fall 2029)		
		Inventory NASF	Allowance NASF	Surplus / (Deficit)		Inventory NASF	Allowance NASF	Surplus / (Deficit)
Academic Space								
Classroom	110	66,572	80,906	-14,334	302	66,874	91,043	-24,169
Class Laboratory	210	92,968	54,219	38,749	-8,398	84,570	71,727	12,843
Open Laboratory	220	18,681	19,231	-550	-280	18,401	21,596	-3,195
Research Laboratory	250	10,336	5,925	4,411	-1,505	8,831	9,555	-724
Subtotals		188,557	160,281	28,276	-9,881	178,676	193,921	-15,245
Academic Support Space								
Office	300	160,512	125,561	34,951	946	161,458	134,772	26,686
Study	400	58,742	90,310	-31,568	28,063	86,805	98,920	-12,115
Physical Education	520	61,976	82,065	-20,089	0	61,976	87,461	-25,485
Media Production	530	5,720	9,158	-3,438	4,777	10,497	10,284	213
Assembly	610	48,398	31,158	17,240	1,114	49,512	32,284	17,228
Exhibition	620	2,790	4,579	-1,789	-1,178	1,612	5,142	-3,530
Lounge (Non-Auxiliary)	650	10,355	18,642	-8,287	2,662	13,017	19,545	-6,528
Central Computer/Telecommunications	710	3,584	2,934	650	1,300	4,884	3,557	1,327
Physical Plant	720-760	24,866	41,121	-16,255	2,300	27,166	43,724	-16,558
Health Care	800	1,600	1,774	-174	0	1,600	1,943	-343
Subtotals		378,543	407,302	-28,759	39,984	418,527	437,632	-19,105
Other Classified Space (Ad Hoc)								
Spectator Seating	523	3,920	3,920	0	0	3,920	3,920	0
Demonstration	550	1,444	1,444	0	0	1,444	1,444	0
Field Building	560	118	118	0	0	118	118	0
Greenhouse	580	2,000	2,000	0	0	2,000	2,000	0
Food Facility	630	29,708	29,708	0	0	29,708	29,708	0
Merchandising	660	5,946	5,946	0	0	5,946	5,946	0
Recreation	670	4,809	4,809	0	0	4,809	4,809	0
Meeting Room	680	7,964	7,964	0	0	7,964	7,964	0
Residential Facilities	900	254,908	254,908	0	0	254,908	254,908	0
Subtotals		310,817	310,817	0	0	310,817	310,817	0
Unclassified Space								
Subtotals	050	39,728	39,728	0	-4,350	35,378	35,378	0
BSU Campus Totals		917,645	918,128	-483	25,753	943,398	977,748	-34,350

^a 2020-2029 Net Change includes programmed NASF for the following projects: Construction of new Communications Arts & Humanities Building and Renovation of Marshall Library, as well as demolition of the existing MLK Building.

BACKGROUND DATA

Projected space needs are the results of demand, in terms of anticipated programs, enrollments and staffing, on space and buildings at a future date. The ultimate outcome of this assessment is to provide estimates of supply of types and amounts of space likely to be needed to accommodate Bowie State University's projected fall 2029 demand in terms of academic programs and their ensuing enrollments and staffing levels.

METHODOLOGY

The University provided an inventory of existing space for each campus building, course enrollment data, and staffing data for 2019. These sets of data form the basis for quantitative analysis to be used as one measure of Bowie State University's need for space.

The consultant team then applied elements of the data to the space guidelines published in the Maryland Higher Education Commission's Space Guidelines for Four Year Public Institutions to attain quantitative indicators of current and future space needs. Definitions and room use codes are those provided by the space use taxonomy found in the Postsecondary Education Facilities Inventory and Classification Manual (FICM) 2006 Edition published by the U.S. Department of Education in cooperation with the National Center for Education Statistics. For the most part, room use codes and classifications referenced in this analysis refer to the primary activity space plus support or service space that directly services the primary activity. Guidelines only provide one measure of overall sufficiency of campus space and in no way address adequacy or appropriateness of space. Basic methodology for quantitative analysis can be expressed as demand minus supply equals need.

NEED DETERMINANTS

The quantitative need for space via new or renovated facilities is typically calculated with respect to hours of instruction and the P.P.A.S factors described in the very beginning of this chapter. Projections of total space need are based on anticipated student enrollments, faculty, staff, and library volumes for fall semester 2029 as mutually determined by Bowie State University and the University System of Maryland.

Space Categories	Need Determinants
Instructional Spaces	Weekly Student Contact Hours (WSCH)
Research Spaces	Full-Time Faculty engaged in research
Office Spaces	FTE Staff & Faculty
Study (Library) Spaces	FTDES & Physical Bound Volume Equivalents (PBVE)
Residential Spaces	Resident Headcount
All Other Spaces	FTDE/Core allowance/Ad hoc allowance

These computed space projections should be viewed only as a listing of suggested maximum allowances for the campus for each type of space to be considered by the state for capital funding and do not necessarily relate to "needs" for a particular program or facility. Space guidelines application suggests only a computed allowance for each category of space and does not suggest what sorts of projects should be undertaken. Space deficits and surpluses are identified based on application of the space guidelines to inventories of various categories of space and projected student enrollments. However, space guidelines calculations are not to be used as the determining factor when making decisions about facilities needs. A variety of qualitative indicators of need offer augmentation to use of space guidelines metrics.

PLANNING ASSUMPTIONS

The base year for this analysis is fall semester 2019. Assumptions made for the application of formulae-driven space guidelines computations for fall 2019 and fall 2029 are shown in the following table. Full-time day equivalent students (FTDE) are calculated from credit hours earned reflected in BSU course data files. Data on faculty and staff are provided by the University. Library Volumes are physical bound volume equivalents calculated from base collections data provided by the University.

Table 2-2: Planning Assumptions

	FTDE	WSCH Lecture	WSCH Laboratory	Full-Time Faculty	Part-Time Faculty	Full-Time Staff	Part-Time Staff	Library Volumes
Fall 2019	4,485	72,888	9,300	221	289	424	94	416,982
Fall 2029	5,151	82,020	12,303	250	230	460	70	449,393
Percent Change 2019-2029	14.8%	12.5%	32.3%	13.1%	-20.4%	8.5%	-25.5%	7.8%
Average Annual Growth Rate	1.4%	1.2%	2.8%	1.2%	-2.3%	0.8%	-2.9%	0.8%

Sources: Bowie State University Office of Planning, Analysis and Accountability (Enrollment) and Facilities (Faculty, Staff and Library Volumes)

HISTORICAL TRENDS: STUDENTS

The next four sets of tables and figures present the change in BSU’s student enrollment by FTES, FTDE, and headcount from fall 2014 to fall 2019. Although the terms headcount and full-time equivalent students (FTE or FTES) are most often used when referring to enrollments, the headcount is generally not used as a primary metric for determining space needs.

Table 2-3: FTES Enrollment Trends (Fall 2014 – Fall 2019)

			Fall Semester				Percent Change 2014-2019	Average Annual Growth 2014-2019
	2014	2015	2016	2017	2018	2019		
Day (Before 5:00 pm	3,525	3,229	3,573	3,675	4,027	3,921	11.2%	2.1%
Evening (5:00 pm +)	760	754	722	763	769	775	2.0%	0.4%
Distance Learning	436	521	501	796	546	564	29.3%	5.3%
Total FTES	4,721	4,504	4,796	5,234	5,342	5,260	11.4%	2.2%

Data Source: Bowie State University Office of Planning, Analysis & Accountability (OPAA)

Figure 2.1: FTES Enrollment Trends (Fall 2014 – Fall 2019)

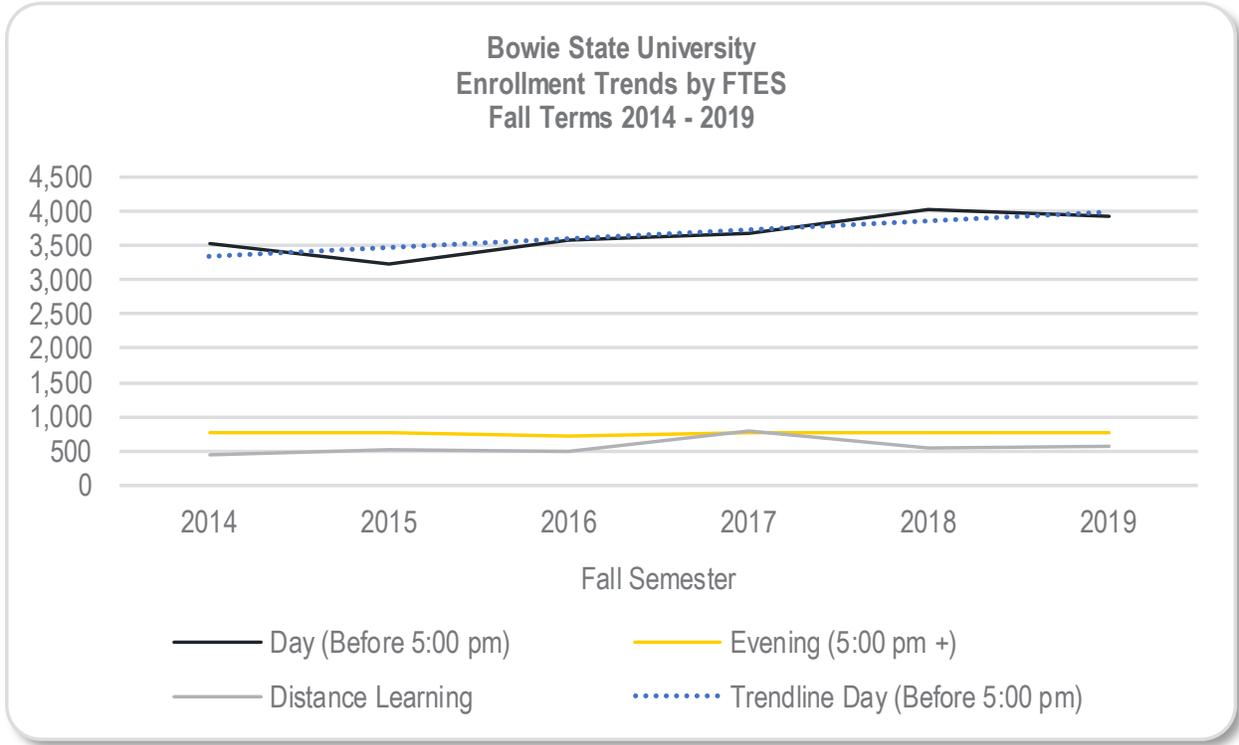


Table 2-4: FTDES Enrollment Trends (Fall 2014 – Fall 2019)

	2014	2015	Fall Semester		2018	2019	Percent Change 2014-2019	Average Annual Growth 2014-2019
			2016	2017				
Undergraduate (Day)	3,125	2,888	3,294	3,448	3,721	3,627	16.1%	3.0%
Graduate (Day)	401	341	279	227	306	294	-26.7%	-6.0%
Total FTDES	3,525	3,229	3,573	3,675	4,027	3,921	11.2%	2.1%

Data Source: Bowie State University Office of Planning, Analysis & Accountability (OPAA)

Figure 2.2: FTDES Enrollment Trends (Fall 2014 – Fall 2019)

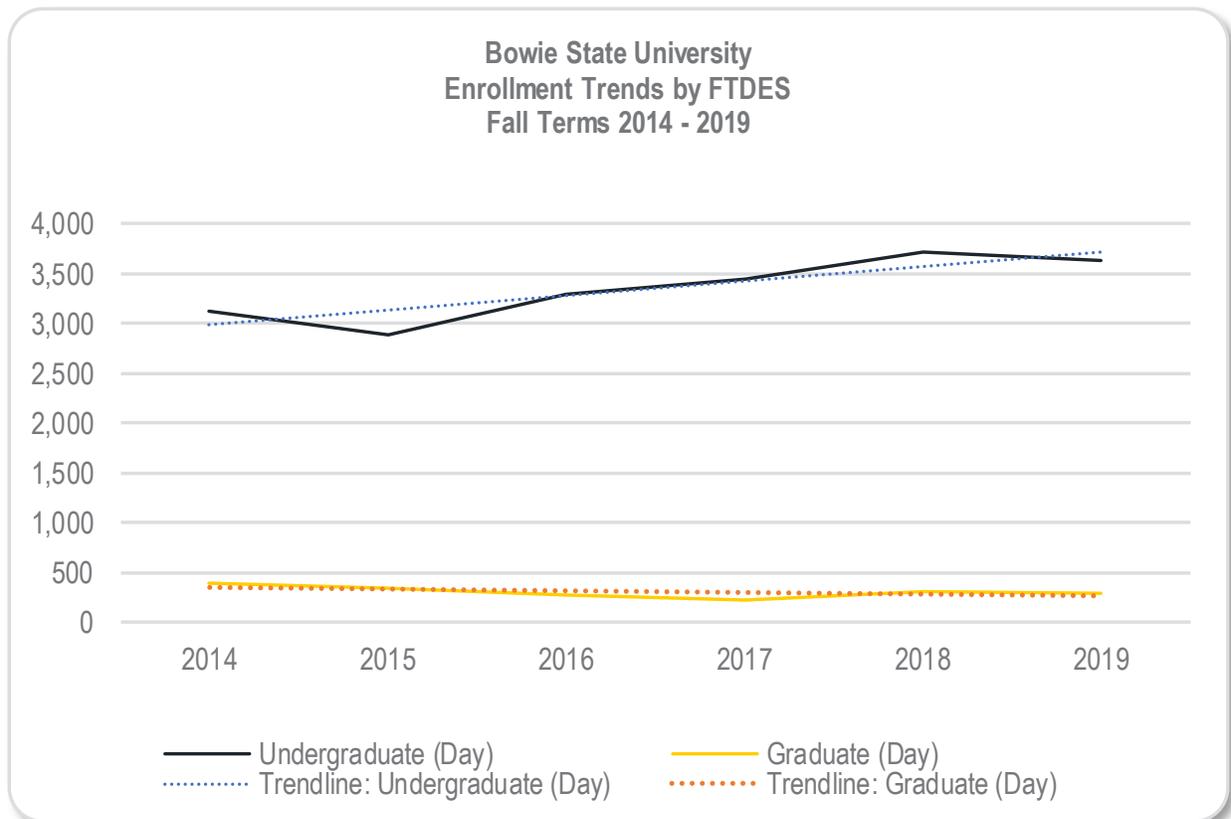


Table 2-5: Headcount Enrollment Trends (Fall 2014 – Fall 2019)

Headcount	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Percent Change 2014-2019	Average Annual Growth 2014-2019
Undergraduate (FT)	3,675	3,533	3,939	4,390	4,421	4,329	17.8%	3.3%
Undergraduate (PT)	781	782	772	798	887	898	15.0%	2.8%
Undergraduate Totals	4,456	4,315	4,711	5,188	5,308	5,227	17.3%	3.2%
Graduate (FT)	513	474	412	408	463	476	-7.2%	-1.5%
Graduate (PT)	726	641	546	552	549	468	-35.5%	-8.4%
Graduate Totals	1,239	1,115	958	960	1,012	944	-23.8%	-5.3%
Total Headcount	5,695	5,430	5,669	6,148	6,320	6,171	8.4%	1.6%

Data Source: Bowie State University Office of Planning, Analysis & Accountability (OPAA)

Figure 2.3: Headcount Enrollment Trends (Fall 2014 – Fall 2019)

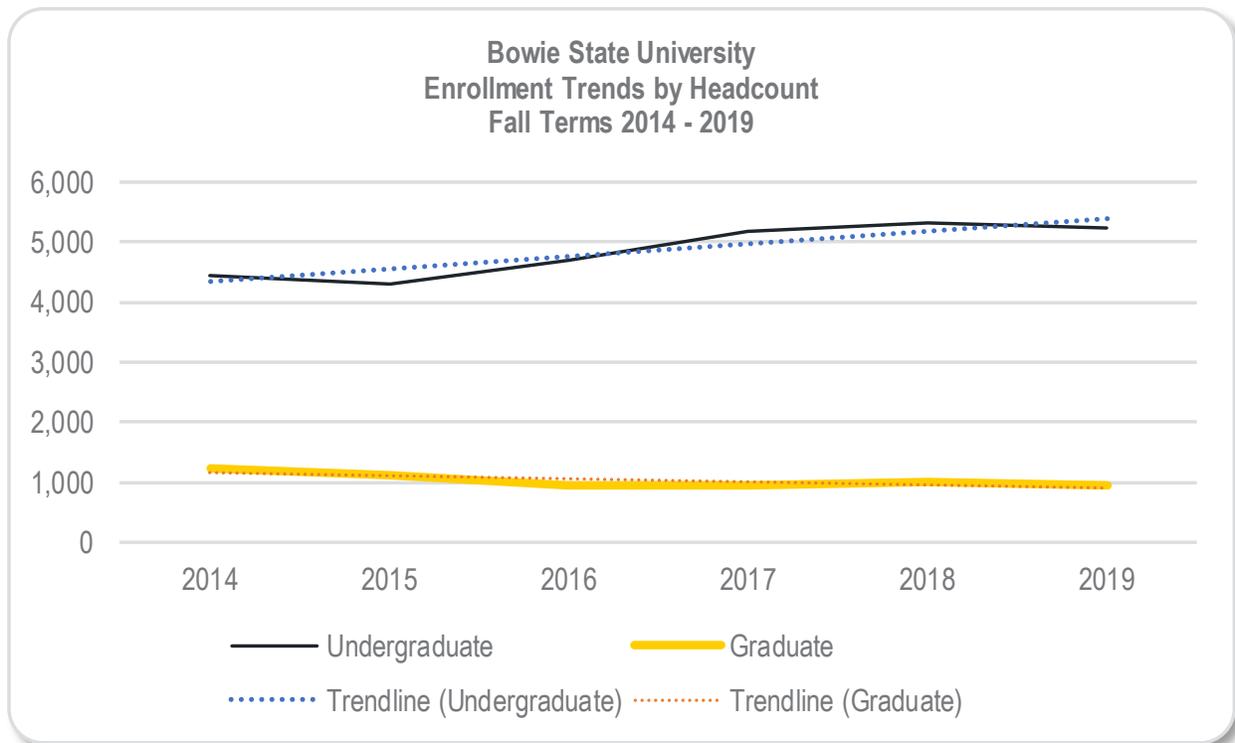
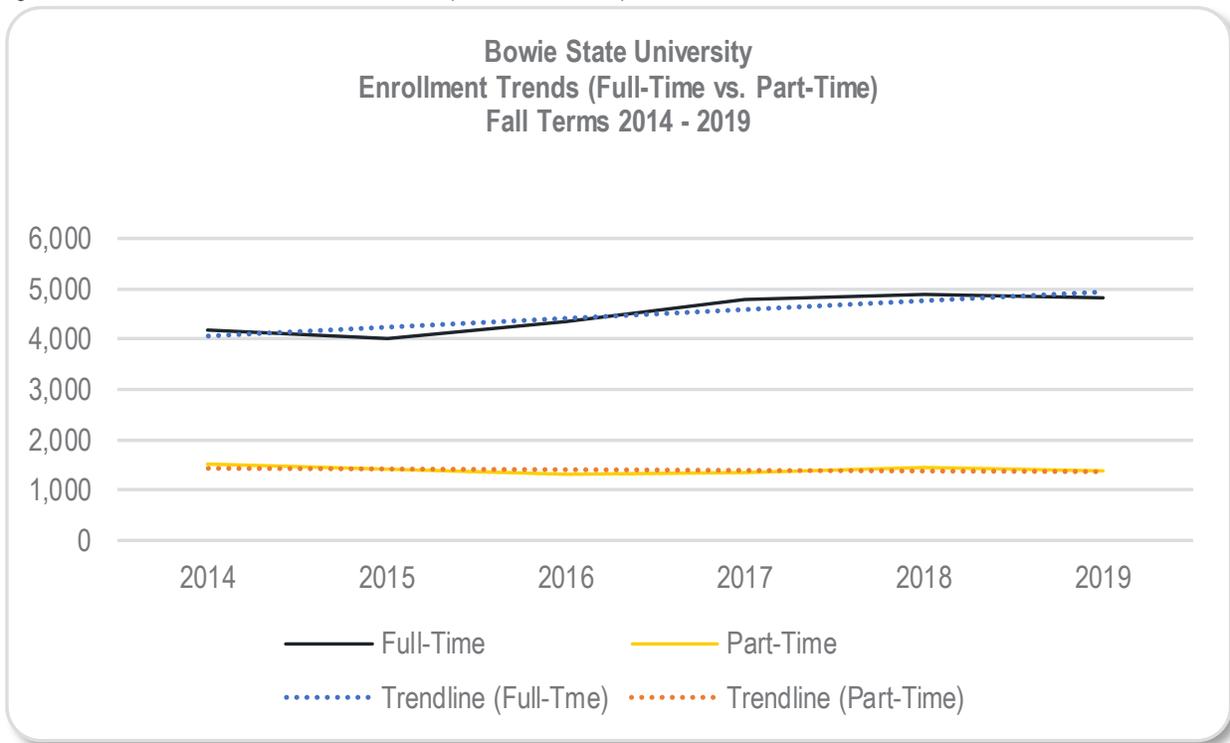


Table 2-6: Full-Time vs. Part-Time Enrollment Trends (Fall 2014 – Fall 2019)

Headcount	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Percent Change 2014-2019	Average Annual Growth 2014-2019
Full-Time	4,188	4,007	4,351	4,798	4,884	4,805	14.7%	2.8%
Part-Time	1,507	1,423	1,318	1,350	1,436	1,366	-9.4%	-1.9%
Total Headcount	5,695	5,430	5,669	6,148	6,320	6,171	8.4%	1.6%

Data Source: Bowie State University Office of Planning, Analysis & Accountability (OPAA)

Figure 2.4: Full-Time vs. Part-Time Enrollment Trends (Fall 2014 – Fall 2019)



HISTORICAL TRENDS: FACULTY AND STAFF

Since 2014, BSU's full-time faculty level has remained relatively flat at a rate of -0.4% while part-time faculty experienced an annual growth rate of 6.9% during that period. FTE faculty grew at an annual rate of 1.2%.

Table 2-7: Faculty Trends (Fall 2014 – Fall 2019)

Category	2014	2015	Fall Semester				Net Change 2014 - 2019	Annual Rate 2014 - 2019
			2016	2017	2018	2019		
Full-Time Faculty	225	220	220	213	205	221	-1.8%	-0.4%
Part-Time Faculty	207	234	227	231	203	289	39.6%	6.9%
Faculty Totals	432	454	447	444	408	510	18.1%	3.4%
FTE Faculty	277	279	277	271	256	293	6.0%	1.2%

Data Source: Bowie State University Office of Planning, Analysis & Accountability (OPAA)

FTE staff grew at an annual rate of 2.7% in the six years from 2014 through 2019.

Table 2-8: Staff Trends (Fall 2014 – Fall 2019)

Category	2014	2015	Fall Semester				Net Change 2014 - 2019	Annual Rate 2014 - 2019
			2016	2017	2018	2019		
Full-Time Staff	370	374	372	368	396	424	14.6%	2.8%
Part-Time Staff	83	68	47	86	87	94	13.3%	2.5%
Staff Totals	453	442	419	454	483	518	14.3%	2.7%
FTE Staff	391	391	384	390	418	448	14.5%	2.7%

Data Source: Bowie State University Office of Planning, Analysis & Accountability (OPAA)

EXISTING FACILITIES

The facilities inventory at Bowie State's campus consists of 23 state-owned buildings which collectively total approximately 1,535,000 gross square feet (GSF) and contain approximately 920,000 net assignable square feet (NASF) of space. The various academic, administrative and auxiliary enterprise buildings range in age from the 103-year old Goodloe House to the two-year old Center for Natural Sciences, Mathematics and Nursing.

Table 2-9: Building Category Summary

Building Category	GSF	NASF
Academic / Research	801,911	456,210
Administration / Institutional Support	236,514	146,710
Auxiliary Enterprise	496,079	314,725
Totals	1,534,504	917,645

Source: Bowie State University Facilities

Table 2-10: Campus Buildings

Campus Buildings	Built	Renovated	GSF	NASF	Primary Use
Academic / Research					
James E. Proctor, Jr.	2000	n/a	101,193	58,241	Instruction, Faculty Offices
Martin Luther King, Jr. Communication Arts Center	1973	n/a	149,374	77,082	Instruction, Assembly, Faculty Offices
Thurgood Marshall Library	1977	1996	166,869	107,635	Study
Center for Natural Sciences, Mathematics and Nursing	2017	n/a	148,000	85,022	Instruction, Faculty Offices
Computer Science Building	2002	n/a	47,000	27,641	Instruction, Faculty Offices, Research
Center for Business and Graduate Studies	2007	n/a	66,000	37,944	Faculty Offices, Instruction
Fine and Performing Arts Center	2011	n/a	123,475	62,645	Assembly, Instruction, Faculty Offices
Subtotals			801,911	456,210	
Administration / Institutional Support					
Boiler Plant	1952	1993	2,970	2,970	Inactive
Goodloe House	1916	2003	3,815	2,100	Inactive
Field House	1992	2015	7,909	4,540	Athletics/Physical Education
William E. Henry Administration Building	1996	n/a	37,396	19,027	Administrative Offices
Leonidas S. James Physical Education Complex	1973	n/a	102,135	63,976	Athletics/Physical Education
Facilities Management Building	1967	1973	29,613	20,432	Shops, Storage
Theodore McKeldin Gymnasium	1957	n/a	21,142	15,469	Athletics/Physical Education, Inactive
Charlotte Robinson Hall	1960	n/a	31,534	18,196	Administrative Offices, Inactive
Subtotals			236,514	146,710	
Auxiliary Enterprise					
Alex Haley Residential Community	1994	n/a	90,855	54,929	Residential
Dwight Holmes Residence Hall	1951	1970	21,779	15,114	Residential
Lucretia Kennard Residence Hall	1957	1998	22,646	14,267	Residential
Towers Residence Hall	1973	n/a	40,828	23,518	Residential
Goodloe Apartments	1954	n/a	5,946	5,001	Residential
Harriet Tubman Residence Hall	1921	1971	33,282	19,374	Residential
Christa McAuliffe Residential Community	2004	n/a	185,240	124,305	Residential, Health Center
Student Center	2013	n/a	95,503	58,217	Student Union
Subtotals			496,079	314,725	
State vs. Non-State Supported					
State Supported			1,038,425	602,920	
Non-State Supported			496,079	314,725	
Totals Bowie State University			1,534,504	917,645	

Source: Bowie State University Facilities

In addition to the buildings, there are other major on-campus facilities. They include: 1) Track and Field, 2) Softball Field, 3) Bulldog Football Stadium, 4) Tennis and Basketball Courts, and 5) 10 Parking Lots.

Table 2-11: Distribution of Campus Parking Spaces

Surface Parking Lots	Spaces	Surface Parking Lots	Spaces
A	116	L	208
B	16	M	92
C	66	N	49
D	57	O	138
E	17	P	127
F	232	Q	89
G	250	R	10
H	322	Robinson Circle	30
I	380	Henry Circle	35
J	75	Behind Facilities	13
K	20		
Total Parking Spaces		2,342	

Source: Bowie State University Facilities

Locations for each of BSU’s facilities are depicted on the following campus map.

Figure 2.5: Bowie State University Campus Map



EXISTING BUILDING SPACE INVENTORY

A building-level inventory of assignable space in each building was prepared by the University and given to the consultant team. This inventory of existing spaces serves as the baseline data against which computed space needs are compared.

The campus building space inventory utilizes the space taxonomy found in the 2006 Postsecondary Education Facilities Inventory and Classification Manual (FICM) published by the U.S. Department of Education in cooperation with the National Center for Education Statistics. For the most part, room use codes and classifications referenced in this analysis refer to the primary activity space plus support space that directly services the primary activity. Furthermore, the space inventory data in this section is presented in such a way as to satisfy the requirements of the Maryland Higher Education Commission’s Space Guidelines for Four Year Public Institutions. More detailed attention is devoted to each of the University’s building structures later in this Plan.

In determining the base inventory to be used in calculating permanent space needs, inventoried net assignable square footage (NASF) is designated as

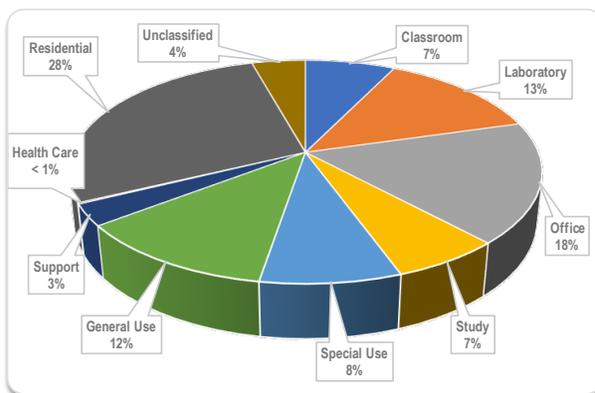
either “state-supported” or “auxiliary enterprise.” Although a comprehensive overview of the University’s space inventory is provided in this section, only “state-supported” space is used to determine space needs. Also, space contained in temporary structures and space in facilities at locations other than a main campus or in leased facilities is not included in the base calculations.

As depicted in the accompanying table and graphic residential constitutes the largest single classification in Bowie’s 917,645 net assignable square feet (NASF) of total campus inventory. Twenty percent of assignable space is classified as classroom and laboratory instruction (classroom 7%, laboratory 13%), 18% as office, 7% as study (library), 23% is a combination of special use, general use and support, and 28% of campus space is classified as residential. The remaining 4% or 39,728 NASF is unclassified space distributed among various buildings at the time of the inventory.

Table 2-12 and Figure 2.6: Distribution of Existing Space by Room Use Classification

FICM	Room Use	NASF
100	Classroom	66,572
200	Laboratory	121,985
300	Office	160,512
400	Study	58,742
500	Special Use	75,178
600	General Use	109,970
700	Support	28,450
800	Health Care	1,600
900	Residential	254,908
000	Unclassified	39,728
Total		917,645

Source: Bowie State University Facilities



EXISTING STUDENT ENROLLMENTS

Fall 2019 enrollment at BSU is 6,171 students. A total of 77,165 credit hours are generated by 5,260 full-time equivalent (FTE) student enrollments.

Table 2-13: Enrollment Summary – Fall 2019

	Full-Time Headcount	Part-Time Headcount	Total Headcount	Credit Hours	FTE Enrollments
Undergraduate	4,329	898	5,227	70,243	4,683
Graduate	476	468	944	6,922	577
Totals	4,805	1,366	6,171	77,165	5,260

Data Source: Bowie State University Office of Planning, Analysis & Accountability (OPAA)

A distribution of student credit hours is presented in the following table. The on-campus data is organized by Day before 5:00 p.m. and Evening after 5:00 p.m. Most of BSU's total student credit hours (75%) are generated on campus during the day.

Table 2-14: Credit Hour Distribution – Fall 2019

	Credit Hours	FTE	Percentages*	BSU Percentages*
Undergraduate Day (Before 5:00 pm)	54,403	3,627	77%	71%
Undergraduate Evening (After 5:00 pm)	7,925	528	11%	10%
Undergraduate Distance Learning	7,915	528	11%	10%
Subtotals Undergraduate	70,243	4,683	100%	91%
Graduate Day (Before 5:00 pm)	3,527	294	51%	5%
Graduate Evening (After 5:00 pm)	2,957	246	43%	4%
Graduate Distance Learning	438	37	6%	1%
Subtotals Graduate	6,922	577	100%	9%
BSU Day (Before 5:00 pm)	57,930	3,921	75%	75%
BSU Evening (After 5:00 pm)	10,882	774	14%	14%
BSU Distance Learning	8,353	565	11%	11%
Totals Bowie State University	77,165	5,260	100%	100%

Data Source: Bowie State University Office of Planning, Analysis & Accountability (OPAA)

*Discrepancies may occur in totals due to rounding.

EXISTING FACULTY AND STAFF

Bowie State University employs 221 full-time faculty and 424 full-time staff. In addition, the University employs 289 part-time faculty and 94 part-time staff. The following table illustrates the distribution of personnel who are critical to providing an environment that fosters academic excellence, student success and viability of the University.

Table 2-15: Faculty and Staff 2019

Category	Full-Time	Part-Time	Total	FTE
Faculty	221	289	510	293
Staff	424	94	518	448
Totals	645	383	1,028	741

Data Source: Bowie State University Office of Planning, Analysis & Accountability (OPAA)

EXISTING LIBRARY COLLECTIONS

Thurgood Marshall Library enhances the mission of Bowie State University by developing, selecting, acquiring, and organizing print, electronic, audio visual resources, and equipment appropriate to the University's academic programs. The Library recognizes the varied information needs of its students, faculty, staff, alumni and community users and attempts to address those needs. The Library also promotes information literacy education by collaborating with the University faculty in utilizing current technology and teaching methods to enhance an instructional program that teaches library clientele how to access, evaluate, and utilize information. The table below lists the University's current collections.

Table 2-16: BSU's Physical Bound Volume Equivalents (PBVE)

Reference	Current Collection	Factor	Current PBVE
Books	162,192	1.000	162,192
Periodicals (bound)	32,350	1.000	32,350
Microfilm Reels	27,670	3.000	9,223
Records	2,720	5.000	544
Microform (non-reel)	437,280	80.000	5,466
Newspapers (unbound)	8	0.056	143
Newspapers (bound)	10	0.072	139
Reference Books	13,427	0.340	39,491
Periodicals (unbound)	41,472	0.250	165,888
Video Disks	1,855	3.000	618
Audio Tapes	14	8.000	2
Compact Disks	164	5.000	33
Videotapes	1,071	1.200	893
Physical Bound Volume Equivalent (PBVE)			416,982

Data Source: Bowie State University Facilities

SECTION SUMMARY

Projections of these elements form the computed future demand generated by student enrollments, faculty and staff, and library volumes against an anticipated supply of space. The impact of such demand against the supply of space inventory is addressed in the following Demand Against Existing and Projected Space section. This section begins the evaluation of the sufficiency of existing and projected space to determine its suitability to support the University's existing and future programs.

DEMAND AGAINST EXISTING AND PROJECTED SPACE

The base year for this analysis is 2019. Current demands against existing space reflect the actual situation during the fall term of 2019 while the data projected to 2029 are statistically based and are, for the most part, assumptions made by the University. Summary explanations of the data assumptions for the input items are as follows:

- **Student Data:** (FTDE) are calculated from course credit hours. Credit hour and contact hour data are derived from current enrollment course data provided by Bowie's Office of Planning, Analysis and Accountability (OPAA); then projections of enrollment are developed by the University.
- **Faculty and Staff Data:** for 2019 are provided by Bowie's Office of Planning, Analysis and Accountability (OPAA). Information about the projected numbers of faculty and staff is as provided in Bowie's 2019 SGAP Report.
- **Library Volume Data:** in terms of Physical Bound Volume Equivalents (PBVE), is as provided in Bowie's 2019 SGAP Report.

As of this Plan's publication, the 2020–2029 projected net change in space inventory is the result of the following programmed building projects: Construction of the new Communications Arts and Humanities Building and Renovation of Thurgood Marshall Library, as well as demolition of the existing Martin Luther King, Jr. Communications Arts Center. The current space inventory plus the net change serves as the 2029 base or supply against which the need, generated by the demand of future enrollments and staffing, would be quantified.

STUDENT ENROLLMENTS

As previously mentioned, headcount enrollments and full-time equivalent student (FTE or FTES) enrollments are the primary measures of student population. Although the headcount is most commonly used when referring to enrollments, this measure is generally not used as a primary metric for determining space needs.

The most generally accepted method of counting students for the purposes of assessing facilities needs is the FTE. However, it is useful to analyze trends in headcount enrollments with particular attention given to the mix of full-time versus part-time students. Because full-time students have more needs for space than do part-time students, a sizeable shift in the ratio of full-time to part-time could have a significant impact on FTE generation, and consequently, on overall space needs.

Quantitative space needs analysis primarily focuses upon academic activities that occur during the prime hours before 5:00 p.m. (Day), and will be engaged by full-time and part-time students, faculty and staff. Students enrolled during these hours are referred to as full-time day equivalent students (FTDES). While presenting various measures of FTES is important, of prime significance is establishing a stable foundation of planning tools upon which the effectiveness and quality of instructional environments necessary for learning can be predicted. For those purposes, projections of weekly student contact hours (WSCH) are also presented.

Estimates are that the total daytime on-campus WSCH will reach 94,323 by fall 2029. Of this total, approximately 82,020 WSCH will be generated by lecture segments and approximately 12,303 WSCH are expected to occur in laboratory segments for courses offered before 5:00 p.m.

Determination of program and course content ten years out is difficult at best. However, given an anticipated number of students to be enrolled, projections of weekly student contact hours generated, as well as the number of classroom and laboratory sections, general estimations of space need can be calculated. These projections of weekly student contact hours form the basis for planning for future instructional spaces. Projections of enrollments for

fall 2020 through fall 2029 represent the recommendations developed by Bowie State University in keeping with the pursuit of BSU’s mission through the year 2029. The table below presents an overall distribution of projected credit/contact hours for fall term of 2029 in comparison with fall 2019 enrollments. The table isolates those on-campus credit hours, FTDES and weekly student contact hours expected to be generated on campus during the day before 5:00 p.m.

Table 2-17: Current and Projected Enrollments by Headcount, Credit Hours, FTES, FTDES and WSCH-Fall 2019 and Fall 2029

Undergraduate						Before 5:00 pm			
	Full-Time Headcount	Part-Time Headcount	Total Headcount	Credit Hours	FTES	Credit Hours	FTDES	WSCH Lecture	WSCH Laboratory
Fall 2019	4,329	898	5,227	70,243	4,683	62,318	4,155	66,158	9,041
Fall 2029	4,909	935	5,844	79,382	5,292	70,650	4,710	75,023	11,961
% Change 2019 - 2029	13.4%	4.1%	11.8%	13.0%	13.0%	13.4%	13.4%	13.4%	32.3%
Average Annual Growth Rate	1.3%	0.4%	1.1%	1.2%	1.2%	1.3%	1.3%	1.3%	2.8%

Graduate						Before 5:00 pm			
	Full-Time Headcount	Part-Time Headcount	Total Headcount	Credit Hours	FTES	Credit Hours	FTDES	WSCH Lecture	WSCH Laboratory
Fall 2019	476	468	944	6,922	577	3,965	330	6,730	259
Fall 2029	515	670	1,185	8,812	734	5,287	441	6,997	342
% Change 2019 - 2029	8.2%	43.2%	25.5%	27.3%	27.3%	33.3%	33.3%	4.0%	32.0%
Average Annual Growth Rate	0.8%	3.7%	2.3%	2.4%	2.4%	2.9%	2.9%	0.4%	2.8%

Total Enrollments						Before 5:00 pm			
	Full-Time Headcount	Part-Time Headcount	Total Headcount	Credit Hours	FTES	Credit Hours	FTDES	WSCH Lecture	WSCH Laboratory
Fall 2019	4,805	1,366	6,171	77,165	5,260	66,283	4,485	72,888	9,300
Fall 2029	5,424	1,605	7,029	88,194	6,026	75,937	5,151	82,020	12,303
% Change 2019 - 2029	12.9%	17.5%	13.9%	14.3%	14.6%	14.6%	14.8%	12.5%	32.3%
Average Annual Growth Rate	1.2%	1.6%	1.3%	1.3%	1.4%	1.4%	1.4%	1.2%	2.8%

Data Source: Bowie State University Office of Planning, Analysis & Accountability (OPAA)

While the use of static demographics may not be realistic for micro-level planning, such as individual project programming where population movement needs to be considered and planned for, macro-level analysis and estimates of future student populations often using static demographic data have shown to be a relatively reliable tool for most facilities master planning purposes.

When student population movement is projected by means of comprehensive academic planning and/or expressions of institutional policy, such considerations are incorporated into space planning guidelines applications to set priorities for campus development and to compute campus-wide allowances for each category of space. In instances where such is not the case, static data for student enrollments, faculty and staff levels, and library collections are appropriately used as the basis for computing future campus-wide need for space.

FACULTY AND STAFF

The University expects to maintain its current student/faculty ratios of 16:1 for the year 2029. For master planning purposes, a conservative annual increase of 0.8% is projected for full-time staff. Added demand against existing and projected space is generated by the number of full-time faculty researchers in certain specific academic disciplines that offer doctoral or master's degree programs.

Table 2-18: Current and Projected Faculty and Staff Summary

	Faculty				Staff			
	Full-Time	Part-Time	Total	FTE	Full-Time	Part-Time	Total	FTE
Fall 2019	221	289	510	293	424	94	518	448
Fall 2029	250	230	480	308	460	70	530	478
% Change 2019-2029	13.1%	-20.4%	-5.9%	5.1%	8.5%	-25.5%	2.3%	6.7%
Annual Average Growth Rate	1.2%	-2.3%	-0.6%	0.5%	0.8%	-2.9%	0.2%	0.7%

Data Sources: Bowie State University Office of Planning, Analysis & Accountability (2019) and Facilities (2029)

LIBRARY VOLUMES

Use of Physical Bound Volume Equivalents (PBVE) is a generally accepted determinant of need for overall library or study space. The PBVE concept provides for conversion of a variety of collections materials such as e-books, audiovisual materials, and electronic reference sources into amounts equal to a typical book. Although the term physical bound volume equivalent is used to reference the measure of overall library collections, it should not be construed that growth in PBVE's necessarily means a corresponding growth in actual "book" resources. Although gradual acquisition of electronic formats is a goal for libraries and will begin to reduce some storage needs long term, particularly for journals, reference books, and government documents, these new formats will not obviate the need for stack space.

The learning landscape is constantly and dramatically changing in terms of the ways by which people learn and the technologies that can facilitate the learning process. Increasing use of technology that facilitates teaching, learning, and accessing and processing information creates demands for library spaces that bring together information resources. Technology also affects other kinds of space needs. Accommodating the added space needed for computer workstations and other technology often comes at the expense of space for collections or services.

Just as the use of static demographics is generally accepted as reliable in macro-level planning for people-driven space requirements, the use of book equivalents is a generally accepted methodology for estimating long-range library and study space needs. At the time of actual programming for future library/study facilities, as is true for other facilities, more timely consideration can be given to actual planning for design that is contemporary.

Table 2-19: Current (Fall 2019) and Projected (Fall 2029) Library Physical Bound Volume Equivalent Summary

Reference	Actual 2019		Projected 2029	
	Collections	PBVE	Collections	PBVE
Books	162,192	162,192	177,192	177,192
Periodicals (bound)	32,350	32,350	32,350	32,350
Microfilm Reels	27,670	9,223	27,670	9,223
Records	2,720	544	2,720	544
Microform (non-reel)	437,280	5,466	440,000	5,500
Newspapers (unbound)	8	143	6	107
Newspapers (bound)	10	139	5	69
Reference Books	13,427	39,491	14,500	42,647
Periodicals (unbound)	41,472	165,888	45,000	180,000
Video Disks	1,855	618	2,500	833
Audio Tapes	14	2	14	2
Compact Disks	164	33	164	33
Videotapes	1,071	893	1,071	893
Physical Bound Volume Equivalent (PBVE)		416,982		449,393

Data Source: Bowie State University Facilities

SPACE GUIDELINES APPLICATION AND ANALYSIS

Computation of quantitative need for space is based primarily on the projected program of instruction and the number of weekly student contact hours (WSCH) that it generates. Determinations of current and projected space surpluses and/or deficits are driven by current space inventory and anticipated changes, current enrollment and projected enrollments, and current and anticipated staffing levels.

The consultant team used the space guidelines model developed by the State of Maryland and published in the Maryland Higher Education Commission’s Space Guidelines for Four Year Public Institutions. These guidelines provide an initial quantitative assessment of campus-wide facility needs.

By applying information about the type of space required to teach the various courses to the current and projected enrollments previously presented, it is possible to determine the approximate amount of space that is allowed using guidelines. Then by applying space inventory data, it is possible to determine the current and projected space surplus and/or deficit.

Assumptions made for the application of the formulae-driven space computations for fall 2029, are shown in the following table and are applied to the existing and projected campus space inventory.

Table 2-20: Guidelines Planning Assumptions

Input Item	Fall 2019	Fall 2029
1. Student Data (Before 5 p.m.)		
a. Residence Hall Capacity	1,370	1,920
b. Total FTDE	4,486	5,151
c. Undergraduate FTDE	4,155	4,710
d. Graduate FTDE	331	441
2. Credit Hour Data		
a. Total Undergraduate Credit Hours	70,243	74,382
b. Undergraduate Credit Hours Before 5 p.m.	62,318	70,650
c. Total Graduate Credit Hours	6,922	8,812
d. Graduate Credit Hours Before 5 p.m.	3,965	5,287
3. Contact Hour Data (Before 5 p.m.)		
a. Weekly Student Contact Hours (WSCH) Classroom	72,888	82,020
b. Weekly Student Contact Hours (WSCH) Laboratory	9,300	12,303
4. Faculty & Staff Requiring Office Space		
a. Full-Time Faculty	221	250
b. Part-Time Faculty	289	230
c. Full-Time Staff	424	460
d. Part-Time Staff	94	70
e. FTE Faculty	293	308
f. FTE staff	448	478
5. Library Information Factor		
a. Physical Bound Volume Equivalents (PBVE)	416,982	449,393
6. Research Laboratory Factors		
a. Module "A" Programs (1,000 NASF)		
FT Faculty, Doctoral Programs (1.0)	0	0
FT Faculty, MastersPrograms (0.5)	0	4
FT Faculty, Undergraduate Programs (0.1)	4	6
b. Module "B" Programs (650 NASF)		
FT Faculty, Doctoral Programs (1.0)	0	0
FT Faculty, MastersPrograms (0.5)	15	19
FT Faculty, Undergraduate Programs (0.1)	10	12
c. Module "C" Programs (650 NASF)		
FT Faculty, Doctoral Programs (1.0)	41	44
FT Faculty, MastersPrograms (0.5)	11	13

Data Sources:

Bowie State University Office of Planning, Analysis & Accountability (OPAA) - Items 1b.-d., 2, 3, & 4

Bowie State University Facilities - Items 1a., 5, & 6

With respect to current and projected space surpluses and deficits as the result of Guidelines application, review of the individual data elements reveals the following:

ACADEMIC SPACE: This group includes the types of spaces most typically used for instruction and research activities.

Table 2-21: Academic Space

Space Use Category	Use Code	Base Year (Fall 2019)			2020-2029 Net Change ^a	Projected Year (Fall 2029)		
		Inventory NASF	Allowance NASF	Surplus / (Deficit)		Inventory NASF	Allowance NASF	Surplus / (Deficit)
Academic Space								
Classroom	110	66,572	80,906	-14,334	302	66,874	91,043	-24,169
Class Laboratory	210	92,968	54,219	38,749	-8,398	84,570	71,727	12,843
Open Laboratory	220	18,681	19,231	-550	-280	18,401	21,596	-3,195
Research Laboratory	250	10,336	5,925	4,411	-1,505	8,831	9,555	-724
Totals		188,557	160,281	28,276	-9,881	178,676	193,921	-15,245

^a 2020-2029 Net Change includes programmed NASF for the following projects: Construction of new Communications Arts & Humanities Building and Renovation of Marshall Library, as well as demolition of the existing MLK Building.

CLASSROOM (110): A room or space used primarily for instruction classes and that is not tied to a specific subject or discipline by equipment in the room or the configuration of the space. This category includes general purpose classrooms, lecture halls, seminar rooms, and support rooms that directly service classroom activity.

Classroom space needs are determined by a guideline formula that multiplies weekly student contact hours (WSCH) by the space factor. The space factor for Bowie State University is 1.11 NASF/WSCH.

Given the current inventory of classroom space, application of the guideline to the University's weekly student contact hour data suggests a current deficit of 14,334 NASF and a deficit of 24,169 NASF by 2029. This anticipated increased space deficit is attributed primarily to a projected 13.4% increase in enrollment with virtually no net increase in classroom space.

The University currently owns 82% of the space allowance in this classification. The data suggests that by 2029, the University will own 73% of its computed space allowance.

CLASS LABORATORY/OPEN

LABORATORY (210/220): A class laboratory or teaching laboratory (210) is space used primarily for formally or regularly scheduled instruction (including associated mandatory, but non-credit earning

laboratories) that requires special purpose equipment or a specific space configuration for student participation, experimentation, observation, or practice in an academic discipline. Included in this category are spaces generally called teaching laboratories, instructional shops, art studios, computer laboratories, drafting rooms, band rooms

and similar specially designed or equipped rooms, and support rooms that directly service class laboratory activity.

An open laboratory (220) is used primarily for individual or group instruction that is informally scheduled, unscheduled, or open. An open laboratory is designed for or furnished with equipment that serves the needs of a particular discipline or discipline group for individual or group instruction.

Included in this category are spaces generally called music practice rooms, language laboratories used for individualized instruction, studios for individualized instruction, special laboratories or learning laboratories if discipline restricted, individual laboratories, and computer laboratories involving specialized restrictive software or where access is limited to specific categories of students.

Class Laboratory space needs are determined by a guideline formula that multiplies weekly student contact hours (WSCH) by the space factor. The class laboratory space factor for Bowie State University is 5.83 NASF/WSCH. As with lecture contact hours, the total number of weekly student contact hours for a laboratory section is derived by multiplying the number of students enrolled by the number of meeting hours in a week.

Open Laboratory space needs are determined by a formula that multiplies fall term full time day equivalent students (FTDES) by a space factor of 4.2 NASF.

Given the current inventory of laboratory space, application of the teaching and open laboratory guidelines to the University's weekly student contact hour data suggests a current surplus of 38,749 NASF for Class Laboratory and a deficit of 550 NASF for Open Laboratory. By 2029, Class Laboratory will have a surplus of 12,843 NASF and Open Laboratory will have a deficit of 3,195 NASF.

The University currently owns 152% of the space allowance in this combined classification. The data suggests that by 2029, the University will own 110% of its computed space allowance.

RESEARCH LABORATORY (250): A space used for laboratory experimentation, research, or training in research methods; professional research and observation; or structured creative activity within a specific program or for sponsored research (whether sponsored with federal, state, private, or institutional funds). This category is also referred to as non-class laboratory.

Maryland's guideline allows for non-class research space based on: One module per FT faculty member in academic disciplines in which a doctoral degree is awarded; one-half module/FT faculty member engaged in research in academic disciplines in which the highest degree awarded is master's degree; and one-tenth module/FT faculty member engaged in research in disciplines in which the highest degree awarded is a baccalaureate degree, limited to the following disciplines and module sizes:

- HEGIS Disciplines 0100, 0400, 0900, 1000: 1,000 NASF/Module
- HEGIS Disciplines 0200, 1200, 1300, 1900, 2000: 650 NASF

The minimum allowance for this category is set at 5,000 NASF

Although the guideline assumes that need for research space is driven by faculty requirements, allowance is intended to also accommodate student participants in research activities.

Given the current inventory of research laboratory space, application guideline suggests a current surplus of 4,411 NASF and a deficit of 724 NASF by 2029. This anticipated increased space deficit is attributed primarily to a projected 13.1% increase in full-time faculty with a net reduction in research space.

The University currently owns 174% of the space allowance in this classification. The data suggests that by 2029, the University will own 92% of its computed space allowance.

Academic Support Space: These spaces provide environments that directly support the institution’s instruction and research activities.

Table 2-22: Academic Support Space

Space Use Category	Use Code	Base Year (Fall 2019)			2020-2029 Net Change ^a	Projected Year (Fall 2029)		
		Inventory NASF	Allowance NASF	Surplus / (Deficit)		Inventory NASF	Allowance NASF	Surplus / (Deficit)
Academic Support Space								
Office	300	160,512	125,561	34,951	946	161,458	134,772	26,686
Study	400	58,742	90,310	-31,568	28,063	86,805	98,920	-12,115
Physical Education	520	61,976	82,065	-20,089	0	61,976	87,461	-25,485
Media Production	530	5,720	9,158	-3,438	4,777	10,497	10,284	213
Assembly	610	48,398	31,158	17,240	1,114	49,512	32,284	17,228
Exhibition	620	2,790	4,579	-1,789	-1,178	1,612	5,142	-3,530
Lounge (Non-Auxiliary)	650	10,355	18,642	-8,287	2,662	13,017	19,545	-6,528
Central Computer/Telecommunications	710	3,584	2,934	650	1,300	4,884	3,557	1,327
Physical Plant	720-760	24,866	41,121	-16,255	2,300	27,166	43,724	-16,558
Health Care	800	1,600	1,774	-174	0	1,600	1,943	-343
Totals		378,543	407,302	-28,759	39,984	418,527	437,632	-19,105

^a 2020-2029 Net Change includes programmed NASF for the following projects: Construction of new Communications Arts & Humanities Building and Renovation of Marshall Library, as well as demolition of the existing MLK Building.

OFFICE (300): Office facilities are individual, multi-person, or workstation spaces specifically assigned to faculty, staff, or students in academic, administrative, and service functions of a college or university. This category also includes conference rooms, file rooms, break rooms, kitchenettes, copy rooms, and testing/tutoring space. The guideline allows for office space as follows:

- 166 NASF/FTE person requiring office space (faculty and staff only), plus
- 30 NASF/FT faculty member only in academic disciplines in which a doctoral or master’s degree is awarded and which do not qualify for space in the Research Laboratory category

Given the current inventory of office space, application guideline suggests a current surplus of 34,951 NASF and a surplus of 26,686 NASF by 2029.

The University currently owns 128% of the space allowance in this classification. The data suggests that by 2029, the University will own 120% of its computed space allowance.

STUDY (400): In this analysis, study space refers to, individually or collectively, three space categories:

- Study (410): A room or area used by individuals to study at their convenience and not restricted to a particular subject or discipline by contained equipment. It includes rooms or areas located in the library or other buildings. Study spaces are primarily used by students or staff for learning at their convenience.
- Stack (420): A space used to house arranged collections of educational materials for use as a study resource.
- Processing/Service (440): A room or area devoted to processes and operations in support of library functions. Included are card and microfiche areas, reference desk and circulation desk areas, bookbinding rooms, multimedia materials processing areas, interlibrary loan processing areas, and other areas with a specific process or operation in support of library functions.

Current Maryland guidelines allow the total of the following:

- 35 NASF/FTDE for 20% of the undergraduate and graduate FTDE for study facilities (410)
- .10 NASF/PBVE (1.5 NASF/PBVE for Law and Medical) for stack facilities (420)
- 20% of the allowance for HEGIS 410 and 420 space with a minimum of 3,000 NASF for processing space (440)

Library collections and physical bound volume detail were presented earlier in this section.

Given the current inventory of study space, application guideline suggests a current deficit of 31,568 NASF and a deficit of 12,115 NASF by 2029.

The University currently owns 65% of the space allowance in this classification. The data suggests that by 2029, the University will still own 88% of its computed space allowance.

Physical Education (520): A room or area used by students, staff, or the public for athletic or physical education activities. Physical Education space includes gymnasias, basketball courts, handball courts, squash courts, wrestling rooms, weight or exercise rooms, racquetball courts, indoor swimming pools, indoor putting areas, indoor ice rinks, indoor tracks, indoor stadium fields, and field houses. This category includes spaces used for dancing and bowling.

Guideline allowance is 30 NASF/undergraduate FTDE for the first 1,600 plus 10 NASF for each additional undergraduate FTDE, and an allowance of 5,800 NASF of team related locker/shower/support space for institutions with ICA programs.

Given the current inventory of physical education space, application guideline suggests a current deficit of 20,089 NASF and a deficit of 25,485 NASF by 2029. This anticipated increased space deficit is attributed primarily to a projected 13.4% increase in student enrollment with no increase in current physical education space.

The University currently owns 76% of the space allowance in this classification. The data suggests

that by 2029, the University will own 71% of its computed space allowance.

MEDIA PRODUCTION (530): A space used for the production or distribution of multimedia materials or signals. Includes spaces generally called TV studios, radio studios, sound studios, photo studios, video or audio cassette and software production or distribution rooms, and media centers.

Guideline allowance assumes 2 NASF per FTDE

Given the current inventory of media production space, application guideline suggests a current deficit of 3,438 NASF and a surplus of 213 NASF by 2029.

The University currently owns 62% of the space allowance in this classification. The data suggests that by 2029, the University will own 102% of its computed space allowance.

ASSEMBLY (610): A space designed and equipped for the assembly of many persons for such events as dramatic, musical, devotional, livestock judging, or commencement activities. Includes theaters, auditoria, concert halls, arenas, and chapels that are used primarily for general presentations (speakers), performances (dramatic, musical, dance), and devotional services.

The guideline allows:

- 12,000 NASF/institution, plus
- 10,000 NASF/institution with degree program in Theater, plus
- 5,000 NASF/institution with degree program in Music, plus
- 2 NASF/FTDE

Given the current inventory of assembly space, application guideline suggests a current surplus of 17,240 NASF and a surplus of 17,228 NASF by 2029.

The University currently owns 155% of the space allowance in this classification. The data suggests that by 2029, the University will own 153% of its computed space allowance.

EXHIBITION (620): A room or area used for exhibition of materials, works of art, artifacts, etc., and intended for general use by faculty, students, staff, and the public. This includes both departmental and institutionwide museums, galleries, and similar exhibition areas that are used to display materials and items for viewing by institutional population and the public.

The guideline allows for 1.0 NASF/FTDE.

Given the current inventory of exhibition space, application guideline suggests a current deficit of 1,789 NASF and a deficit of 3,530 NASF by 2029.

The University currently owns 61% of the space allowance in this classification. The data suggests that by 2029, the University will own 31% of its computed space allowance.

LOUNGE (650): Lounge space used for rest and relaxation that is not restricted to a specific group of people, unit, or area. A lounge facility is typically equipped with upholstered furniture, draperies, and carpeting, and may include vending machines. This category is exclusive of areas so designated in residence halls.

The guideline allows 3% of HEGIS space categories 100 to 800 (excluding 630-670).

Given the current inventory of lounge space, application guideline suggests a current deficit of 8,287 NASF and a deficit of 6,528 NASF by 2029.

The University currently owns 56% of the space allowance in this classification. The data suggests that by 2029, the University will continue to own 67% of its computed space allowance.

Central Computer or Telecommunications (710): A space used as a data or telecommunications center with applications that are broad enough to serve the overall administrative or academic primary equipment needs of a central group of users, department, college, school, or entire institution.

The guideline allows a core of 2,500 NASF for the first 4,000 FTDE, 0.75 NASF/FTDE beyond 4,000.

Given the current inventory of central computer or telecommunications space, application guideline suggests a current surplus of 650 NASF and a maintained surplus of 1,327 NASF by 2029.

The University currently owns 122% of the space allowance in this classification. The data suggests that by 2029, the University will own 137% of its computed space allowance.

PHYSICAL PLANT (720-760): Physical plant facilities, which provide centralized space for various auxiliary support systems and services of a campus, help keep all institutional programs and activities operational.

While not as directly accessible to institutional and community members as General Use Facilities (Code 600 series), these areas provide a continuous, indirect support system to faculty, staff, students, and the public. Physical plant facilities are centralized in that they typically serve an area ranging from an entire building or organizational unit to the entire campus. Included are centralized areas for shop services, general storage and supply, vehicle storage (720-745); central services e.g., printing and duplicating, mail, shipping and receiving, environmental testing or monitoring, laundry, or food stores (750), and hazardous materials areas (760/770).

The guideline allows for the following:

- Shop, Central Storage, and Vehicle Storage (720-740): 4% of NASF excluding NASF in room use categories 720-745.
- Central Services (750): A core of 4,000 NASF for the first 4,000 FTDE, 1 NASF/FTDE beyond 4,000 FTDE and 1.5 NASF/FTDE beyond 15,000 FTDE
- Hazardous Material Storage (760): 3% of existing inventory in category 250 and 2% of existing inventory in category 720-740

Given the current inventory of physical plant facilities, application guideline suggests a current deficit of 16,255 NASF and a continued deficit of 16,558 NASF by 2029.

The University currently owns 60 % of the space allowance in this classification. The data suggests that by 2029, the University will still own 62 % of its computed space allowance.

HEALTH CARE FACILITIES (800): Space used for patient care areas that is located in separately organized and budgeted health care facilities: student infirmaries and centers, teaching hospitals, stand-alone clinics run by these hospitals, and veterinary and medical schools.

The guideline allows a core of 1,000 NASF for the first 2,000 FTDE, 0.3 NASF/FTDE beyond for institutions with at least 300 residential students or 0.5 NASF/FTDE beyond 2,000 FTDE for institutions with fewer than 300 residential students.

Given the current inventory of health care facilities, application guideline suggests a current deficit of 174 NASF and a deficit of 343 NASF by 2029.

The University currently owns 90% of the space allowance in this classification. The data suggests that by 2029, the University will own 82% of its computed space allowance.

OTHER CLASSIFIED SPACE (AD HOC): This grouping represents spaces that are not addressed by Maryland’s space planning guidelines. These are either specialized spaces for which need is based entirely on programmatic requirements which vary by institution or auxiliary enterprises which are not state-funded. Examples of space needs based on programmatic requirements are armory, spectator seating, clinic, demonstration, field building, and greenhouse. Auxiliary enterprise categories include day care, residential facilities, and space for student service functions typically housed in a student union building. Examples of student union spaces are food facilities, lounge, merchandising, recreation, and meeting rooms. For these ad-hoc categories of spaces, existing and projected space is the guideline.

Table 2-23: Other Classified Space (Ad Hoc)

Space Use Category	Use Code	Base Year (Fall 2019)			2020-2029 Net Change ^a	Projected Year (Fall 2029)		
		Inventory NASF	Allowance NASF	Surplus / (Deficit)		Inventory NASF	Allowance NASF	Surplus / (Deficit)
Other Classified Space (Ad Hoc)								
Spectator Seating	523	3,920	3,920	0	0	3,920	3,920	0
Demonstration	550	1,444	1,444	0	0	1,444	1,444	0
Field Building	560	118	118	0	0	118	118	0
Greenhouse	580	2,000	2,000	0	0	2,000	2,000	0
Food Facility	630	29,708	29,708	0	0	29,708	29,708	0
Merchandising	660	5,946	5,946	0	0	5,946	5,946	0
Recreation	670	4,809	4,809	0	0	4,809	4,809	0
Meeting Room	680	7,964	7,964	0	0	7,964	7,964	0
Residential Facilities	900	254,908	254,908	0	0	254,908	254,908	0
Totals		310,817	310,817	0	0	310,817	310,817	0

^a 2020-2029 Net Change includes programmed NASF for the following projects: Construction of new Communications Arts & Humanities Building and Renovation of Marshall Library, as well as demolition of the existing MLK Building.

UNCLASSIFIED SPACE: These spaces are assignable areas that are inactive or unassigned; in the process of being altered, renovated, or converted; or in an unfinished state at the time of the inventory. They include inactive areas, alteration or conversion areas and unfinished areas. Inactive areas are spaces that are available

for assignment to an organizational unit or activity. Another area of unclassified space is “other organizations.” These are spaces that are being occupied by entities other than the University and are not available for University use and are listed as ad-hoc. At the time of the inventory, the only unclassified spaces were inactive areas.

Table 2-24: Unclassified Space

Space Use Category	Use Code	Base Year (Fall 2019)			2020-2029 Net Change ^a	Projected Year (Fall 2029)		
		Inventory NASF	Allowance NASF	Surplus / (Deficit)		Inventory NASF	Allowance NASF	Surplus / (Deficit)
Unclassified Space	050	39,728	39,728	0	-4,350	35,378	35,378	0
Totals		39,728	39,728	0	-4,350	35,378	35,378	0

^a 2020-2029 Net Change includes programmed NASF for the following projects: Construction of new Communications Arts & Humanities Building and Renovation of Marshall Library, as well as demolition of the existing MLK Building.

SECTION SUMMARY

As previously stated, space guidelines calculations are not to be used as the determining factor when making decisions about facilities needs. The following excerpts offer some understanding as to why.

“ . . . no generalized planning or evaluative process can reflect all the nuances of the institutional situation and that complete dependence on and imperfect system is unwise and unwarranted.”

“ . . . it must be acknowledged that general planning criteria used in the evaluative process cannot be applied to the design of specific facilities. There must be some allowance for flexibility since no gross indicator is sufficiently sensitive to reflect varying requirements created by differing programs, philosophies, modes of operation, functions to be served, and architectural considerations. . . ”

--Maryland Four-Year Public College and University Space Planning Guidelines
Maryland Department of State Planning
August 1981

QUALITATIVE ANALYSIS (PROGRAMS)

Growth or change of some existing programs and the establishment of new ones suggest concomitant growth or change in enrollments and demographics, need for specific, specialized facilities. We believe that exploiting opportunities to effectively market the “Bowie Brand” will drive program offerings in the coming years. Many of these programs require specialized classrooms, labs and other facilities that can be flexibly adjusted for a variety of teaching/learning or other settings.

As discussed previously, in addition to primary academic needs, there are needs for programs and projects focusing on various academic support, institutional support and campus-wide pursuits that collectively create an exceptional atmosphere for students, faculty, staff, alumni and visitors to the Bowie campus. These needs should be viewed in the context of how strategic responses would effectively align with the University’s mission, Strategic Plan, and its planned academic direction.

SUMMARY OF KEY FINDINGS

Facilities master planning regimens should strategically focus on programs and projects that will collectively transform the character of Bowie State University’s academic, co-curricular, and administrative activities to create a holistic approach to student success. Strategic focus should allow for flexible, nimble and seamless response to future market dynamics.

SAFETY, SECURITY AND COMMUNICATIONS

There is a current need for contemporary campus safety, security and communications facilities. Existing facilities do not meet Bowie State University’s current or future needs. Insufficient, inadequate and inappropriate building environments impede efficient and effective operations and the delivery of modern-day policing services, emergency management planning and preparedness, communications, cyber-security and other digital engagement services to the University and its greater community.

Portions of the Department of Public Safety (DPS) are currently housed in extremely cramped quarters, occupying about 2,000 NASF in the McKeldin Complex. Other elements of the department are located in Charlotte Robinson Hall and the James E. Proctor, Jr. Building. The McKeldin space does not even meet minimum needs with personnel in interior office spaces maneuvering through narrow corridors. Existing locker rooms double as storage space for materials and non-road vehicles. Police evidence, records, and holding areas are inadequate and inappropriate.

The department’s secondary Emergency Operations Center (EOC), which does not meet the survivability requirements for an EOC, is also located in this space. The building was not constructed to current code regarding seismic and hurricane conditions. Additionally, it does not meet current ADA requirements nor is it Commission on Accreditation for Law Enforcement Agencies, Inc. (CALEA) accredited.

Division of Information Technology (DIT) is responsible for maintaining cyber critical systems infrastructure. However, major spaces distributed throughout campus make it difficult to work as a team and provide proper support. The Data Center in the Library basement is in a location vulnerable to the elements. There is the need for Bowie State University to address these cyber vulnerabilities and to position its information technology and communications infrastructure and operations to ensure coherence with the National Infrastructure Protection Plan 2013; and USM Board of Regents mandate: Policy VI-13.0.

Moreover, the very nature of the Division of Information Technology (DIT), as is the Department of Public Safety, requires it to be a backbone infrastructure for the University 24 hours per day, 7 days per week, and 365 days per year without interruption regardless of conditions. Each is critical to the University’s Emergency Management Plan before, during, and after an incident. Accordingly, they have to be appropriately resourced to assure the federal government, State of Maryland, USM Board of Regents, and the

University community that should an incident occur, they can be responsive during every phase and will facilitate a return to normal operations within a timely manner.

The principal need for these facilities is due to changing federal, state, and local policy demands as a result of tragic events unwitnessed and unprecedented when the buildings that house these operations were opened. The existing spaces that these campus-wide operations occupy are neither sufficient to meet the future demands nor appropriate to provide quality service to the Bowie State community.

Central to all of the above is maintaining a safe and secure campus, maintaining reliable and consistent information technology and assuring students faculty and staff as well as the off-campus community that Bowie State University is a safe, secure and welcoming environment dedicated to excellence in all of its endeavors.

PHYSICAL PLANT OPERATIONS

The Facilities Management Building was built in 1967 and its design provides neither the capacity to appropriately house and support the needs of its current occupants, nor the flexibility to easily adapt interior or exterior spaces to changing needs in the future. There is no adequate location to store and service BSU's vehicle fleet, which now includes five buses, and to accommodate its Shuttle program.

Bowie State University needs to have the adaptability, flexibility and responsiveness to ensure that the state's investment in academic facilities are maintained and sustained by support facilities and operations that are adequate, sufficient and appropriate to accommodate emerging technology and functional requirements of a 21st Century Institution of Higher Education. The constraints of the Facilities Management Building impede necessary adaptability, flexibility and responsiveness.

Ultimately, the inability to accommodate the roles and responsibilities of major institutional support operations places the State of Maryland and the University's investments in students,

faculty, staff and facilities in jeopardy. In turn, this hampers Bowie's ability to increase enrollments; use resources effectively and efficiently, support the *USM 2020 Strategic Plan*; and frustrates an element of the institution's mission to comply with the USM Board of Regents mandate regarding the development of an emergency management plan and having BSU be an excellent steward of scarce state resources.

WELLNESS/ FITNESS/ RECREATION

There are no dedicated campus facilities for wellness education programs, indoor recreation activities, fitness and nutrition programs, and the limited space available to the Henry Wise Wellness Center in the Christa McAuliffe Residence Hall militates against BSU's ability to comply with the University System of Maryland Board of Regents' mandates regarding stewardship. This inappropriateness and/or absence of program environments impede efficient and effective operations and the delivery of modern-day student life, healthy living, or availability of holistic medicine to the University and its greater community.

Providing for wellness, fitness and recreation programs not only responds to federal and state mandates, removes mission critical units out of inadequate, insufficient, inappropriate spaces thus creating needed space that does not currently exist, but also effectively and economically incorporates one of the Regent's Capital Initiatives into the development of budget priorities of building campus communities with respect to student services.

ACADEMIC COMMONS

Existing facilities do not meet the current and future needs of the users of Thurgood Marshall Library quantitatively or qualitatively. Insufficient, inadequate and inappropriate building environments impede efficient and effective operations and the delivery of learning resource services to Bowie State University and its greater community.

Foremost is the need to overcome an overall shortage of library space in the Thurgood Marshall Library Building (TGML) in response to present and future program needs and their consequent functional space requirements and to meet its commitment to accommodate scholarly pursuits of students, faculty and staff. Evidence of this shortage is in the quantity of existing space occupied by the Library, which is less than what is nationally recognized as the minimum required to appropriately accommodate a basic library that is to support academic and research programs at the bachelor's, master's and doctoral levels.

Recent trending towards collective and shared collection development highlights the importance of a common's archives and special collections. Such unique library materials are means for institutions to differentiate themselves, but more importantly, acknowledge and underscore the importance of research.

Jerry Crawford II, assistant professor of journalism at University of Kansas, observed that *"When we talk about HBCUs, we're not just talking about schools, we're talking about cultures, and it's important we not lose them."* He is talking about culture continuation. The concept of a modern academic commons speaks to continuation of culture at Bowie State University. As a hub for academic discussion and discovery, contemporary faculty and student support functions with their collaborative learning and research environments, innovative academic commons programs will also be dedicated to collecting, preserving, and providing access to records and artifacts that exemplify the University's rich cultural heritage as an HBCU, and will serve as the collective historical memory for the Bowie State University community.

WELCOME AND ADMISSIONS CENTER

There is a need for a strategically located Welcome / Admissions Center. Bowie State University does not have a facility that truly welcomes people to its campus. There is no warm and accessible official front door for visitors and potential students and their families.

In addition to making a grand statement as a dynamic first point of entry to a campus, welcome centers have shown to have a memorable impact on students, prospective students, alumni and visitors. University welcome centers mix aspiration and nostalgia. By offering a **Bowie Bold** lasting first impression, a welcome and admissions center can be an effective vehicle for recruiting and retaining students, brand promoting, being responsive to community and statewide needs, alumni, and business partners.

CAMPUS COMMUNITIES

Residential development that addresses the unique needs of freshmen, sophomores through seniors, graduate students, married students, faculty and staff is considered an essential element in fostering student success. The University has recognized, for some time, the importance of expanding the quantity and quality of its on-campus communities. Two recent studies by Anderson Strickler LLC² and MGT Consulting Group³ concluded that current demand for on-campus residences at Bowie State University exceeds available supply. This disconnect would only worsen in the next ten years.

The very existence of campus communities of differing residential intensities generates attendant needs for enhanced academic support facilities and services such as retail services, laundry facilities, areas for wellness/fitness/ recreation, socialization, public safety services, communications and digital engagement services, facilities maintenance, health and counseling services, childcare, and multi-use facilities that can host religious, spiritual, and secular activities.

² Anderson Strickler, LLC (March 13, 2017), Student Housing Market Due Diligence for Bowie State University

³ MGT Consulting Group (November 19, 2019), Student Housing Market Study, Bowie State University

ATHLETICS AND OUTDOOR RECREATION

There is a compelling need for contemporary campus development to provide for all athletic and large venue facilities that are commensurate with the standing and quality of the University's athletic programs now and in the future. Existing outdated athletic facilities are insufficient, inadequate and inappropriate for the needs of even current athletic programs.

Outdoor facilities for both athletics and campus intramural and recreational sports would not only support athletic programs, but would also directly influence academic excellence, student success and institutional viability by fostering better mental and physical health, enhanced workplace performance, and lower levels of stress and anxiety for students, faculty, staff, visitors and the greater campus community users.

RESEARCH

The following excerpt, from a report to the Maryland General Assembly⁴, speaks to the importance of research and its return on investment (ROI) potential:

Research has become an important economic engine for the state of Maryland, generating tens of thousands of jobs and having direct expenditure exceeding \$1 billion annually. The impact of this is multiplied several times over as the funds are cycled through Maryland's economy. The state of Maryland has accepted responsibility for providing the research space necessary for the University's research enterprise, with the expectation that the benefits that accrue to the state from this investment far exceed the capital expenditures.

Need exists to provide new facilities, as well as to renovate and repurpose existing facilities, so as to counter the disparities and/or contradictions that

presently exist between award winning research accomplished at Bowie State University and the inadequate or insufficient research environments that exist on campus.

Readily available research facilities can position BSU to generate revenues whereas absence of such facilities can cost extramural funding opportunities as others who have such space get the grants. Bowie State cannot truly consider itself a center for startups without space to accommodate incubators. Also, coveted grants and awards in cybersecurity, for example, are very unlikely without the presence of several Sensitive Compartmented Information Facility's (SCIF) on campus. It is generally understood that modern research facilities are valued "pipelines to opportunity."

COMMUNITY-BASED ECONOMIC DEVELOPMENT

Bowie's existing campus venues are too small for accommodating big events. There is the need for a single large convocation-type venue that can bring the Bowie State University community together at one place at one time to share a single experience.

There is an acknowledged need to pursue opportunities for advantageous expansions of the campus community to form a oneness with the greater community via such opportunities as the transit-oriented development site to the west and the Bowie Race Track site to the east.

⁴ Research Space Guidelines for Maryland Public Universities, A Report to the Budget Committees of the General Assembly December 21, 2016

CAMPUS-WIDE SYSTEMS AND INFRASTRUCTURE IMPROVEMENTS

There is ongoing need to address condition and capacities of infrastructure utilities, telecommunications, parking and open space. There is also ongoing need to maintain and modernize campus circulation for pedestrian and various transportation modes as well as connection with larger circulation systems within the greater campus community. Finally, there is ongoing need for planned renovation, adaptation, replacement, or upgrade of the systems of a capital asset (capital facilities renewal).

SECTION SUMMARY

A variety of qualitative or non-statistical environmental characteristics impact the physical needs of a university campus. These global needs, where Bowie is concerned, focus more on quality and functionality of spaces than on quantity with the notable exception of physical education and physical plant which are deficient both quantitatively and quantitatively.

Unlike quantitative analysis who's focus is primarily on space, qualitative analysis focuses more on programmatic issues. Qualitative indicators of current conditions and program characteristics and future needs are the result of observations by the master plan consultants, conclusions reached in plans and studies by other consultants, and views expressed by University personnel during interviews and/or via written statements.

The listing of qualitative needs referenced in this section is by no means all-inclusive. Future facility programming for individual new or renovated facilities at Bowie State University will require, in each instance, a thorough review and analysis of each of the subject function's component activities to determine a specific justification and rationale for new or reconfigured spaces.

It is often said that inferior spaces equal inferior environments equal perceived inferior service.

Qualitative facilities problems often stem from the impact of quantitative problems on the physical campus as a whole and the absence of certain necessary spaces or facilities.

NEEDS ANALYSIS CONCLUSION

Needs analysis is the process of estimating the needed supply of academic, academic support and other support space given a projected demands of: 1) BSU Mission, 2) BSU *Strategic Plan*, 3) P.P.A.S., pronounced "pass" (People, Programs, Activities and Stuff) who or what must be accommodated, and 4) the need for improvement of operations and services. Thus, needs analysis begins the transitioning from the language of academic assessment and academic planning to the language of facilities planning and master planning.

Data leading up to and including the quantitative and qualitative needs establishes the necessity for renovated and/or additional facilities at Bowie State University to meet its present and future requirements for space and programs. Potential strategies for meeting these identified requirements are addressed, in physical terms, in the impending chapters.

Bowie State University's response to needs for space and programs manifests itself in a series of projects that will culminate in an orderly long-term physical development of Bowie's campus community. Priorities and sequencing of specific projects that allow for integration of this Facilities Master Plan into Bowie's Capital Improvement Program (CIP) and related financial planning required to implement this Plan will be presented in a later chapter.

The next chapter contains the evaluations of buildings and other campus site infrastructure to determine their suitability to support existing and future programs. These evaluations address needs relative to condition of buildings and other infrastructure.

3 THE CAMPUS TODAY

BUILDINGS AND THEIR DEVELOPMENT

THE CASE FOR IMPROVEMENTS

FACILITIES

Since its inception in the 1910's the development of the BSU campus has seen relatively consistent growth to its Fall 2019 enrollment of 6,171 students (headcount) and 23 buildings totaling 1,534,504 gross square feet. In that period of 100+ years, two major building expansions occurred: five buildings in the 1970's totaling nearly 500,000 square feet representing almost 1/3 of the total current inventory, and the other more recent expansion since 2000 totaling approximately 534,000 square feet. The five 1970's buildings have never had major comprehensive renovations; all are in need of complete top-to-bottom renovation or replacement. One, Martin Luther King Jr. Communication Arts Center, is scheduled to be replaced by the planned Communication Arts & Humanities Building now in design. Thirteen of the 23 existing buildings were built prior to 1978, and only the most historic – the 1916 Goodloe House and Harriet Tubman Residence Hall – have undergone major renovations. The average age of all buildings is 44 years.

Campus 1965



Campus 1977



Campus 1998



Campus 2016



After a period of modest growth, the University resumed expansion with additional major projects during the period 2000-2016. This expansion addressed many deficiencies, including much needed classroom, laboratory, student center and fine and performing arts spaces. Yet, several of the older buildings which have not had major renovations do not meet the needs of a 21st century comprehensive university. Needs vary from building to building, but the following highlights the issues and deficiencies of several campus buildings:

- The instructional spaces of the now 20-year old **James E. Proctor Building** are outdated and/or in need of major repurposing or reconfiguration, there are few study and gathering spaces for students, and major building systems including mechanical, electrical and technology are in need of upgrade.
- The **Henry Administration Building**, while having undergone a renovation in 2003, still lacks appropriate and efficient building systems; the renovation never did solve the inherent net-to-gross inefficiency; and the layout discourages interaction between administrative staff with each other and with others.
- As previously mentioned, the **Martin Luther King Jr. Communication Arts Center** will be demolished.
- The **Charlotte Robinson Hall** building envelope is energy inefficient as are the HVAC and lighting systems; renovations over the 60-year life of the building have been piecemeal and seemingly without a compelling, overarching purpose for the building.
- While relatively new, the 2002 **Computer Science Building** is largely comprised of computer classrooms and labs that are too small, and there is virtually no space for students to gather and study collaboratively; in addition, the recent and anticipated growth of computer science programs suggests expanding the building to accommodate

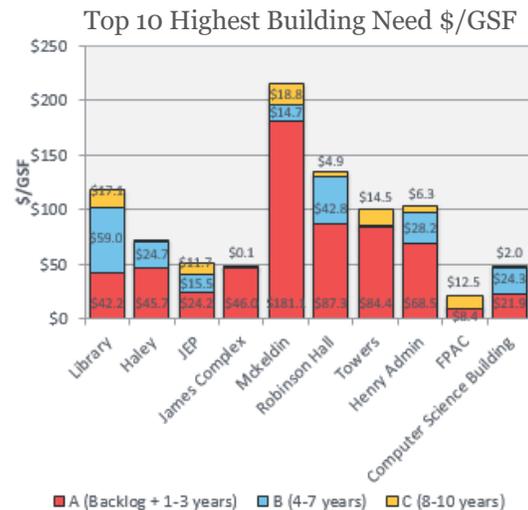
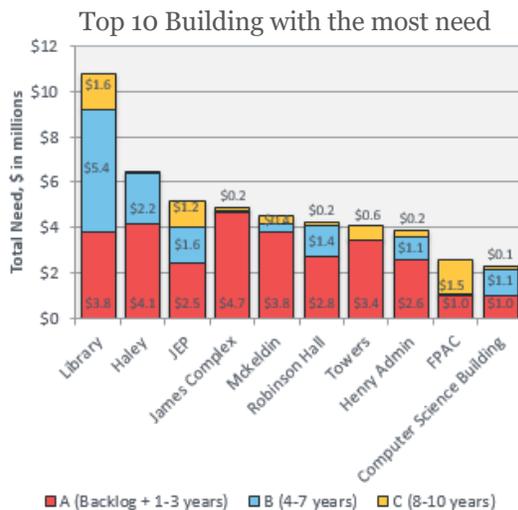
that growth and address the small size of the classrooms and labs.

- The 1967 **Facilities Management Building** suffers from a floor plan that does more to disconnect operations contained within the building than unify them, and all office, shop and support spaces are inadequate, outdated and woefully in need of replacement.
- The deteriorating **Central Steam Plant** has been decommissioned for at least the last ten years and serves no relevant purpose; demolition is recommended.
- BSU has done its best to upgrade certain spaces and building systems of the **Leonidas James Physical Education Complex**, now 47 years old, but many more elements of the building still need to be addressed, including the energy-inefficient building envelope, discontinuous circulation patterns and conveying systems, obsolete spaces such as racquetball courts and an unused wrestling room; in addition, there is a significant deficit of net assignable space requiring expanding the building size.
- The 1957 **Theodore McKeldin Gymnasium** now includes a very small basketball court and spaces for some of the University's Public Safety operations; Public Safety space needs to be consolidated elsewhere, while the building will require a major renovation and expansion to accommodate fitness and wellness programs.
- The older residence halls (**Towers, Dwight Holmes, Lucretia Kennard, Harriet Tubman**, and the **Goodloe Apartments**) all contain significant deficiencies including: tiny rooms and halls, inadequate ventilation, outdated HVAC, electrical, lighting and technology systems, inaccessible elements not meeting ADA standards, and inefficient building envelopes. This report recommends re-investment in Kennard and Tubman, and removal of Towers, Holmes, and Goodloe Apartments.

THE SIGHTLINES REPORT

One of several reports provided by BSU is the 2019 Sightlines PowerPoint presentation, which examines and describes the need for upkeep, renovation, repairs or other dispositions of several campus buildings. The presentation makes recommendations for various levels of investment into these buildings or in some cases, demolition. These were all reviewed and considered by the HCM consultant team during development of this Facilities Master Plan. For the most part, the recommendations by HCM and Sightlines are congruent; in limited instances, however, the recommendations are different. The Sightlines evaluations are notable relative to extending

the useful life of individual buildings, and their assignment of estimated costs for improvements are important, particularly facilitating the University in its development of facilities renewal and capital projects. The recommendations in the FMP are made with recognition of the value of the Sightlines conclusions and with the perspective of the long range and strategic facility planning which frames the FMP recommendations for campus development, and with consideration for quality of spaces and quality of the campus experience, informed by input from the BSU FMP Steering Committee. Graphic excerpts from the Sightlines presentation follow:



“Master Plan Focused Building List”

Capital Upkeep
CBGS (Center for Business and Graduate Studies)
Computer Science Building
Field House
FPAC
Goodloe House
Student Center

Repair maintenance
Haley
Holmes
JEP
Tubman

Masterplan Renovation
Henry Admin
James Complex
Library
McKeldin
Robinson Hall
Towers

Masterplan Demo/Sightlines Transitional
Boiler plant
Goodloe Apartments
Kennard
Maint Bldg (Facilities Management building)

In general, the recommendations in both the Sightlines presentation and FMP are consistent. Recommendations are similar except for:

- **Holmes and Towers** (small rooms and corridors, non-conforming with current codes, quality of campus experience, accessibility, and allowing expansion of Holmes Plaza) and **Henry** (functions to move to the Thurgood Marshall Library), which are recommended for demolition in the FMP, and
- **Kennard** (historical significance) which the FMP keeps.

EXISTING ACADEMIC, ADMINISTRATION AND AUXILIARY BUILDINGS

1. James E. Proctor Building
2. Thurgood Marshall Library
3. William E. Henry Administration Building
4. Martin Luther King Jr. Communication Arts Center
5. Center for Business and Graduate Studies
6. Charlotte Robinson Hall
7. Computer Science Building
8. Maintenance Building
9. Fine & Performing Arts Center
10. Central Steam Plant
11. Goodloe House
12. Leonidas S. James Physical Education Complex
13. Field House
14. Theodore McKeldin Gymnasium
15. Student Center
16. Center for Natural Sciences, Mathematics and Nursing

EXISTING RESIDENTIAL BUILDINGS

17. Towers Residence Hall
18. Alex Haley Residence Hall
19. Dwight Holmes Residence Hall
20. Christa McAuliffe Residential Community
21. Lucretia Kennard Residence Hall
22. Harriet Tubman Residence Hall
23. Goodloe Apartments

SITE IMPROVEMENTS

In addition to building upgrades and replacement, key campus infrastructure systems are in need of upgrade, expansion and replacement. Thanks to recent upgrades and regular maintenance, paved systems including roadways, parking, and pedestrian systems are in generally good condition. This report does recommend some reconfiguration related to proposed building construction and improved safety and connections. Also due to recent major investment in identity and wayfinding, campus signage has been skillfully implemented. Other infrastructure systems, including water, storm water, sanitary sewer, gas, electric, and technology are necessary for proper functioning of all campus facilities. The extent of needed replacement of some portions of storm and sanitary sewer systems, most specifically underground piping, is not fully known, and study is needed and recommended to determine the scope of work for these systems.

Similarly, and critically, campus technology systems will need major upgrade, replacement and expansion in order to meet the anticipated, growing demands of communications, academic and administrative computing, audio-visual, and security systems and equipment. The technology infrastructure is already in need of correcting deficiencies; in addition, rebuilding the network, replacing and expanding fiber and equipment, network nodes and terminal units must be undertaken to be ahead of proposed building projects. This will require significant investment in technology systems between and in buildings, such as a new backbone optical fiber network. A technology master plan is recommended to establish the scope and cost of all aspects of technology systems on campus, and it should be undertaken soon. This should be of the highest priorities for the University. The technology master plan needs to be performed first to establish the scope and extent of the upgrades.

The buildings of the University span several dimensions: history, size, functions housed, styles, condition, and tradition. From the 1916 Goodloe House to the 2016 CNSMN, from the small Field House to the very large Thurgood Marshall Library, from the utilitarian Maintenance Building to the Henry Administration Building, from the neo-Georgian Harriet Tubman Residence Hall to the modern Student Center, and from the degrading Steam Plant to the polished Fine & Performing Arts Center, the campus buildings are testimony to the varying degrees they have successfully served the University and may continue to do so.

Totaling over 1.5 million square feet of construction, maintaining the 23 buildings is an annual if not daily challenge, particularly as operating budgets have not kept pace with increases of building area, particularly over the past 50 years. The following pages include summary descriptions of each building, with illustrative floor plans and photographs. This compendium may serve as a reference for University staff as future uses, improvements, and maintenance are considered. All buildings currently exist on campus except for the Goodloe house located on a separate 3-acre parcel on the south side of Maryland Route 197.

EXISTING BUILDINGS - SPACE SUMMARY

	NASF	GSF	Beds	Year Built	Age
Academic, Administration, and Auxiliary Buildings					
1 James E. Proctor Building	58,241	101,193		2000	20
2 Thurgood Marshall Library	107,635	166,869		1977	43
3 Henry Administration Building	19,027	37,396		1976	44
4 Martin Luther King Jr Communication Arts Center	77,082	149,374		1973	47
5 Center for Business and Graduate Studies	37,944	66,000		2007	13
6 Charlotte Robinson Hall	18,196	31,534		1960	60
7 Computer Science Building	27,641	47,000		2002	18
8 Maintenance Building	20,432	29,613		1967	53
9 Fine & Performing Arts Center	62,645	123,475		2011	9
10 Central Steam Plant	2,373	2,970		1952	68
11 Goodloe House	2,100	3,815		1916	104
12 James Physical Education Complex	63,976	102,135		1973	47
13 Field House	4,540	7,909		1992	28
14 McKeldin Gymnasium	15,469	21,142		1957	63
15 Student Center	58,217	95,503		2013	7
16 Center for Natural Sciences, Mathematics & Nursing	85,022	148,000		2016	4
Subtotal	661,643	1,135,037			
Residential Buildings					
17 Towers Residence Hall		40,828	194	1973	47
18 Alex Haley Residence Hall		90,855	326	1994	26
19 Dwight Holmes Residence Hall		21,779	126	1951	69
20 Christa McAuliffe Residential Community		185,240	460	2002	18
21 Lucretia Kennard Residence Hall		22,646	82	1957	63
22 Harriet Tubman Residence Hall		33,282	159	1916	104
23 Goodloe Apartments		5,946	20	1954	66
Subtotal		400,576	1,367		
TOTAL		1,535,613			

The following pages include summary descriptions, floor plans and images of all current campus buildings.

JAMES E. PROCTOR, JR. BUILDING

BUILDING DESCRIPTION

Building Designation	1. James E. Proctor Building
Number of Floors	3
Net Assignable Square Feet	58,241
Gross Building Area - GSF	101,193
Net-to-Gross Efficiency	57.6%
Year Constructed	2000
Renovations	No major renovations
Additions	None
Contains	Instructional spaces, faculty offices, major server
General Condition	good
Adequacy of Space	Generally adequate for functions housed in the building
Sprinkler System	Fully sprinklered

As one of the larger buildings providing instructional space on campus, the Proctor Building, formerly the Center for Learning and Technology, provides learning opportunities in several formal learning spaces. Classrooms are appropriately sized, and the lecture hall helps to serve a campus-wide need for large instructional space. After completion of the Natural Sciences building, the Nursing program relocated its functions there from Proctor, providing opportunities for other programs to utilize those spaces. Now 20 years old, the building's mechanical, electrical and technology infrastructure is showing signs of age and is in need of updating. Opportunities exist for improved outfitting of informal social spaces with furnishings, technology, and power systems, and more, and more inviting, gathering spaces for students should be created. Long corridors on the upper floors provide little relief and no places for students and others to gather near the classrooms and offices. Toilet rooms are curiously remote from each other on each floor, as are the two elevators, both of which are distant from the main entrance. The first floor originally included two lounge spaces, one of which was subsequently used to house a large "super computer", later removed, leaving this space available for re-purposing.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



View from Quad



Lecture Hall



Computer Classroom



Front Corridor

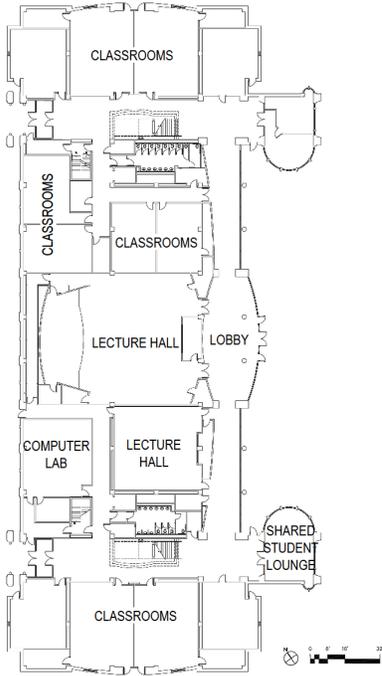


Conference Room

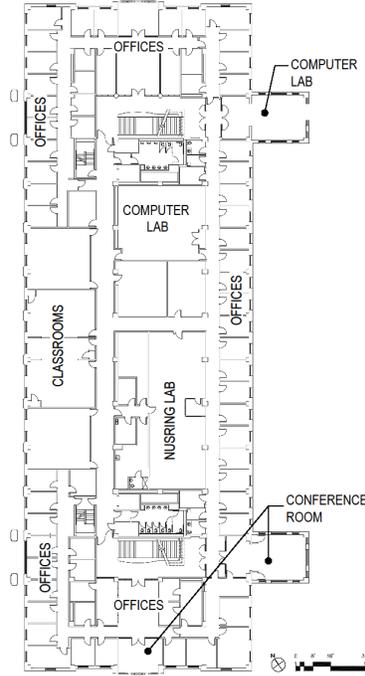


Office Suite

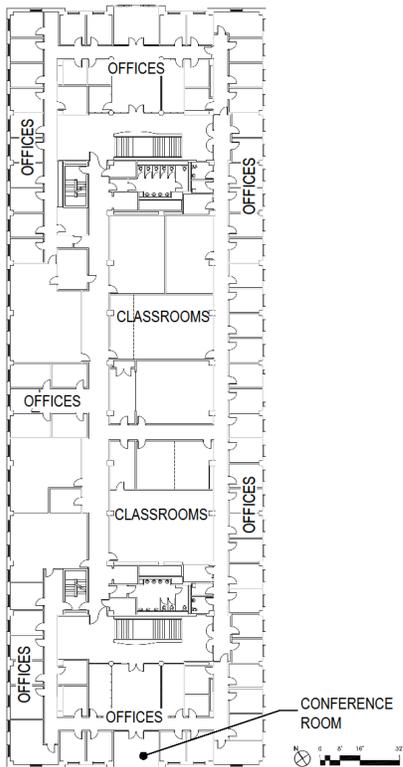
FLOOR PLANS - PROCTOR



First Floor



Second Floor



Third Floor

THURGOOD MARSHALL LIBRARY

BUILDING DESCRIPTION

Building Designation	2. Thurgood Marshall Library
Number of Floors	3 plus basement level
Net Assignable Square Feet	107,635
Gross Building Area - GSF	166,869
Net-to-Gross Efficiency	63.1%
Year Constructed	1977
Renovations	1996 – ground floor. 2019 - HVAC
Additions	None
Contains	Library and related spaces; computer services; classrooms; staff offices; offices serving student organizations
General Condition	Fair
Adequacy of Space	Adequate for library functions
Sprinkler System	Partially sprinklered

The largest building, the library is one of several major buildings constructed for the Bowie campus in the mid-1970's and one of three "brutalist" buildings confronting Henry Circle. While the building underwent a renovation in 1996 to fit up ground floor spaces for classrooms, many of the essential library spaces remain unchanged, and its learning facilities have not been updated to keep pace with new technologies and modes of learning. Large expanses of stacks offer print media to library users but occupy critical space that is not intensively used by students. Several large areas of study carrels are little used, a marked difference from technology-rich furnished areas where students prefer to congregate. The small study rooms that ring the second floor perimeter but are too small for groups of more than two students; furthermore, they are locked with limited access for students. University offices not related to library functions are scattered throughout the ground and third floors. One of two primary computer server centers is located on the ground floor. Adequate floor-to-floor heights (13'-6" ground-to-first floor, 16'-8" first-to-second floor) will accommodate most renovation schemes. A recent upgrade to the HVAC system has improved internal comfort and air quality. An extensive array of solar photovoltaic panels covers most of the roof. The structural steel framing appears to be sound, but all other building systems – architectural, plumbing, electrical, lighting, and technology need extensive, comprehensive renovation, including the energy-inefficient building envelope. The building is a prime candidate for complete re-purposing. As a very outdated facility and as the academic heart of the campus, significant upgrade to this building should be a major priority.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



View from Henry Circle



Learning Commons



Carrels and Stacks



Ground Level Lecture Hall

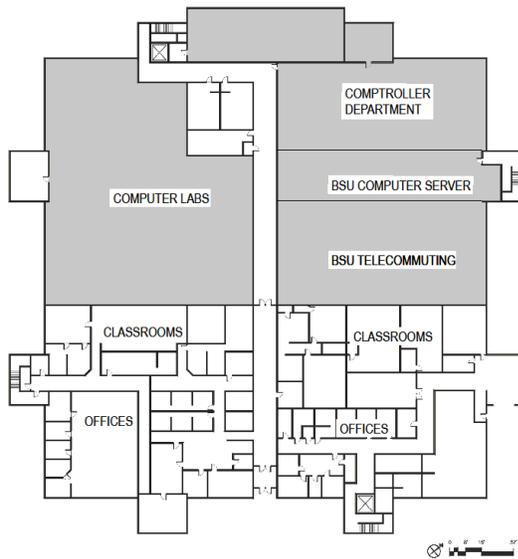


Processing



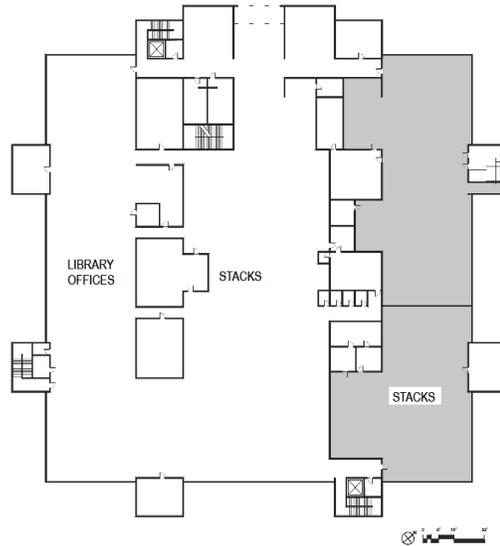
Technology Help Desk

FLOOR PLANS - LIBRARY

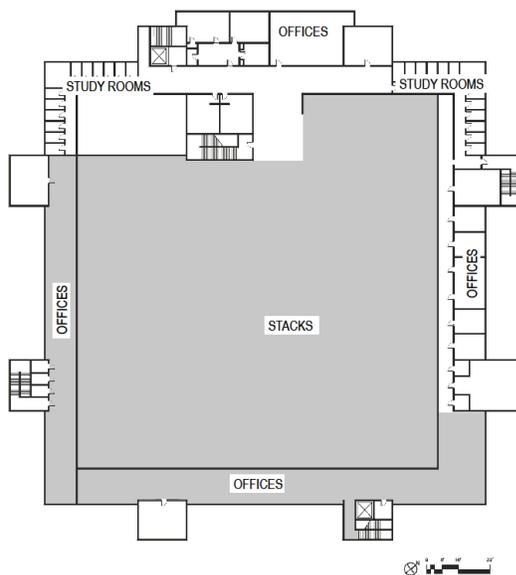


Ground Floor

Floor plan information
 unavailable for this area.



First Floor - Library



Second Floor - Library

WILLIAM HENRY ADMINISTRATION BUILDING

BUILDING DESCRIPTION

Building Designation	3. William E. Henry Administration Building
Number of Floors	2
Net Assignable Square Feet	19,027
Gross Building Area - GSF	37,396
Net-to-Gross Efficiency	50.1%
Year Constructed	1976
Renovations	2003
Additions	None
Contains	Administration offices; student services offices and facilities
General Condition	Fair
Adequacy of Space	Adequate in certain areas; inadequate in other areas
Sprinkler System	Fully sprinklered

The Henry Administration Building provides space for most of the administrative and student services functions of the University. While the interior open space represents an opportunity for improvement, it lacks the openness of other atrium-like spaces like the Natural Sciences building. Two relatively small skylights bring a limited amount of indirect natural light into the otherwise artificially illuminated open space. The concrete monumental stair in the open space is more obstructive than connective. The narrow second floor corridor that encircles the open space is circuitous and is limited to circulation only, of insufficient width for gathering spaces. Similarly, a first level balcony connecting two north building exits with a view of the academic quad affords no opportunity for gathering. The triangular building footprint, while dramatic, effectively limits the building efficiency (50% net-to-gross). One of three “brutalist” buildings located on Henry Circle, the Henry Building occupies a prominent location highly visible to first time visitors, but its appearance does not convey the functions contained inside. Further study should be undertaken to confirm the challenges that the building structure and occupancy of its location on Henry Circle represent. This report recommends relocation of the administrative and student services functions to the Thurgood Marshall Library. After relocation, the building can be demolished, opening a gateway from Henry Circle to the main quadrangle.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



North Elevation Facing Quad



Second Level Corridor and Open Space

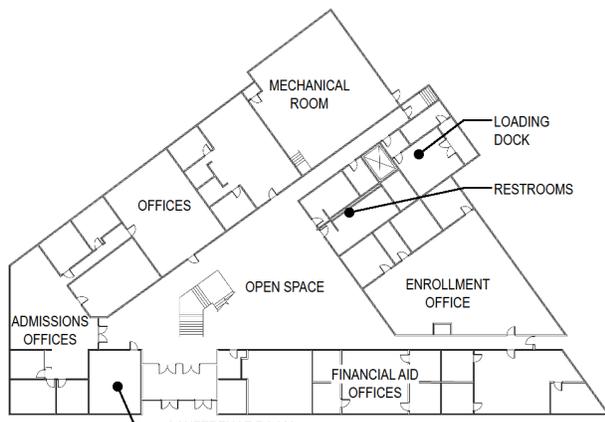


Office Suite

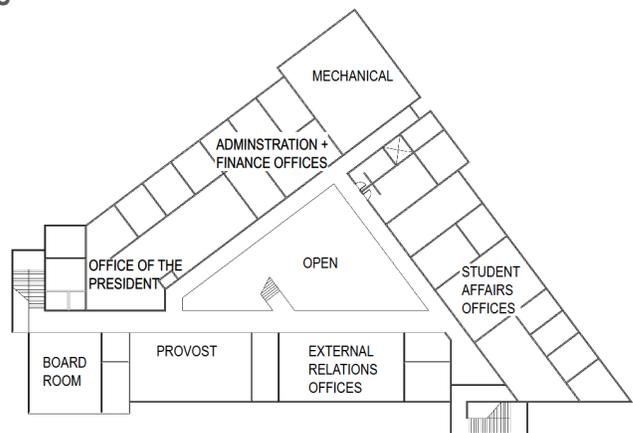


Not-so-open Stair

FLOOR PLANS



First Floor



Second Floor

MARTIN LUTHER KING JR. COMMUNICATION ARTS CENTER

BUILDING DESCRIPTION

Building Designation	4. Martin Luther King Jr. Communication Arts Center
Number of Floors	3 plus lower auditorium level
Net Assignable Square Feet	77,082
Gross Building Area - GSF	149,374
Net-to-Gross Efficiency	51.6%
Year Constructed	1973
Renovations	No major renovations
Additions	None
Contains	Classrooms, studios, offices, theater, faculty offices
General Condition	Poor
Adequacy of Space	Inadequate for the functions housed in the building
Sprinkler System	Fully sprinklered
Other	Needs re-roofing

Another of the several major buildings built in the mid-70's, this building, known as "MLK", is the second largest building on campus. Similar to the Thurgood Marshall Library and the Henry Building, it occupies a prominent location fronting on Henry Circle. The extent of classrooms, labs, lecture halls, studios and special use spaces serve to position MLK as a facility critical to the delivery of instruction on campus. The years and constant use have taken their toll, and the building is, simply, wearing out. The building structure is post-tensioned concrete, which would present major challenges in any renovation. Several locations of the structure have deteriorated and will likely continue to occur at other locations. Floor-to-floor height of nearly 15 feet on the first floor is adequate, but the 10 foot floor-to-structure height at the second level is severely limiting for any above-ceiling systems. In addition to being extremely small, several classrooms were built with cast-in-place concrete risers, severely limiting access (for able and disabled persons alike) and flexibility. The third floor corridors are very narrow, and one does not meet ADA standards. Mechanical and electrical systems regularly break down, requiring repair and replacement. Several large outdoor spaces under the second floor are dark, not used, and uninviting. Similarly, the central open space feels unalive. Because its functions are so extensive and so important to the mission of the University, taking it off-line by demolition, is problematic, and so, replacement facilities must be put in place first, possibly in a phased process. While the Fine and Performing Arts Center provides a theater, it is much smaller (capacity 350) than the current 990-seat theater/auditorium in MLK. Previous studies and the previous two facilities master plans recommended demolition of this building, a conclusion still supported in this report.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



View from North



Open Space – First Floor



Small Tiered Classroom



Large Tiered Classroom

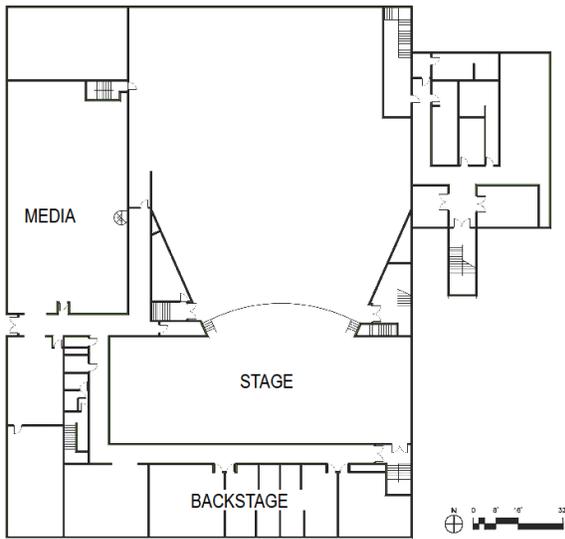


WBSU Radio

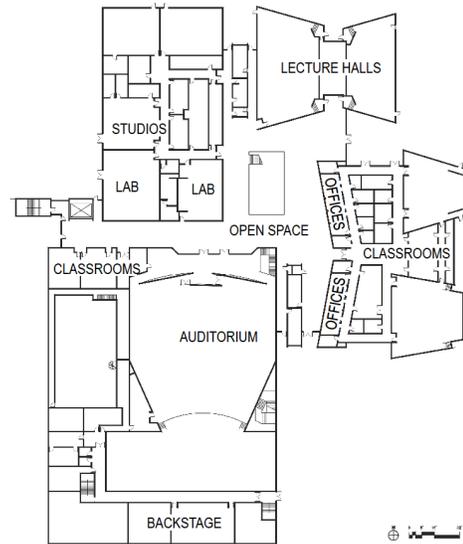


Computer Classroom

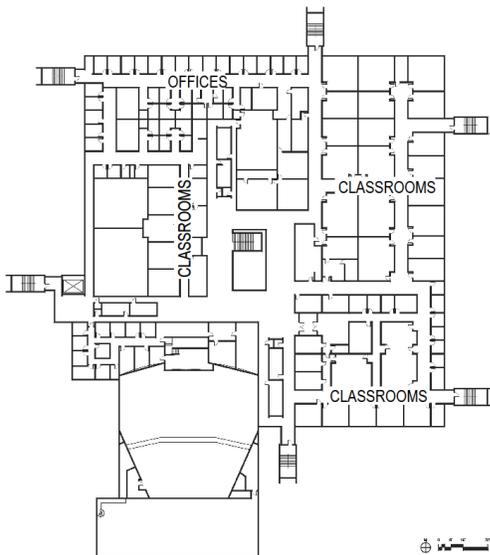
FLOOR PLANS – MLK



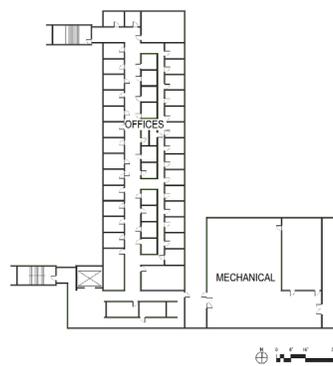
Lower Level – Auditorium



First Floor



Second Floor



Third Floor

CENTER FOR BUSINESS AND GRADUATE STUDIES

BUILDING DESCRIPTION

Building Designation	5. Center for Business and Graduate Studies
Number of Floors	3
Net Assignable Square Feet	37,944
Gross Building Area - GSF	66,000
Net-to-Gross Efficiency	57.5%
Year Constructed	2007
Renovations	None
Additions	None
Contains	Classrooms, faculty offices
General Condition	Excellent
Adequacy of Space	Adequate for the functions housed in the building
Sprinkler System	Fully sprinklered

Now 17 years old, the CBGS primarily serves the business programs, also providing classroom and study spaces for other classes. Public spaces are appropriately provided but can be better furnished. A first floor study lounge and third floor study/conference room are utilized frequently by students studying singularly. A part-time café provides light fare on the ground floor. All of the faculty offices and the Entrepreneurship Academy offices are in a wing connected to the classroom wing by a corridor. Faculty have remarked that classrooms are too small for many classes.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



View from East



Tiered Classroom



Study Lounge



Tiered Classroom

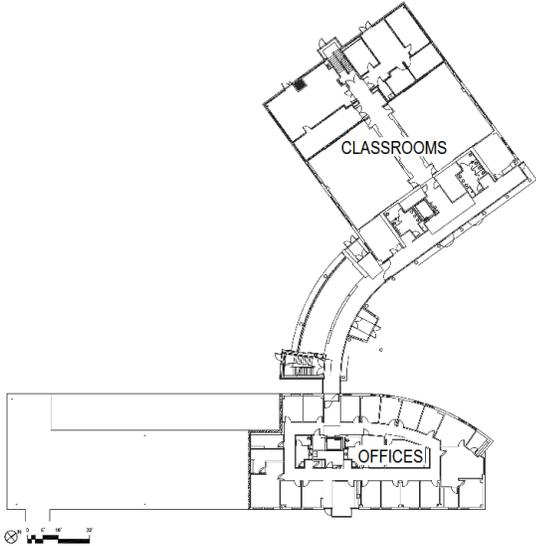


Café

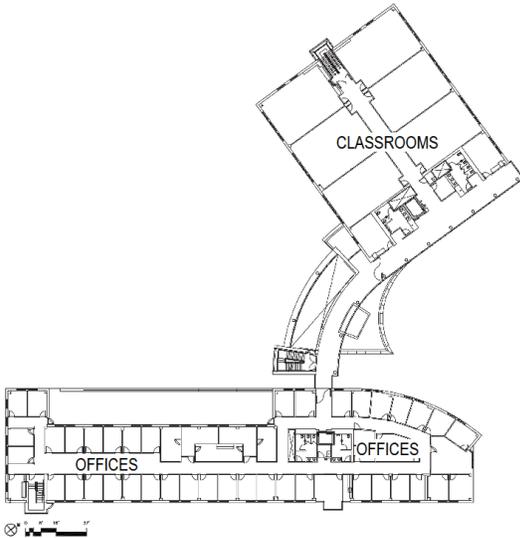


Office Suite

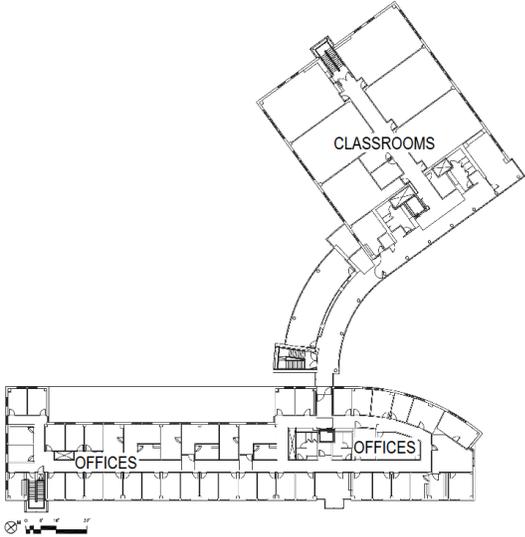
FLOOR PLANS - CBGS



First Floor



Second Floor



Third Floor

CHARLOTTE ROBINSON HALL

BUILDING DESCRIPTION

Building Designation	6. Charlotte Robinson Hall
Number of Floors	2
Net Assignable Square Feet	18,196
Gross Building Area - GSF	31,534
Net-to-Gross Efficiency	57.7%
Year Constructed	1960
Renovations	2010 – lower level classrooms
Additions	None
Contains	Human resources, custodial offices, storage
General Condition	Fair
Adequacy of Space	Adequate for functions housed in the building
Sprinkler System	Not sprinklered

Originally built as the elementary laboratory school serving Bowie State College, Charlotte Robinson Hall has served numerous uses over the past 50 years. Recent renovations have successfully transformed the west end for Human Resources offices on the upper level and University Relations / Marketing on the lower level. Other current functions include administrative offices, Public Safety, two classrooms, and custodial offices. While the building does not project a collegiate character, its infrastructure – the building shell and structure in particular – provides a platform for renovations to serve the University with additional needed office and/or academic space. Central telephone equipment serving the entire campus is located on the lower level. The building envelope is very energy inefficient and major systems are old and in need of replacement, such as HVAC & controls, plumbing, power & lighting, and windows. Upgrades to the envelope could be accomplished as part of a comprehensive renovation for the remainder of the building not yet upgraded; alternatively, the building occupies a location suited to redevelopment. If either approach is not feasible relative to available resources, systemic upgrades to building systems should be undertaken. supported in this report.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



View from Southeast



Renovated Office Space (Human Resources)

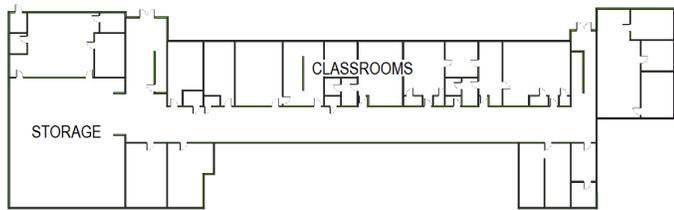


Renovated Office Space (University Relations)

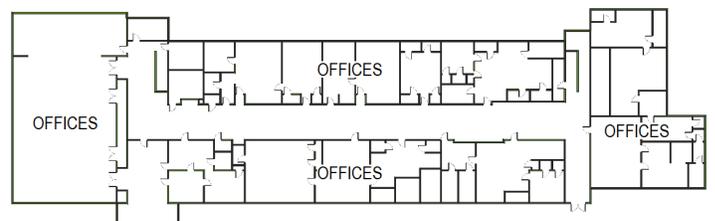


Classroom

FLOOR PLANS



Ground Floor



First Floor

COMPUTER SCIENCE BUILDING

BUILDING DESCRIPTION

Building Designation	7. Computer Science Building
Number of Floors	3
Net Assignable Square Feet	27,641
Gross Building Area - GSF	47,000
Net-to-Gross Efficiency	58.8%
Year Constructed	2002
Renovations	None
Additions	None
Contains	Computer science classrooms and labs; satellite operations control center
General Condition	Very good
Adequacy of Space	Adequate for functions housed in the building
Sprinkler System	Fully sprinklered

Befitting its namesake, nearly all of the instructional spaces in this building are fully equipped with computer work stations. Classroom and lab sizes were appropriately sized for the classes and functions they were built to serve, but since, more square feet per student are in demand to accommodate more flexible pedagogical approaches and layouts. Accordingly, larger classrooms for the same number of students or a smaller number of students in the same classrooms should be considered. Generally, faculty offices are located close to the classrooms and labs, facilitating interface between faculty and students. Computer Science deans and the Office of the Provost have recommended provision of additional instructional and lab spaces to accommodate growing computer science and cyber security programs. Student lounge spaces are located at the north end of the upper floors but are not furnished or used.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



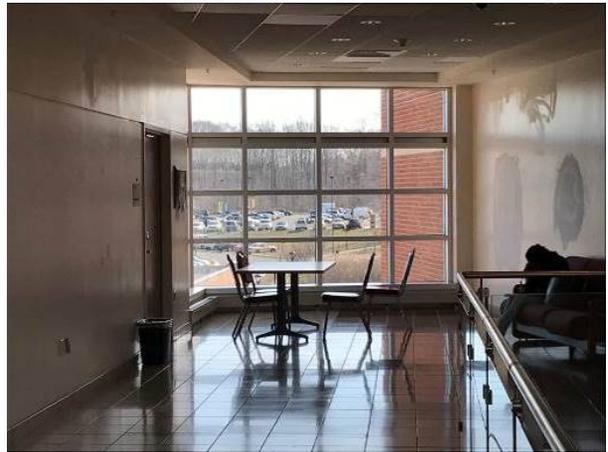
View from West



Computer Classroom



Computer Classroom



Upper Level Lounge

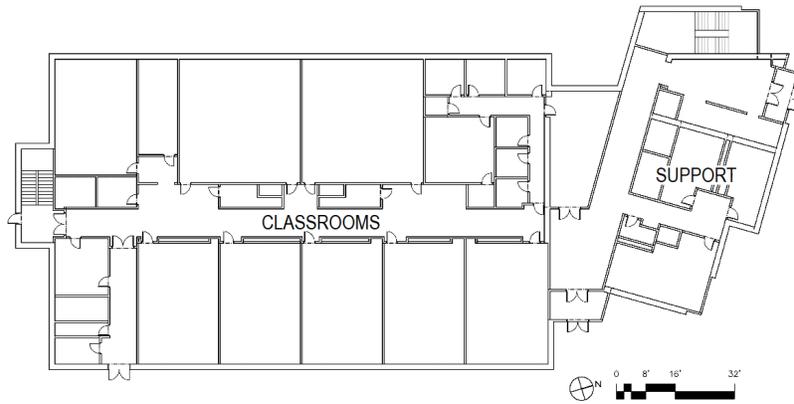


Office Suite

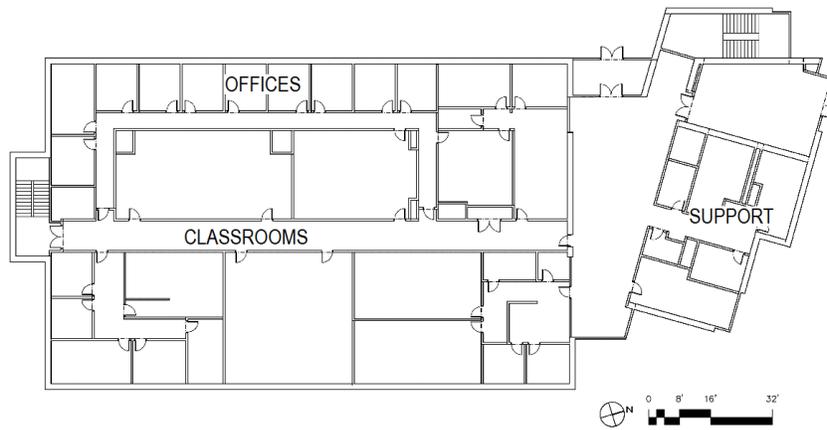


Conference Room

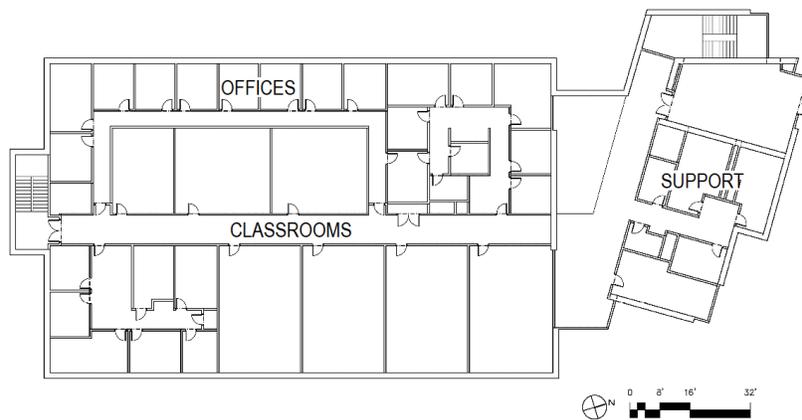
FLOOR PLANS – COMPUTER SCIENCE



Ground Floor



First Floor



Second Floor

FACILITIES MANAGEMENT BUILDING

BUILDING DESCRIPTION

Building Designation	8. Maintenance Building
Number of Floors	1 at various levels
Net Assignable Square Feet	20,432
Gross Building Area - GSF	29,613
Net-to-Gross Efficiency	69.0%
Year Constructed	1967
Renovations	1973
Additions	1973
Contains	Offices; maintenance shops; storage
General Condition	Fair
Adequacy of Space	Inadequate for some areas such as shops
Sprinkler System	Not sprinklered

While the maintenance building provides generally adequate space for maintenance operations, the space is ineffectively laid out; it is difficult to walk from certain parts of the building to others without going outside or using circuitous internal routes. Multiple levels complicate this condition. The building occupies a prime site on the east side of the campus, near existing student housing. As residence halls are constructed in the future, pressure will increase to relocate this facility. It is shown to be demolished in the campus development plan, to be replaced by a new facility in the northwest area of the campus outside the loop road.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



View from Southwest



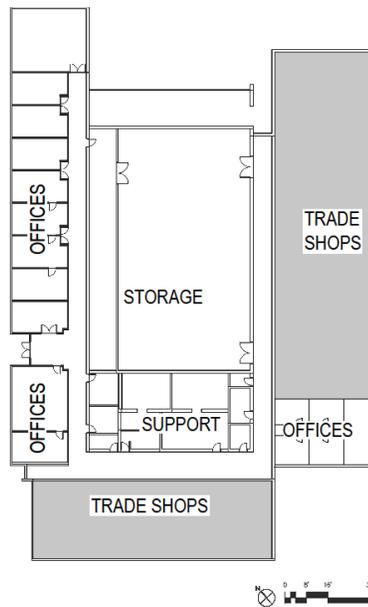
Storage / Shop



Open Office Area



Grounds Shop



FINE AND PERFORMING ARTS CENTER

BUILDING DESCRIPTION

Building Designation	9. Fine & Performing Arts Center (FPAC)
Number of Floors	3
Net Assignable Square Feet	62,645
Gross Building Area - GSF	123,475
Net-to-Gross Efficiency	50.7%
Year Constructed	2011
Renovations	N/A
Additions	N/A
Contains	Theater, recital hall, practice rooms, studios, classrooms, offices
General Condition	Excellent
Adequacy of Space	Generously accommodates fine and performing arts programs
Sprinkler System	Fully Sprinklered

Now nine years old, the FPAC provides spaces for fine and performing arts programs previously housed in the Martin Luther King, Jr. Communication Arts Center. Building spaces, envelope, and building systems are functioning as designed, with no major problems reported. Located in the southeast corner of the campus, pedestrian ways to the center can be improved to better connect the building with the rest of the campus.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



View from North



Main Lobby



Theater



Practice Studio

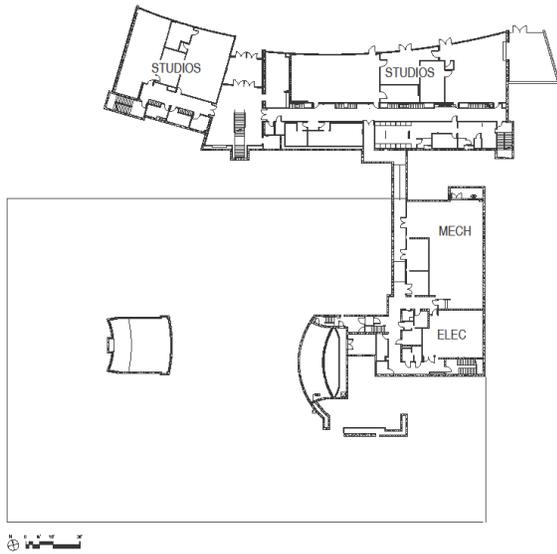


Scene Shop

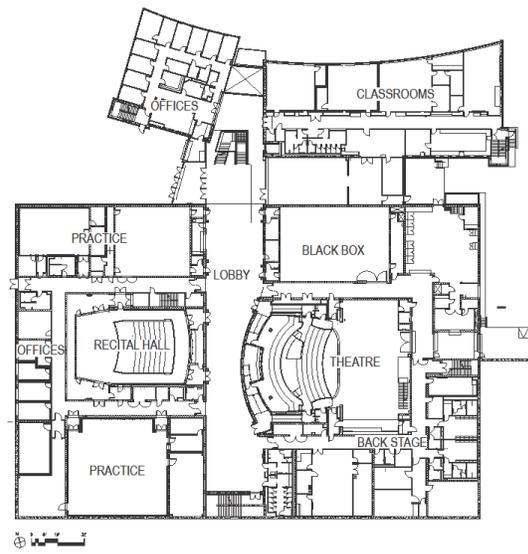


Kiln Room

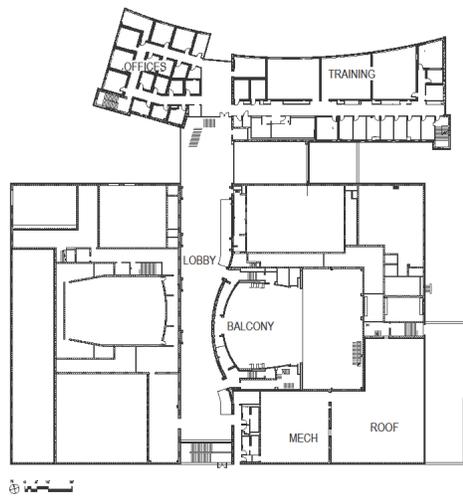
FLOOR PLANS – FINE & PERFORMING ARTS



Ground Floor



First Floor



Second Floor

CENTRAL STEAM PLANT

BUILDING DESCRIPTION

Building Designation	10. Central Steam Plant
Number of Floors	1
Net Assignable Square Feet	2,373
Gross Building Area - GSF	2,970
Net-to-Gross Efficiency	79.9%
Year Constructed	1952
Renovations	None
Additions	None
Contains	Storage
General Condition	Poor
Adequacy of Space	N/A
Sprinkler System	None

Originally providing steam heat for most of the buildings on campus, this function was discontinued in favor of independent heating and cooling for each building. It is currently used for storage but is small, with non-functioning internal equipment. Funding permitting, the building can be re-purposed as a student café.

MEP AND TECHNOLOGY SYSTEMS

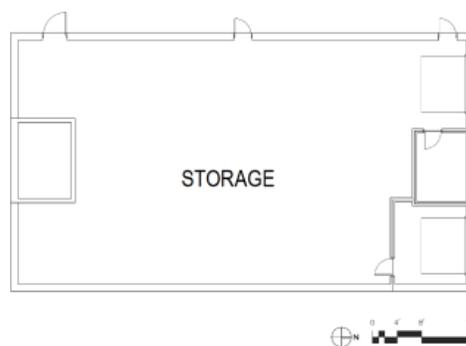
Refer to the MEP and Technology Overview at the end of Chapter 4.



View from Loop Road



Open Space used for Grounds Storage



GOODLOE HOUSE

BUILDING DESCRIPTION

Building Designation	11. Goodloe House
Number of Floors	2 plus basement
Net Assignable Square Feet	2,100
Gross Building Area - GSF	3,815
Net-to-Gross Efficiency	55%
Year Constructed	1916
Renovations	2008
Additions	None
Contains	Alumni offices
General Condition	Good
Adequacy of Space	Adequate for the functions housed in the building
Sprinkler System	None

This historic frame house was constructed in 1914 for Don Speed Smith Goodloe, the first black man to head the school just then relocated to its Bowie campus, as its principal. The oldest facility serving Bowie State University and its alumni/ae, it is located across Maryland Route 197, remote from the main campus, not at all easily accessible by pedestrians or even bicycles. However, a sensitive renovation was completed eight years ago, and the building seems to serve its current purpose adequately. The 3-acre property limits redevelopment; however, if BSU is able to clarify ownership of a larger surrounding parcel or acquire additional property, the building and site can be expanded and used for expanded alumni functions, as a conference center, or as a center for specialized studies. Its remoteness from the campus does isolate the building occupants from the rest of campus life and activities. A proposed pedestrian and bikeway system by the County will ultimately provide more direct connections to and from the campus.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.

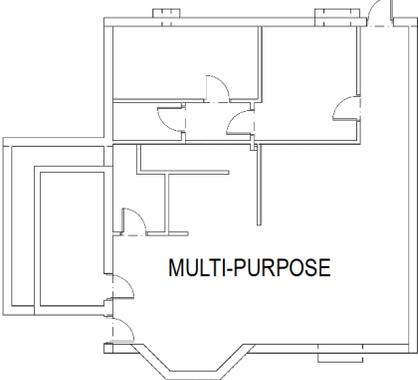


Front View

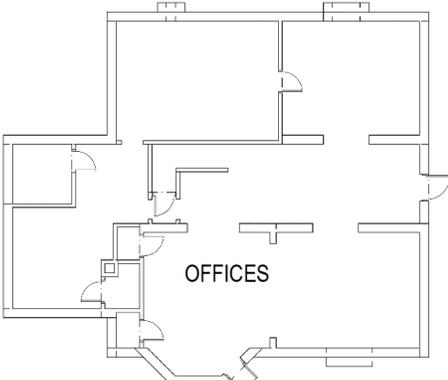


Reception

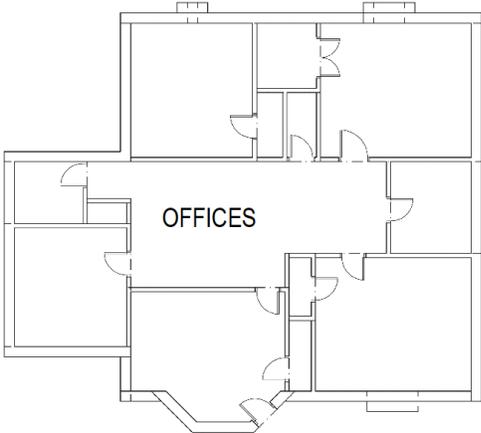
FLOOR PLANS



Basement



First Floor



Second Floor

LEONIDAS JAMES PHYSICAL EDUCATION COMPLEX (PEC)

BUILDING DESCRIPTION

Building Designation	12 Leonidas S. James Physical Education Complex
Number of Floors	2 plus lower level serving handball courts
Net Assignable Square Feet	63,976
Gross Building Area - GSF	102,135
Net-to-Gross Efficiency	62.6%
Year Constructed	1973
Renovations	No major renovations Re-roof 2009 Pool renovation 2010, 2019-20 Fitness center renovation 2014
Additions	None
Contains	Spaces for athletics programs: gym, natatorium, multi-purpose room, handball courts, lockers, support spaces; ROTC offices
General Condition	Poor
Adequacy of Space	Inadequate for the functions housed in the building
Sprinkler System	Partial: some corridors

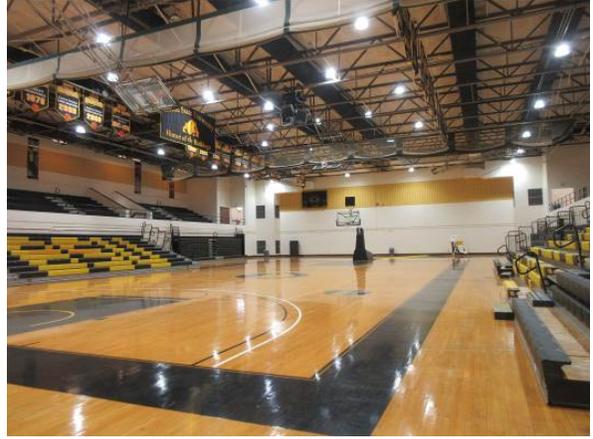
This mid-70’s building has served BSU for 42 years with minor renovations. A 2014 renovation to the fitness room has primarily served varsity athletes. A new HVAC system was completed in 2018, and the pool renovation including filtration, pumps and dehumidification equipment was completed in early 2020. Other major building systems, including architectural, electrical, and special systems are in need of major repair or renovation. A large multi-purpose room on the upper level is remote, unkept, and unused, and the 8 handball courts on the lower level are not used and should be re-purposed. A major renovation to the fitness room has significantly improved access to fitness and training equipment. An expansion is recommended to accommodate athletic and recreation programs and should be accomplished with a major,

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



View from Quad



Main Gym



Pool



Fitness Center

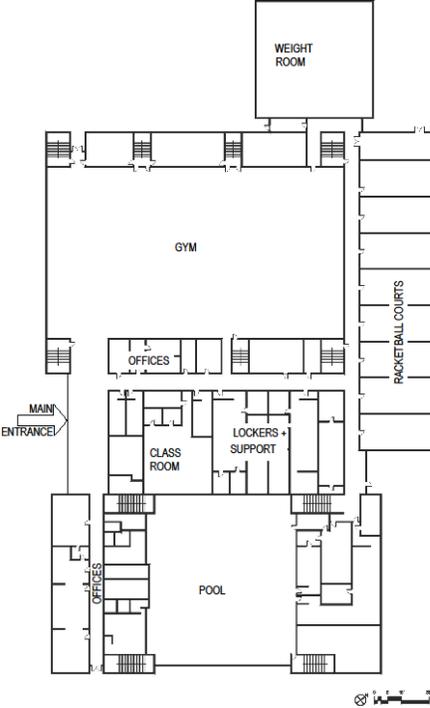


Locker Room

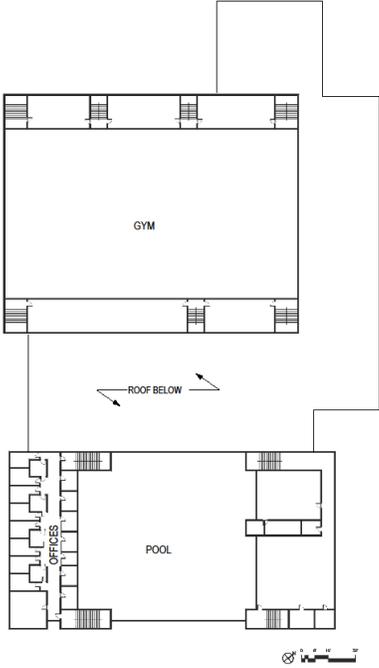


Multi-Purpose Room

FLOOR PLANS – JAMES PEC



First Floor



Second Floor

Basement Floor Plan not available.

FIELD HOUSE

BUILDING DESCRIPTION

Building Designation	13. Field House
Number of Floors	1
Net Assignable Square Feet	4,540
Gross Building Area - GSF	7,909
Net-to-Gross Efficiency	57.4%
Year Constructed	1992
Renovations	None
Additions	2014
Contains	Restrooms, storage
General Condition	Good
Adequacy of Space	Inadequate for major athletic events
Sprinkler System	None

Built to serve events at the football stadium, this facility provides necessary facilities for most events but is inadequate for major events like homecoming games. It is well maintained and, despite its remote location, has remained generally intact. A recent addition added team locker rooms, showers, and restrooms. Food service facilities are still needed.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



View from Northeast



Storage



Restroom



THEODORE MCKELDIN GYMNASIUM

BUILDING DESCRIPTION

Building Designation	14. Theodore McKeldin Gymnasium
Number of Floors	1
Net Assignable Square Feet	15,469
Gross Building Area - GSF	21,142
Net-to-Gross Efficiency	73.2%
Year Constructed	1957
Renovations	2001
Additions	None
Contains	Recreation, Public Safety
General Condition	Fair
Adequacy of Space	Adequate for the functions housed in the building
Sprinkler System	None
Other	Needs re-roofing

Considered one of the historic buildings of the campus, McKeldin was originally the only gym, also providing an auditorium and multi-purpose space. With the addition of the James PE building in 1973, its purpose became secondary. While Public Safety is currently the only tenant, and while the gym and one locker room are used for practice, recreation, and for visiting teams, the building is mostly an opportunity waiting to happen. Although the roof is scheduled for replacement, the shell and structure are generally intact. The high-bay gym offers multiple opportunities, while the lower rear portion can serve in a support role. Scheduled to accommodate a new fitness center and other wellness functions, this building will require a major renovation and addition.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



View from West



Practice Gym

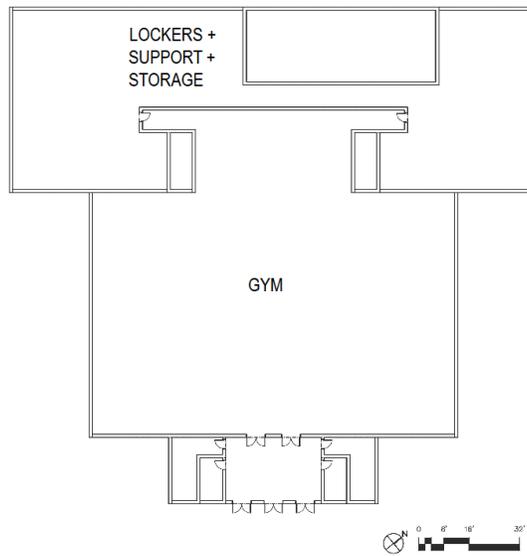


Locker Room / Storage



Public Safety Office

FLOOR PLAN



STUDENT CENTER

BUILDING DESCRIPTION

Building Designation	15. Student Center
Number of Floors	3
Net Assignable Square Feet	58,217
Gross Building Area - GSF	95,503
Net-to-Gross Efficiency	61%
Year Constructed	2013
Renovations	N/A
Additions	N/A
Contains	Food service facilities, bookstore, meeting rooms,
General Condition	Excellent
Adequacy of Space	Adequate for the functions housed in the building
Sprinkler System	Fully sprinklered

The second-newest building on campus, the student center replaced the inadequate and outdated Wiseman Center at a different location but still convenient to academic and residential buildings. The Center provides food service and recreation facilities, meeting rooms, small theater, bookstore, and student organization offices. Building systems are functioning well, and there are no major deficiencies at this time.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



View from Parking Lot



Conference Room



Theater



Bookstore

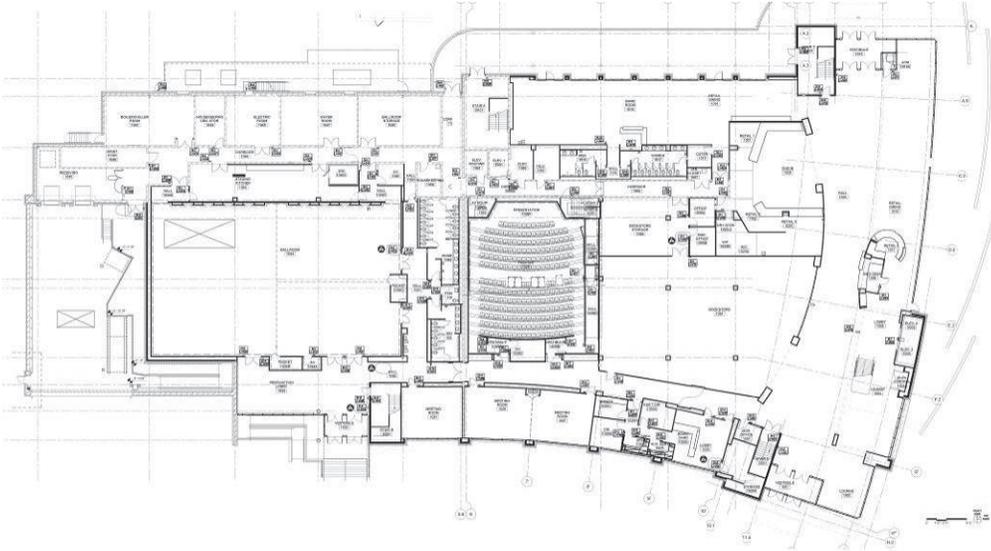


Main Dining Area

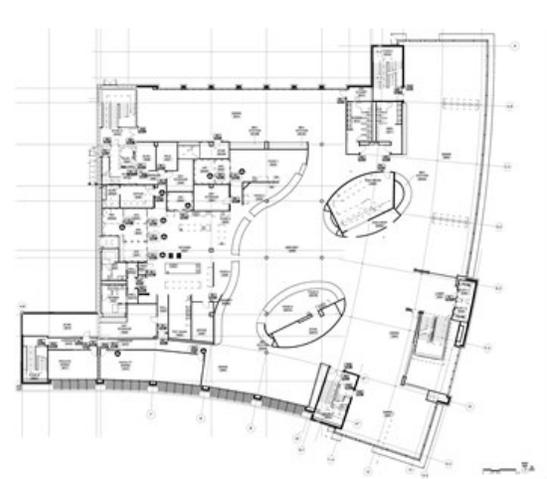


Game Room

FLOOR PLANS – STUDENT CENTER



First Floor



Second Floor



Third Floor

CENTER FOR NATURAL SCIENCES, MATHEMATICS AND NURSING (CNSMN)

BUILDING DESCRIPTION

Building Designation	16. Center for Natural Sciences, Mathematics and Nursing
Number of Floors	3
Net Assignable Square Feet	85,022
Gross Building Area - GSF	148,000
Net-to-Gross Efficiency	59.3%
Year Constructed	Scheduled for completion in 2016/17
Renovations	N/A
Additions	N/A
Contains	Classrooms, labs, offices
General Condition	Under construction
Adequacy of Space	Provides much needed science and related program area
Sprinkler System	Fully sprinklered

Completed in 2017, the Center for Natural Sciences, Mathematics and Nursing provides high quality space – classrooms, labs, offices, conference rooms, and lounge/gathering spaces for all of the science, mathematics and nursing programs. Its formal and informal learning spaces are popular choices for classroom assignments and informal gathering and studying.

MEP AND TECHNOLOGY SYSTEMS

Refer to the MEP and Technology Overview at the end of Chapter 4.



View from Quad



Classroom



Nursing Lab



Science Lab

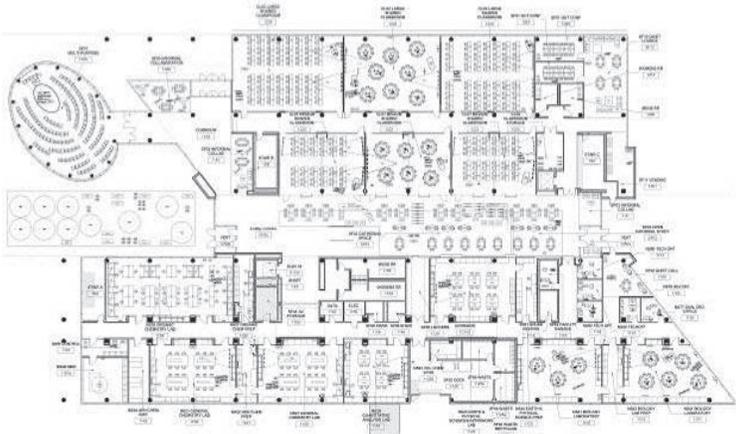


Central Atrium Space

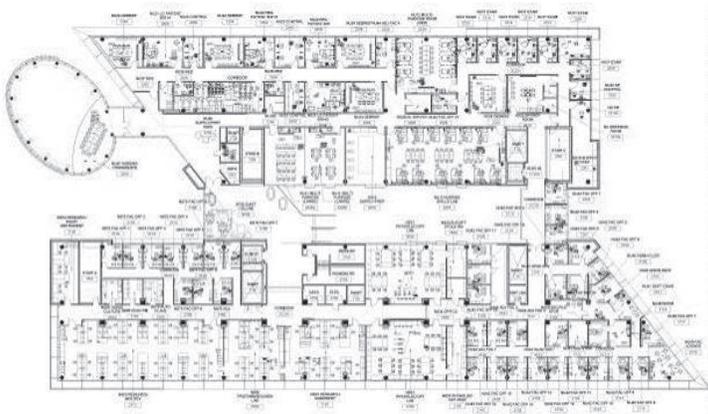


Meeting / Conference Room

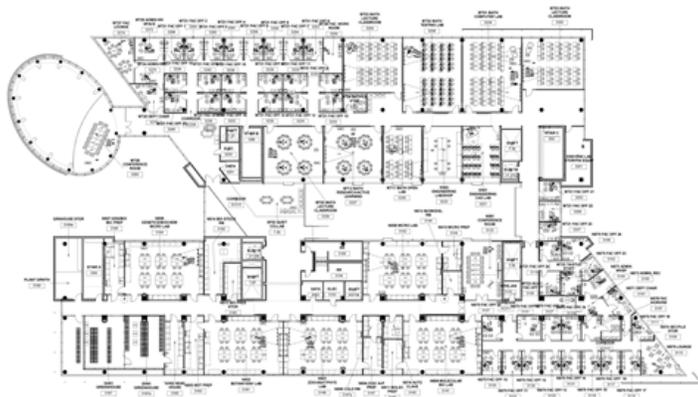
FLOOR PLANS – CNSMN



First Floor



Second Floor



Third Floor

RESIDENCE HALLS

SUMMARY BUILDING DESCRIPTIONS

TOWERS RESIDENCE HALL

Building Designation	17. Towers Residence Hall
Number of Floors	6
Number of Beds	194
Gross Building Area - GSF	40,828
Year Constructed	1973
Renovations	No major renovations
General Condition	Fair
Sprinkler System	Not Sprinklered

One of the aging buildings built in the 60's-70's era, Towers does not meet current building codes or ADA, does not provide adequate restroom or shower facilities, the rooms and corridors are small, and the HVAC systems regularly require repair. The building provides only a minimal quality of residential life experience. Replacement is recommended in this plan.



ALEX HALEY RESIDENCE HALL

Building Designation	18. Alex Haley Residence Hall (AHRH)
Number of Floors	6
Number of Beds	326
Gross Building Area - GSF	90,855
Year Constructed	1994
Renovations	None
General Condition	Good
Sprinkler System	Fully Sprinklered

AHRH is the largest University-owned and managed residence hall on campus. Now 26 years old, the building will benefit from a comprehensive renovation.



DWIGHT HOLMES

Building Designation	19. Dwight Holmes Residence Hall
Number of Floors	3
Number of Beds	126
Gross Building Area - GSF	21,779
Year Constructed	1951
Renovations	2009
General Condition	Good
Sprinkler System	Fully Sprinklered

Now almost 70 years old, Holmes Hall provides small traditional double dormitory units. Plumbing and HVAC systems regularly are in need of repair. Replacement is recommended.



CHRISTA MCAULIFFE

Building Designation	20. Christa McAuliffe Residential Community (CMRC)
Number of Floors	4
Number of Beds	460
Gross Building Area - GSF	143,000
Year Constructed	2003
Renovations	None
General Condition	Good
Sprinkler System	Fully Sprinklered

CMRC is a privately owned and managed residence hall with apartments as the unit type.



LUCRETIA KENNARD

Building Designation	21. Lucretia Kennard Residence Hall
Number of Floors	2.5
Number of Beds	82
Gross Building Area - GSF	22,646
Year Constructed	1957
Renovations	1998
General Condition	Fair
Sprinkler System	Fully Sprinklered

Kennard does not meet current building codes or ADA, does not provide adequate restroom or shower facilities, the rooms and corridors are small, and the HVAC systems regularly require repair. The building provides only a minimal quality of residential life experience. This residence hall forms one third of the “historic triangle” of building at the perimeter of the Holmes quad. Complete renovation is recommended..



HARRIET TUBMAN

Building Designation	22. Harriet Tubman Residence Hall
Number of Floors	2.5
Number of Beds	159
Gross Building Area - GSF	33,282
Year Constructed	1916
Renovations	1971 / detached from Banneker
General Condition	Fair
Sprinkler System	Fully Sprinklered

Tubman is an iconic, historic building which should be kept, to be renovated and re-purposed for other functions. This plan suggests celebrating the over 100-year history of the original building (the gabled roof four-story central section). It should be retained and restored. The two north and south wings, added in the mid-20th century, do not contribute to the historic nature of the building and should be removed. Replacement of these wings with new construction reconciling differing floor elevations from the original building should be further studied.



GOODLOE APARTMENTS

Building Designation	23. Goodloe Apartments
Number of Floors	2
Number of Beds	20, but currently unoccupied
Gross Building Area - GSF	5,946
Year Constructed	1954
Renovations	No major renovations
General Condition	Fair
Sprinkler System	Not Sprinklered

Goodloe does not meet current building codes or ADA, and is remote, disconnected from the other residence halls on campus. Demolition is recommended in this plan, making way for construction of the proposed Public Safety & Communications Complex.



BRIEF DESCRIPTION, COMMENTARY: ALL RESIDENCE HALLS

Seven buildings of various sizes and ages provide on-campus housing for approximately 1350 students, not including the Goodloe Apartments. Older buildings are University-owned and operated; the newest building, Christa McAuliffe (CMRC) is privately developed and managed. A 2019 study indicated a need for an additional 1200 beds, and during recent years, the buildings have been fully occupied. Expansion of the student housing to help build a larger campus living community, now under construction on the south side of Jericho Park Road as the Entrepreneurship Living Learning Community will help build a critical mass of residential students, a goal of the University. This Facilities Master Plan provides for eventual development of four new residence halls providing 900 additional beds.

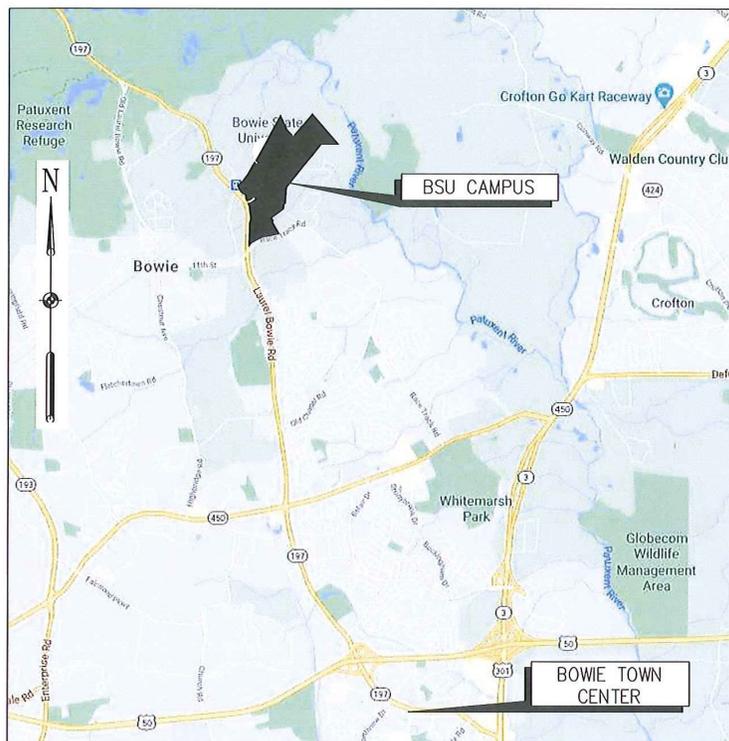
Several old residence halls present problematic infrastructure and physical challenges to long term continued use: Towers, Holmes, Kennard and Tubman Residence Halls are cramped, underserved by gang bathroom facilities, and do not meet ADA and current code requirements for the elevator or exit stairs. Floor-to-floor heights are short, a factor in possible renovations. Interior spaces are disorienting and dark in places, possibly interfering with safe exiting during emergency events. Mechanical systems regularly are reported to break down. Above all, these units don't compare with more contemporary student housing on the Bowie or other campuses. It is recommended that Towers and Holmes be removed and replaced with more suitable student housing. The historic (1916) Harriet Tubman Residence Hall is recommended to be modified and either renovated for continued use as a residence hall or re-purposed for non-residential functions. In addition, the Goodloe Apartments are scheduled to be demolished and replaced by the new Public Safety and Information Technology Facility.

SITE: INFRASTRUCTURE

ASSESSMENT OVERVIEW

A site visit and visual assessment were conducted by Carroll Engineering, Inc. (CEI) during the fall of 2020 to review the Bowie State University (BSU) site infrastructure. Utilities were also researched with Washington Suburban Sanitary Commission (WSSC) and private utility suppliers such as Baltimore Gas & Electric (BGE), Washington Gas Company, Comcast, Verizon and BSU staff.

The BSU Campus is located at 14000 Jericho Park Road just north and west of the City of Bowie. BSU is in the northeastern most portion of Prince George's County. The campus is bounded by Maryland Route 197 (Laurel Bowie Road) and Bowie Race Track Road to the south, residential neighborhood to the east, MARC train station and track alignment to the west and the Patuxent River Natural Resource Management Area to the north. The state-owned campus is zoned by Prince George's County as R-O-S, Reserved Open Space.



VICINITY MAP

An Existing Boundary Map and an Existing Utility Map have been prepared and are included below. The maps are based on 2004 campus planimetric information, 1997 Aerial Survey, County GIS, BSU provided record drawings, aerial photos and visual observations. The utility information is based on WSSC, private utility suppliers such as BGE, Washington Gas Company, Comcast and

Verizon, and BSU provided record utility drawings. The drawing information is shown only for the convenience of the user of the drawings and there is no warranty or guarantee of the correctness or the completeness of the information given. For clarity, the referenced plans are published separately from this document and copies are provided for BSU.

CAMPUS PROPERTY

The campus is comprised of four separate parcels that represent a total campus area of 342.53-acres according to the Maryland department of Assessment and Taxation (MDAT). The four parcels are identified below:

Map 22, Parcel 28 (227.67-acres) Account #1646090

Map 22, Parcel 54 (50.50-acres) Account #1682905

Map 22, Parcel 50 (26.56-acres) Account #1615558

Map 29, Parcel 259 (37.80-acres) Account #1682913

Based on the latest information provided by BSU, the 2004 Boundary Survey prepared by Whitney Bailey Cox Magnani (WBCM) is still the most recent Boundary Survey. Similar to the 2015 and 2010 Master Plans, the discrepancies between the MDAT and WBCM Boundary Survey have not been resolved. WBCM's document summarized the actual total area for the BSU campus as 298.78-acres and breaks down as follows:

Map 22, Parcel 28 (184.468+ acres)

Map 22, Parcel 54 (50.5+ acres)

Map 22, Parcel 50 (26.36+ acres)

Map 29, Parcel 259 (37.447+ acres)

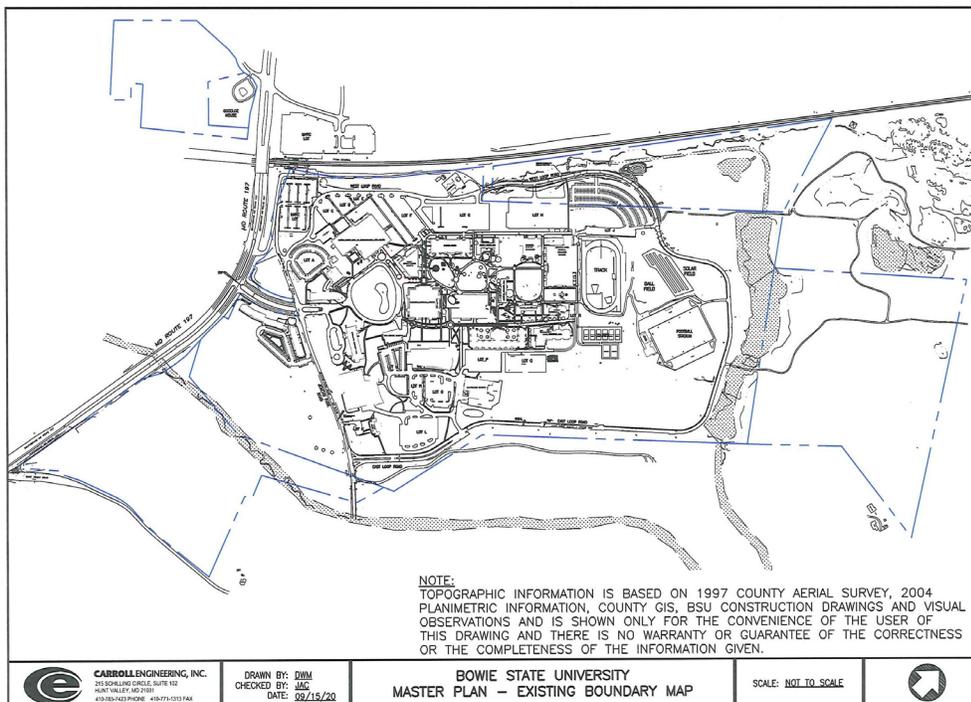
The 2004 WBCM Boundary Survey also noted two additional area discrepancies for the parcels above:

Map 22, Parcel 28 (187+ acres)

Map 29, Parcel 259 (37.8+ acres)

BSU still faces the unresolved campus areas from the tax maps (342.53-acres), deed (301.86-acres) and boundary survey (298.78-acres). As noted in the previous Master plan, the tax maps do not show a Parcel 1 inside Parcel 50; and there are several other small discrepancies between tax maps, deeds and property survey.

The following drawing illustrates the BSU boundaries:



TOPOGRAPHY & SOILS

The BSU campus topography is a gentle rolling slope throughout the campus from a high “ridge line” along Jericho Park Road. From this ridge line the campus slopes downward in a southern direction toward Maryland Route 197 and in a northern direction toward the Patuxent River Natural Management Resource Area across the Campus Loop Road. The campus has a generally uniform cross-slope in the east to west direction.

The campus’ highest elevation of 168’ exists along Jericho Park Road in front of Charlotte Robinson Hall; its lowest elevation of 80’ exists across the Campus Loop Road from the stadium area. This high to low elevation difference reflects a relatively consistent average grade drop of 2.5% over the entire campus.

According to USGS Web Soil Survey Maps, the BSU campus consists of the following soils:

- Elsinboro-Urban Land Complex (B soils designation) - Central Campus
- Urban Land-Elsinboro Complex (D soils designation) - Central Campus
- Christiana-Downer-Urban Land Complex (D soils designation)- Southern Campus
- Sassafras-Urban Land Complex (B soils designation) - Southern Campus
- Russett-Christiana-Urban Land Complex (D soils designation) - Southern Campus
- Woodstown Sandy Loam (C soils designation) - Northeast Wooded Area
- Elsinboro Sandy Loam (B soils designation) - Southeast Wooded Area

INFRASTRUCTURE COMPONENTS

Overall, the site features observed were noted to be in good condition. While select areas required maintenance, such as settled and deteriorated sections of sidewalk, deteriorated curb & gutter, areas of failed/damaged pavement and wore/damaged lawn areas, we observed the campus core area to be well maintained. The core areas maintain an attractive mix of landscape elements, materials, pedestrian walkways, art and sculptures.

The areas around the campus core are also in generally good condition. The site infrastructure has deteriorated in select areas, such as erosion at the athletic fields, possible soil issues in the

pavement and stormwater facilities and damaged stormwater conveyance systems around the campus. The campus suffers from aging utility services.

As previously mention in the 2015 Master Plan, we recommend that BSU Facilities allocate adequate funds to maintain and improve the existing conditions. The aging underground utility piping and conduit systems will continue to need attention. Several of the systems are still beyond their useful life and remain in service. Much of the on-campus water and sanitary lines that serve several of the older buildings are over 40 years old.

Any major capital improvement projects exceeding 5,000 square-feet of disturbance are required to address stormwater management per the Maryland Department of the Environment’s (MDE) most recent Stormwater Management guidelines. Also, all projects exceeding 100 cubic-yards of excavation will required Erosion & Sediment Control to be addressed per MDE.

Additional assessed site infrastructure items are summarized below:

SANITARY SEWER

Washington Suburban Sanitary Commission (WSSC) treats the sanitary sewerage discharge from the campus. Throughout the campus the buildings discharge sanitary to a series of 6” and 8” sanitary pipes that flow by gravity into a WSSC 18” sanitary sewer interceptor. This interceptor runs along the north portion of the campus outside the Campus Loop Road then discharges into the Horsepen Pumping Station, which in turn discharges into the Western Branch Basin. WSSC maintains a 30-foot wide easement along the interceptor’s alignment for maintenance. Much of the on-site sanitary piping is terracotta and is likely far past the pipe’s lifecycle. BSU Facilities Management & Planning continues to report sanitary back-ups in the on-site sewer system and continues to express concerns with the old pipe networks. BSU Facilities Management has cameraed two problematic areas on campus. One location was the Theodore McKeldin Gymnasium and the results showed sunken/damaged pipe. The second location was the Computer Science Building/Charlotte Robinson Hall where they hit a blockage.

WATER SYSTEM

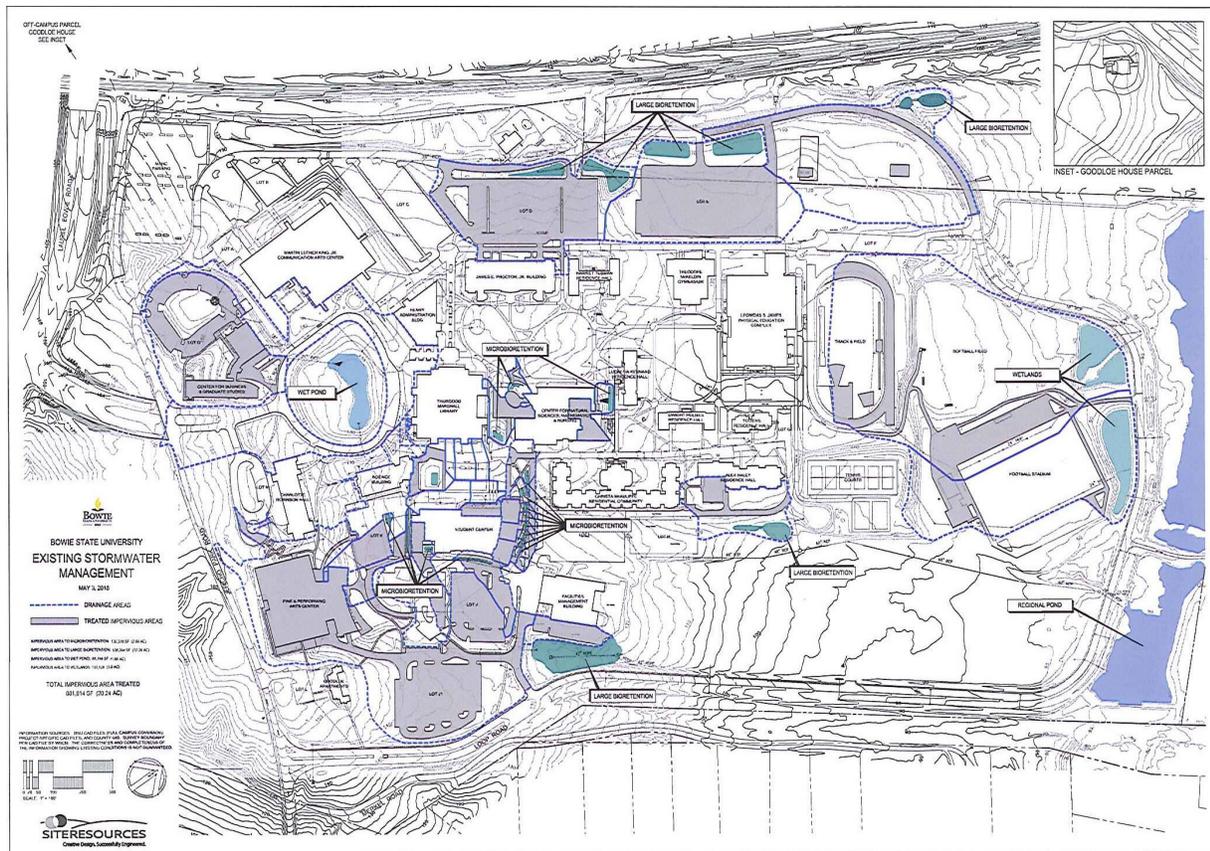
WSSC supplies water service to the campus through a 20 inch main running along Maryland Route 197 in the 350E Pressure Zone. The water main originates from the Patuxent Filtration Plant and supplies water to the entire northeast region of Prince George's County. A 16 inch water meter and vault is installed near the front entrance at Maryland Route 197. BSU staff reports all buildings have brown water when water is not used for 1-day or more.

on the northeast corner of the campus property. Lots H, I and J drain to localized bioretention facilities to the west and ultimately into the Eastern Regional pond. The campus also contains many small drainage areas around the more recently constructed structures. Many of the newer building drain to localized stormwater management facilities. The remaining areas drain overland or in swales to the Eastern Regional ponds. All areas finally discharge into the Patuxent National Resource Area.

STORM DRAINS & STORM WATER MANAGEMENT

Much of the older structures from mid-campus to the northern end, and the recreational areas discharge into the two ponds to the north. These ponds eventually discharge into the Eastern Regional pond that exists outside the Loop Road

The latest Stormwater Management Mapping is depicted in the Existing Stormwater Management Map created by Site Resources, dated May 2018. Drawing shown below:



According to the FEMA Flood Insurance Rate Map (FIRM) representing the BSU campus area, the campus is located Zone X which is designated as “areas determined to be outside 0.2% annual chance floodplain.” Note that previous localized projects in the northern portion of the campus have infringed on identified wetlands. The campus is not within the Chesapeake Bay Critical Area.

PRIVATE UTILITIES

Several private utility companies supply services to the campus including Washing Gas Company (gas) Baltimore Gas & Electric (electric), Verizon (telephone) and Comcast (cable television).

Washington Gas supplies natural gas to the campus through an 8 inch main from Jericho Park Road. Washington Gas maintains the underground pipe network throughout the campus to each existing building gas meter location. We have no report of insufficient service.

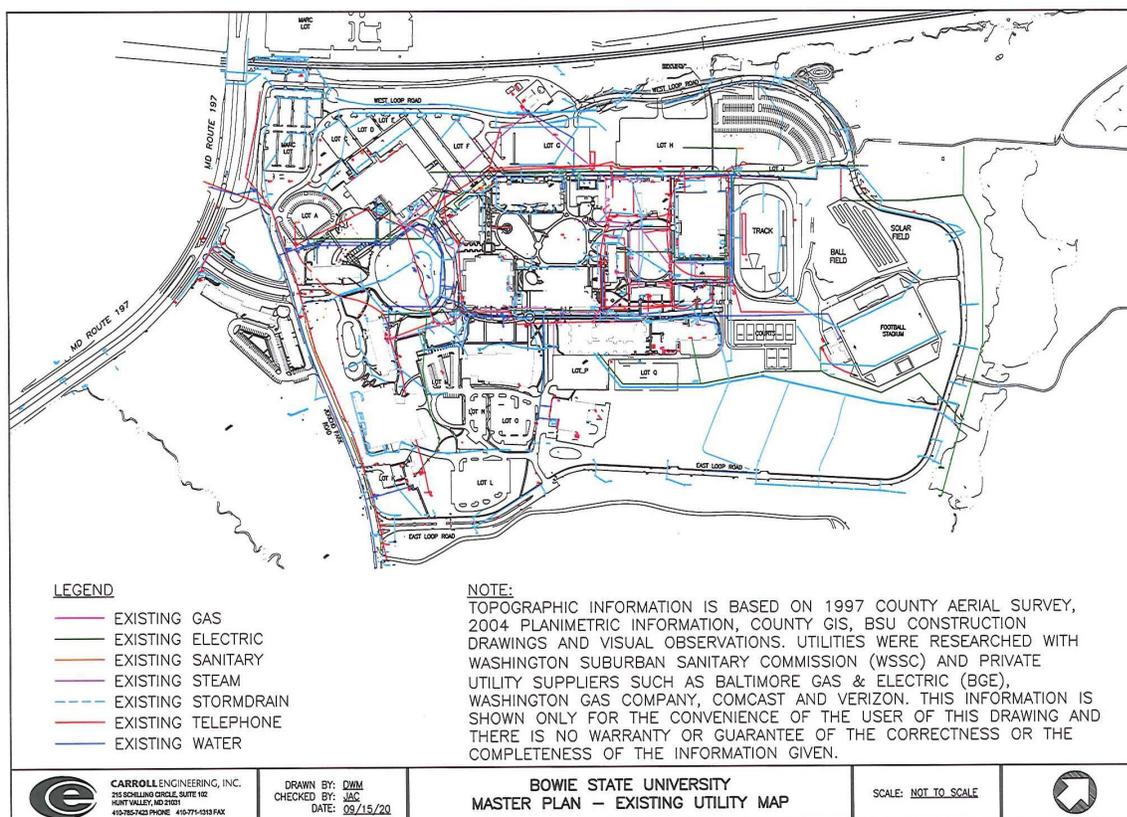
BGE supplies electricity through an overhead line, which enters the campus from Maryland Route 197 and runs along the MARC railroad tracks to the campus substation. The BSU 13.2 KIV main switch gear is served from two BGE feeders, #8465 from Priest Bridge sub-station, and #7470 from Glen Dale substation. The BGE feeders provide redundant supply capacity to the BSU campus, such that either feeder can carry the total BSU capacity load should the other feeder be out for some planned or unplanned reason. In 2011, BGE upgrades their feeder to support 6MVA continuous. This capacity will provide adequate capacity for

the future construction of.... When the campus load approaches 6.5 MVA continuous, BGE will re-evaluate the campus capacity and determine if changes are needed.

Consequently, in 2011, the university upgraded its campus electric distribution system from a three feeder system to a dual loop feeder system. This option added a fourth feeder and reconfigure the system into two separate loop feeders with the source ends of each fed from different bases on the BSU Main Switchgear. The two loops operate normally open. This provides N+1 feeder redundancy and eliminates the existing time switch.

All campus buildings are currently generating heat, hot water and chilled water to fulfill their needs. Comcast and Verizon serve the campus through overhead lines off Maryland Route 197. The campus fire alarm and energy management system are largely copper wires in conduit, which run throughout the campu

The following drawing shows the existing utilities:



ROADS & PAVEMENT

The main campus entrance is located at Maryland Route 197 and Jericho Park Road and is a signalized intersection. Beyond the main entrance, Jericho Park Road then bears toward the east and the Campus Loop Road bears toward the west. The loop road continues around the campus perimeter and intersects Jericho Park Road again at the southeast corner of the campus. With the campus loop road and all access roads and parking being located on the perimeter, a central pedestrian core is created for the campus.

Per the Bowie State University Traffic and Parking Study performed in Spring 2019, campus parking is distributed over 19 separate parking lots and is currently striped for a total of 1918 parking spaces. This total includes standard, reserved and handicapped parking spaces for students, faculty, staff and visitors. There are also additional parking areas for Facilities Maintenance and Operations, but those are excluded from the parking counts. Roadways and parking lots surfaces are typically hot-mix asphalt pavement.

HANDICAPPED ACCESSIBILITY

The existing building entrances are typically at-grade. However, several of the buildings have handicap accessible ramps. The major of the existing pedestrian walkways on campus appear to meet the requirements for handicap accessible routes with maximum running slopes of 5-percent and a maximum cross slope of 2-percent. Per the Bowie State University Traffic and Parking Study performed in Spring 2019, the campus is currently striped for 63 handicap parking spaces.

RECREATIONAL FIELDS

The outdoor recreational facilities on campus consist of a football stadium, softball field, 8-lane running track, basketball courts, tennis courts and a series of practice areas. These areas are largely contained in the northern section of the campus. In 2015, the running track was overhauled completely with the addition of many new features. The football field was resurfaced with artificial turf during the summer of 2010. All recreational fields appear to be well maintained, clear of debris and draining properly.

MISCELLANEOUS SITE INFRASTRUCTURE

Retaining walls exist throughout the campus for landscaping areas – seat walls, planters, raised beds adjacent to building walls, etc. and to provide access to sub-grade building entrances and exists. Screen walls have been installed around a majority of exterior mechanical equipment. Campus walls have been constructed of concrete, stone, brick masonry and wood.

Two brick (wall) campus signs exist adjacent to the Maryland Route 197 and Jericho Park Road intersection front entrance. One brick (wall) campus sign exists at the Campus Loop and Jericho Park Road intersection entrance. Campus directories exist throughout the property. See 4F Site Analysis for additional information.

MECHANICAL, ELECTRICAL, PLUMBING SYSTEMS

MEP SYSTEMS: CAMPUS-WIDE

MECHANICAL

The Campus has no central chilled water or boiler plants. Each building is stand alone. Natural gas is distributed on campus with utility meters and regulators at each building.

ELECTRICAL

The electrical distribution system on campus was upgraded in 2012. Two (2) separate 13.2KV BGE utility feeders supply the main switchgear lineup owned by BSU. From this switchgear, two (2) dual radial feeders serve the campus buildings. Each building has a primary selective switchgear that allows BSU to choose which feeder shall serve the building. Metering is installed at the campus main

switchgear, allowing BSU to monitor the load on the four (4) campus feeders. Individual buildings are currently not metered electrically.

Approximately 50% of the Parking Lot lighting has been replaced with LED fixtures to minimize light pollution and for energy efficiency and sustainability.

In addition to the roof mounted photovoltaic systems mentioned, there is a solar canopy over parking lot D and a ground mounted system adjacent to the softball field.

ENERGY USAGE AND GREEN STRATEGIES

The first step in managing energy usage is understanding where the energy usage is occurring. On a typical University Campus, a major portion of the electric usage is attributable to lighting, ventilation, and cooling. Most of the gas energy used on campus is for space heating. Currently, there is no energy usage detail for the BSU campus quantifying where the energy is actually used.

“Colleges and universities in the US use an average of 18.9 kilowatt-hours (kWh) of electricity and 17 cubic feet of natural gas per square foot (ft²) annually, and typical US higher-education buildings sized around 50,000 ft² consume more than \$100,000 worth of energy each year. Lighting, ventilation, and cooling are the largest consumers of electricity, and space heating accounts for the vast majority of natural gas use (Figure 1). As a result, these areas are among the best targets for energy savings. By implementing cost-effective energy-efficiency measures, many colleges and universities have the potential to cut their energy bills by 30% or more”.

Monitoring energy usage and becoming aware of where energy is used requires having the ability to meter and sub-meter energy usage. This may be limited in practical application to existing buildings but more easily implemented in new buildings or buildings undergoing major systemic renovations or comprehensive renovations.

Electric



■ Ventilation ■ Lighting ■ Misc.

Gas



■ Water Heating ■ Space Heating ■ Misc. ■ Other

Taken from: <https://esource.bizenergyadvisor.com/article/colleges-and-universities>

In addition to building level metering for all energy usage, electrical energy control and monitoring should be implemented in accordance with ASHARE Standard 90.1-2019 for new buildings, major renovations, and comprehensive renovations and tied into the Johnson Controls system for monitoring. At minimum, each building should have its energy metered and monitored. ASHARE Standard 90.1-2019 requires the following electrical energy to be metered individually:

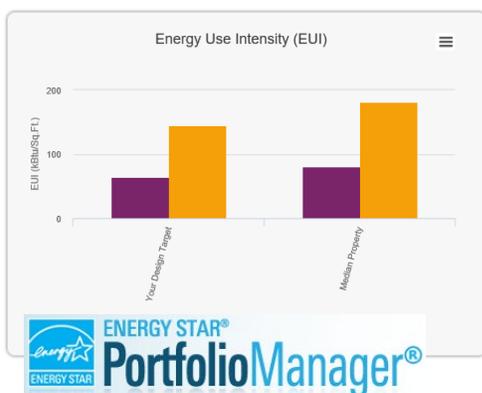
- Total electrical energy
- HVAC systems
- Interior lighting
- Exterior lighting
- Receptacle circuits

ENERGY MANAGEMENT PLAN

To manage energy usage on a campus, in addition to knowing where the energy is used, energy usage goals or targets need to be established and monitored. To monitor energy usage, building level metering is required. Currently building level metering does not exist for electric but there are utility gas meters at each building utilizing gas.

Setting energy usage goals or targets should start at the building level. Site Energy Performance Index (EUI) goals for individual buildings, kBtu/sf/year, can be established using tools such as “Target Finder” on the Energy Star website. This process is called energy benchmarking.

Energy Star’s Portfolio Manager can also be used to track energy usage and certify buildings performance. As an example, the median University EUI is 84.3 kBtu/sf/year nationally. If the actual energy usage is less, then Energy Star can tell you where you rank nationally.



Other means to help manage energy usage in buildings includes Re-Commissioning, Retro-Commissioning, Energy Dashboards, and Continuous Commissioning.

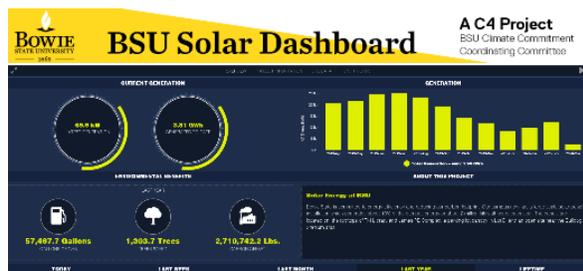
Re-Commissioning is a process whereby buildings that were originally commissioned some time ago are re-commissioned because their existing systems need to remain operating properly in the foreseeable future. The purpose of re-commissioning could be to diagnose ongoing or unresolved problems, or as part of a planned preventive maintenance program that includes periodically re-commissioning various systems or elements. Recommissioning can be limited to systems or equipment experiencing issues or may be carried out on all HVAC systems in a building. This process can often identify needed control component repairs as well as balancing and control strategy issues.

The retro-commissioning process is identical to that of re-commissioning, except was never originally commissioned and the HVAC systems are being commissioned for the first time. Retro-commissioning is normally done when buildings are not of an age where major upgrades would be imminent and there is a desire to optimize building performance and ensure all systems are function properly. As with re-commissioning, this process can often identify needed control component repairs as well as balancing and control strategy issues.

Continuous commissioning is an ongoing process to evaluate a building’s energy performance based on continuous monitoring of data from baseline data to actual operating data. It is an effective approach to resolve operating issues, improve occupants’ comfort levels, optimize performance for commercial buildings. Continuous commissioning allows for abnormal conditions to be detected and adjustments made to systems and controls before excessive energy waste occurs. If coupled with adequate energy metering, it allows fine tuning of building energy usage.



A building dashboard is a viewing screen (i.e. flat panel monitor or TV) placed in a common or public area of a building such as a lobby, which displays the real-time energy usage and performance for the building. A building dashboard can help building users visualize and understand energy consumption and costs in a building. It can show the results of efficient building operation and encourage occupants to conserve energy and be part of the larger picture of sustainable building operation. Building dashboards can also show individual tenant submetering data to encourage residents to conserve resources further. A Campus dashboard can be a showcase piece for visitors and investors summarizing all of the campus energy usage in an easy to understand format while highlighting the success of sustainable features and their benefit to the environment, such as solar power generation.



CLIMATE ACTION PLAN ENERGY CONSERVATION AND RESOURCES GOALS

Accordionsing BSU’s Sustainability Webpage, the following goals have been established for Climate Action:

- **Electrical Energy:** Reduce overall electrical consumption 20% from 2006 levels by 2022.
- **Campus Heating:** Reduce the annual consumption of fossil fuels for heating by 20% from 2006 levels by 2022.
- **Sustainable Energy:** Become less dependent upon fossil fuel energy for electricity, heating and cooling.
- **Greenhouse Gas Inventory and Reporting:** Reduce greenhouse gas emissions campus wide. The most recent, up to date summary is included in appendix IV.

ELECTRIC ENERGY USAGE

The reduction of electrical energy created by fossil fuels is generally accomplished by shifting usage to sustainable energy (i.e. solar power, wind power, geothermal, etc.) and by reducing end use consumption. As the Campus grows in square footage, this reduction in fossil derived electric energy needs to take advantage of making newer buildings as efficient as possible (MEP systems and envelope), upgrade of older buildings to be more efficient, and shifting energy to renewable sources.

To take advantage of renewable energy usage, BSU should continue its expansion of solar powered systems to maximize usage on campus as well as explore opportunities to utilize geothermal energy going forward. Use of geothermal energy for HVAC may be limited to buildings on the perimeter of the Campus since the interior is quite dense, not allowing space for many geothermal wells.

Since 73% of electrical energy is lost in the transmission of power from the power generating plant to the end uses, on-site generation could reduce overall carbon footprint. One means to make use of on-site power generation while eliminating most transmission losses to reduce overall fossil fuel consumption (i.e. carbon footprint) is the implementation of Combined Heat or Power (CHP) or Microgrid Technology at various buildings.

The CHP power cycle uses on-site gas fired power generation coupled with waste heat recovery employed to generate heating and potentially cooling. This system generally is coupled to a conventional four pipe high efficiency chiller/boiler system and is best implemented in building with 24/7 base loads.

Quoting from WBDG (Whole Building Design Guide) “As per the National Electrical Manufacturers Association (NEMA) a micro-grid is an interconnected set of electricity sources and loads that falls under a common method of control. Micro-grids typically integrate small-scale renewable energy generation like photovoltaics (PV) with natural gas turbines and even fuel cells. With the potential disruption of power due to man-caused and weather-related events to critical facilities like hospitals, data centers, and

laboratories, micro-grids can provide islanding to insulate facilities from outages. University campuses and military bases can also benefit from micro-grids”. Micro-grids can incorporate CHP technology.

CAMPUS HEATING

The strategy for reducing on-site heating energy to reduce carbon footprint can encompass many of the same methods used to reduce electric consumption (more efficient buildings and systems, use of sustainable energy, and taking advantage of CHP). However, implementing direct digital controls (DDC) in all buildings as well as implementing efficient control strategies can also help reduce heating and save energy.

Efficient control strategies to reduce energy consumption are numerous. Several prominent strategies directly related to reducing heating energy include:



- Night setback strategies.
- Heating water reset.
- Demand control ventilation (DCV). Since a major portion of heating in buildings has to do with heating the outside air temperature in Fall-Winter-Spring months, reducing the amount of outside air that needs to be treated will reduce energy consumption.
- Space pre-conditioning i.e. warm-up strategies.
- Energy recovery.

In new buildings or buildings undergoing comprehensive renovations, other strategies may be available such as:

- Passive solar heating.
- Improved fenestration and building envelope.



In addition, BSU has invested in various forms of using solar energy for other including:

- Indoor pool heating - Solar panels help to heat the indoor pool at Leondias S. James Physical Education Complex.
- Evodia Solar charging tables - Covered, outdoor tables to charge small electronic devices using 100% solar power. Each table is equipped with six power outlets, four USB outlets, an automatic shut-off system during rainy conditions and LED lighting. The table seats up to eight. Two locations: Student Center near Lot O, and between the Computer Science building and the Student Center green lawn.
- Mini-Evodia solar charging table - Same function as the Evodia solar charging table above, except it seats four. Located beside Kennard Hall.
- Solar trash compactors - compactor operating from 100% solar energy to collect trash and recyclable materials and condense trash when near full. It is operated with GPS and web based capabilities that can be monitored or altered, and notifies campus personnel when full or near full. Two locations: walkway leading to Student Center near the Bulldog statue, and the end of the east promenade walkway between Towers Residence Hall and Parking Lot R.

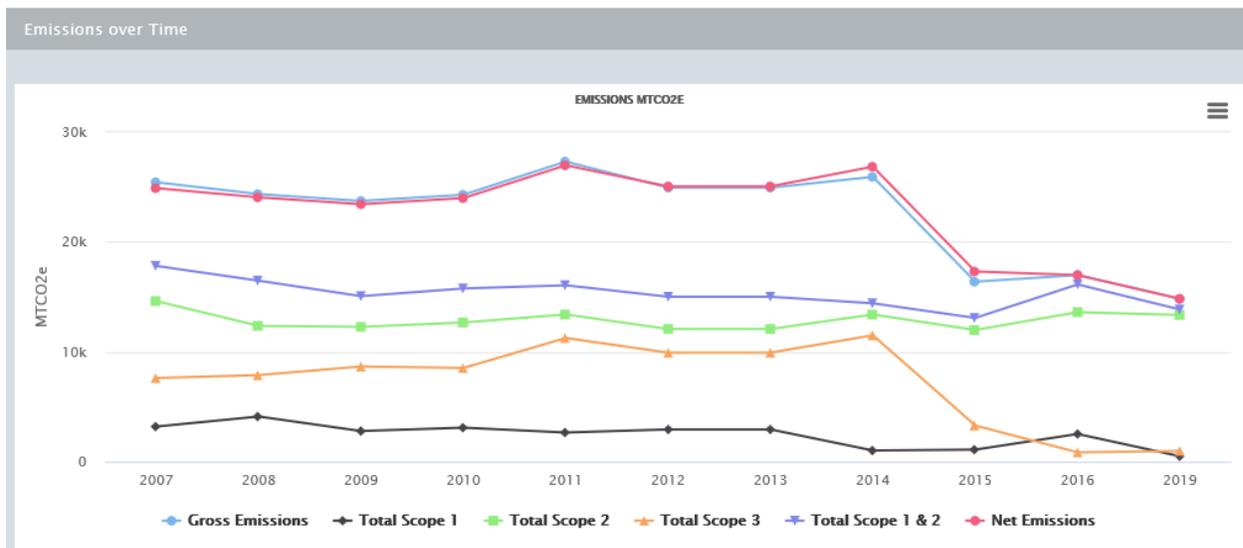
- Solar Synthesis charging port units - Outdoor solar-powered USB charging stations next to benches. Locations: two on the east promenade in front of the Student Center lawn across from back of Thurgood Marshall Library, and one on walkway between the Library and the Henry Administration Building, near Henry Circle.

- Bus shelter - Bus stop retrofitted with a powerful PVSE solar panel network that utilizes 100% solar power to charge mobile/electronic devices. Features include: 4 USB ports, 1 GCFI outlet (standard power plug) and automatic LED lighting when dark. Location: Henry Circle between MLK Jr. Communications Center and the Center for Business & Graduate Studies.

Continuing with the development of solar strategies will help meet the Campus' sustainability and carbon footprint goals.

GREENHOUSE GAS INVENTORY AND REPORTING

BSU has established a reporting system to monitor Greenhouse gas emissions using Second Nature. This website and reporting summary can be found at <http://reporting.secondnature.org/institution/detail!1827/#1827>



That data shows that net emissions have decreased by 10,073.18 MTCO2e metric tons of carbon dioxide equivalent) between 2007 and 2019. This is a 40% decrease in CO2 emissions over 12 years. This reduction equates to a reduction from 5.48 to 2.35 MTCO2e per Fulltime Enrollment (FTE) and a reduction from 21.35 to 6.8 MTCO2e per 1,000 Square Foot of building area. These are significant achievements.

CONDITION SUMMARY: BUILDING NEEDS MATRIX

An electronic survey was conducted with BSU Staff to gain more insight into the condition and needs of the MEP systems in every building. The survey was organized in matrix form per building with the needs listed vertically down the left side. The survey covered Plumbing, HVAC, Electrical, and Fire Protection. The urgency of the needs were identified as follows:

- XXXX = immediate need;
- XXX = estimated to be needed within the next 2 years;
- XX = estimated to be needed within the next 2-5 years;
- X = estimated to be needed in the next 5-10 years;
- No X's means there is no need, it is unforeseeable, or it is not applicable to the building.

Refer to the following pages for the condition summary of each building.

MECHANICAL, ELECTRICAL, PLUMBING SYSTEMS: CONDITIONS SUMMARY BY BUILDING

James E. Proctor Building (formerly CLT)							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xx	Chiller(s)	XXXX	Lighting Upgrades	xxx	Sprinkler	xx
Circulation Pumps	xxx	CHW Pumps	XX	Lighting Controls	x	Backflow Preventer	xxx
Master Mixing Valves	xxx	Cooling Tower	XXX	Switchboard	x	Fire Pump	xxx
Backflow Preventer	xxx	CW Pumps	XXX	Panelboards	x	Piping	xxx
Domestic Water Piping	xx	Boiler(s)	XX	Wiring/Distribution	x	New Heads	xxx
Sanitary/Vent Piping	xx	Heating Pumps	X	Emergency Power	xx		
Plumbing Fixtures	xx	Air Handling Units	X	UPS	xx		
Fixture Hardware	xx	Terminal Units	X	Energy Metering	xx		
Storm Piping	x	CRAC Units	XX	Electric Power Monitoring to BMS	xx		
Overflow Drains	x	Exhaust Fans	X	Lightning Protection System	xxx		
Roof Drains	xx	Ductwork	X	Surge Protection	xxx		
Sump Pumps	xx	Piping	X	Fire Alarm Upgrades	x		
Ejectors	x	Controls/BMS	X				
Water Metering to BMS	xx						
Gas Metering to BMS	xx						
insulation & marking of pipes	xxx						

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Thurgood Marshall Library							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xxx	Chiller(s)	XXX	Lighting Upgrades	x	Sprinkler	xx
Circulation Pumps	xxx	CHW Pumps	XXX	Lighting Controls	x	Backflow Preventer	xxx
Master Mixing Valves		Cooling Tower	XXX	Switchboard	x	Fire Pump	xx
Backflow Preventer	xxx	CW Pumps	XXX	Panelboards	x	Piping	xx
Domestic Water Piping	xxx	Boiler(s)	XXXX	Wiring/Distribution	x	New Heads	
Sanitary/Vent Piping	xxx	Heating Pumps	XXX	Emergency Power	xx	Kitchen Hood Suppression	
Plumbing Fixtures	xxx	Air Handling Units	REFURB	UPS	xx	Gaseous System	
Fixture Hardware	xxx	Terminal Units		Energy Metering	xx	other	
Storm Piping	xxx	CRAC Units		Electric Power Monitoring to BMS	xx		
Overflow Drains		Exhaust Fans		Lightning Protection System	xxx		
Roof Drains	xxx	Ductwork		Surge Protection	xxx		
Sump Pumps		Piping		Fire Alarm Upgrades	x		
Ejectors		Controls/BMS		other			
Insulation Systems		Energy Metering to BMS					
Lab Sinks		other					
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Henry Administration Building							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	x	Chiller(s)	2016	Lighting Upgrades	xx	Sprinkler	xxx
Circulation Pumps	x	CHW Pumps	XX	Lighting Controls	x	Backflow Preventer	xxx
Master Mixing Valves		Cooling Tower	N/A	Switchboard	xx	Fire Pump	xxx
Backflow Preventer	xxx	CW Pumps	N/A	Panelboards	xx	Piping	xxx
Domestic Water Piping	xxx	Boiler(s)	XXXXX	Wiring/Distribution		New Heads	xxx
Sanitary/Vent Piping	xx	Heating Pumps	XXX	Emergency Power		Kitchen Hood Suppression	
Plumbing Fixtures	x	Air Handling Units	XXXXX	UPS		Gaseous System	
Fixture Hardware	x	Terminal Units	XXX	Energy Metering	xx	other	
Storm Piping	xx	CRAC Units	N/A	Electric Power Monitoring to BMS	xx		
Overflow Drains	xx	Exhaust Fans	XX	Lightning Protection System	xxx		
Roof Drains	xxx	Ductwork	XXXX	Surge Protection	xxx		
Sump Pumps		Piping	X	Fire Alarm Upgrades	xx		
Ejectors		Controls/BMS	XXX	other			
Insulation Systems		Energy Metering to BMS	N/A				
Lab Sinks		other	N/A				
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Martin Luther King Jr Communication Arts Center							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xxx	Chiller(s)	XXXX	Lighting Upgrades	xxx	Sprinkler	xxx
Circulation Pumps	xxx	CHW Pumps	XX	Lighting Controls	xx	Backflow Preventer	xxx
Master Mixing Valves	xxx	Cooling Tower	XX	Switchboard	xx	Fire Pump	xxx
Backflow Preventer	xxx	CW Pumps	XX	Panelboards	xxx	Piping	xxx
Domestic Water Piping	xxx	Boiler(s)	XXXX	Wiring/Distribution	xx	New Heads	xxx
Sanitary/Vent Piping	xxx	Heating Pumps	X	Emergency Power		Kitchen Hood Suppression	
Plumbing Fixtures	xxx	Air Handling Units	XXXX	UPS		Gaseous System	
Fixture Hardware	xxx	Terminal Units	XXXX	Energy Metering	xx	other	
Storm Piping	xxx	CRAC Units	X	Electric Power Monitoring to BMS	xx		
Overflow Drains	xxx	Exhaust Fans	XXXX	Lightning Protection System	xxx		
Roof Drains	xxx	Ductwork	XXXX	Surge Protection	xxx		
Sump Pumps	xxx	Piping	XXXX	Fire Alarm Upgrades	xxx		
Ejectors	x	Controls/BMS	XXXX	other			
Insulation Systems		Energy Metering to BMS	XXXX				
Lab Sinks		other	N/A				
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Center for Business and Graduate Studies							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xx	Chiller(s)	XX	Lighting Upgrades	x	Sprinkler	x
Circulation Pumps	xx	CHW Pumps	XX	Lighting Controls	x	Backflow Preventer	x
Master Mixing Valves		Cooling Tower	N/A	Switchboard	x	Fire Pump	x
Backflow Preventer	xx	CW Pumps	N/A	Panelboards	x	Piping	x
Domestic Water Piping	xx	Boiler(s)	XXX	Wiring/Distribution	x	New Heads	x
Sanitary/Vent Piping	xx	Heating Pumps	X	Emergency Power	x	Kitchen Hood Suppression	
Plumbing Fixtures	xx	Air Handling Units	X	UPS		Gaseous System	
Fixture Hardware	xx	Terminal Units	X	Energy Metering	xx	other	
Storm Piping	xx	CRAC Units	X	Electric Power Monitoring to BMS	xx		
Overflow Drains	xx	Exhaust Fans	X	Lightning Protection System	x		
Roof Drains	xx	Ductwork	X	Surge Protection	x		
Sump Pumps		Piping	X	Fire Alarm Upgrades	x		
Ejectors		Controls/BMS	XX	other			
Insulation Systems		Energy Metering to BMS	XX				
Lab Sinks		other	N/A				
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Charlotte Robinson Hall							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xxx	Chiller(s)	N/A	Lighting Upgrades	xxx	Sprinkler	xxx
Circulation Pumps	xxx	CHW Pumps	N/A	Lighting Controls	x	Backflow Preventer	xxx
Master Mixing Valves	xxx	Cooling Tower	N/A	Switchboard	xxx	Fire Pump	xxx
Backflow Preventer	xxx	CW Pumps	N/A	Panelboards	xxx	Piping	xxx
Domestic Water Piping	xxx	Boiler(s)	XXXX	Wiring/Distribution	xx	New Heads	xxx
Sanitary/Vent Piping	xxx	Heating Pumps	XX	Emergency Power	x	Kitchen Hood Suppression	
Plumbing Fixtures	xxx	Air Handling Units	XX	UPS		Gaseous System	
Fixture Hardware	xxx	Terminal Units	XXXX	Energy Metering	xx	other	
Storm Piping	xxx	CRAC Units	XXXX	Electric Power Monitoring to BMS	xx		
Overflow Drains	xxx	Exhaust Fans	XXXX	Lightning Protection System	xxx		
Roof Drains	xxx	Ductwork	XXXX	Surge Protection	xxx		
Sump Pumps		Piping	XX	Fire Alarm Upgrades	xx		
Ejectors		Controls/BMS	XXXX	other			
Insulation Systems		Energy Metering to BMS	N/A				
Lab Sinks		other	2017				
Water Metering to BMS							
Gas Metering to BMS	xxx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Computer Science Building							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xx	Chiller(s)	N/A	Lighting Upgrades	xxx	Sprinkler	xx
Circulation Pumps	xx	CHW Pumps	N/A	Lighting Controls	x	Backflow Preventer	xxx
Master Mixing Valves	xx	Cooling Tower	N/A	Switchboard	x	Fire Pump	xx
Backflow Preventer	xxx	CW Pumps	N/A	Panelboards	x	Piping	xx
Domestic Water Piping	xx	Boiler(s)	XXXX	Wiring/Distribution	x	New Heads	xx
Sanitary/Vent Piping	xx	Heating Pumps	XX	Emergency Power	x	Kitchen Hood Suppression	
Plumbing Fixtures	xx	Air Handling Units	XXX	UPS		Gaseous System	
Fixture Hardware	xx	Terminal Units	XXX	Energy Metering	xx	other	
Storm Piping	xx	CRAC Units	XXX	Electric Power Monitoring to BMS	xx		
Overflow Drains	xx	Exhaust Fans	XXX	Lightning Protection System	x		
Roof Drains	xx	Ductwork	XXXX	Surge Protection	x		
Sump Pumps		Piping	XXXX	Fire Alarm Upgrades	x		
Ejectors		Controls/BMS	XXX	other			
Insulation Systems		Energy Metering to BMS	XXX				
Lab Sinks		other	XXXX				
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Maintenance Building							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xxx	Chiller(s)	N/A	Lighting Upgrades	xxx	Sprinkler	xxx
Circulation Pumps	xxx	CHW Pumps	N/A	Lighting Controls	x	Backflow Preventer	xxx
Master Mixing Valves	xxx	Cooling Tower	N/A	Switchboard	x	Fire Pump	
Backflow Preventer	xxx	CW Pumps	N/A	Panelboards	xx	Piping	xx
Domestic Water Piping	xxx	Boiler(s)	XXXX	Wiring/Distribution	x	New Heads	xxx
Sanitary/Vent Piping	xx	Heating Pumps	XXXX	Emergency Power		Kitchen Hood Suppression	
Plumbing Fixtures	xxx	Air Handling Units	XXXX	UPS		Gaseous System	
Fixture Hardware	xxx	Terminal Units	N/A	Energy Metering	xx	other	
Storm Piping	xx	CRAC Units	N/A	Electric Power Monitoring to BMS	xx		
Overflow Drains		Exhaust Fans	xx	Lightning Protection System	xxx		
Roof Drains		Ductwork	xx	Surge Protection	xxx		
Sump Pumps		Piping	xx	Fire Alarm Upgrades	x		
Ejectors		Controls/BMS	XXXX	other			
Insulation Systems		Energy Metering to BMS	XXXX				
Lab Sinks		other	N/A				
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Fine & Performing Arts Center							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xx	Chiller(s)		Lighting Upgrades	x	Sprinkler	x
Circulation Pumps	xx	CHW Pumps		Lighting Controls	x	Backflow Preventer	x
Master Mixing Valves	xxx	Cooling Tower	N/A	Switchboard	x	Fire Pump	x
Backflow Preventer	xx	CW Pumps	N/A	Panelboards	x	Piping	x
Domestic Water Piping	xx	Boiler(s)		Wiring/Distribution	x	New Heads	x
Sanitary/Vent Piping	x	Heating Pumps		Emergency Power	x	Kitchen Hood Suppression	
Plumbing Fixtures	x	Air Handling Units		UPS	x	Gaseous System	x
Fixture Hardware	x	Terminal Units		Energy Metering	x	other	
Storm Piping	x	CRAC Units		Electric Power Monitoring to BMS	x		
Overflow Drains	x	Exhaust Fans		Lightning Protection System	x		
Roof Drains	xx	Ductwork		Surge Protection	x		
Sump Pumps	xx	Piping		Fire Alarm Upgrades	x		
Ejectors	xx	Controls/BMS		other			
Insulation Systems		Energy Metering to BMS					
Lab Sinks	xx	other					
Water Metering to BMS							
Gas Metering to BMS	x						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Central Steam Plant						
MEP Needs						
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler
Water Heater(s)		Chiller(s)	N/A	Lighting Upgrades		Sprinkler
Circulation Pumps		CHW Pumps	N/A	Lighting Controls		Backflow Preventer
Master Mixing Valves		Cooling Tower	N/A	Switchboard		Fire Pump
Backflow Preventer		CW Pumps	N/A	Panelboards		Piping
Domestic Water Piping		Boiler(s)	N/A	Wiring/Distribution		New Heads
Sanitary/Vent Piping		Heating Pumps	N/A	Emergency Power		Kitchen Hood Suppression
Plumbing Fixtures		Air Handling Units	N/A	UPS		Gaseous System
Fixture Hardware		Terminal Units	N/A	Energy Metering		other
Storm Piping		CRAC Units	N/A	Electric Power Monitoring to BMS		
Overflow Drains		Exhaust Fans	N/A	Lightning Protection System		
Roof Drains		Ductwork	N/A	Surge Protection		
Sump Pumps		Piping	N/A	Fire Alarm Upgrades		
Ejectors		Controls/BMS	N/A	other		
Insulation Systems		Energy Metering to BMS	N/A			
Lab Sinks		other	N/A			
Water Metering to BMS						
Gas Metering to BMS						
other						
insulation & marking of pipes						
crawl space cleaning & etc.						

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Goodloe House						
MEP Needs						
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler
Water Heater(s)	xxx	Chiller(s)	N/A	Lighting Upgrades	xxx	Sprinkler xxx
Circulation Pumps	xxx	CHW Pumps	N/A	Lighting Controls	x	Backflow Preventer xxx
Master Mixing Valves	xxx	Cooling Tower	N/A	Switchboard	x	Fire Pump xxx
Backflow Preventer	xxx	CW Pumps	N/A	Panelboards	x	Piping xxx
Domestic Water Piping	xxx	Boiler(s)	XXX	Wiring/Distribution	x	New Heads xxx
Sanitary/Vent Piping	xxx	Heating Pumps	N/A	Emergency Power		Kitchen Hood Suppression xxx
Plumbing Fixtures	xxx	Air Handling Units	N/A	UPS		Gaseous System
Fixture Hardware	xxx	Terminal Units	N/A	Energy Metering	xx	other
Storm Piping		CRAC Units	XXX	Electric Power Monitoring to BMS	xx	
Overflow Drains		Exhaust Fans	XXX	Lightning Protection System	xxx	
Roof Drains		Ductwork		Surge Protection	xxx	
Sump Pumps		Piping		Fire Alarm Upgrades	x	
Ejectors		Controls/BMS	XXX	other		
Insulation Systems		Energy Metering to BMS	XXX			
Lab Sinks		other	N/A			
Water Metering to BMS						
Gas Metering to BMS						
other						
insulation & marking of pipes	xxx					
crawl space cleaning & etc.	xxx					

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

James Physical Education Complex							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xxx	Chiller(s)	NA	Lighting Upgrades	x	Sprinkler	xxx
Circulation Pumps	xxx	CHW Pumps	NA	Lighting Controls	x	Backflow Preventer	xxx
Master Mixing Valves	xxx	Cooling Tower	NA	Switchboard	x	Fire Pump	xxx
Backflow Preventer	xxx	CW Pumps	NA	Panelboards	xxx	Piping	xxx
Domestic Water Piping	xxx	Boiler(s)		Wiring/Distribution	x	New Heads	xxx
Sanitary/Vent Piping	xxx	Heating Pumps	XXX	Emergency Power		Kitchen Hood Suppression	
Plumbing Fixtures	xxx	Air Handling Units		UPS		Gaseous System	
Fixture Hardware	xxx	Terminal Units		Energy Metering	x	other	
Storm Piping	xxx	CRAC Units		Electric Power Monitoring to BMS	xx		
Overflow Drains	xxx	Exhaust Fans		Lightning Protection System	xxx		
Roof Drains	xxx	Ductwork		Surge Protection	xxx		
Sump Pumps	xxx	Piping	XXX	Fire Alarm Upgrades	x		
Ejectors	xxx	Controls/BMS	XX	other			
Insulation Systems		Energy Metering to BMS	XXX				
Lab Sinks		other					
Water Metering to BMS							
Gas Metering to BMS	xxx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Field House							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xxx	Chiller(s)		Lighting Upgrades	xx	Sprinkler	xxx
Circulation Pumps	xxx	CHW Pumps		Lighting Controls	x	Backflow Preventer	xxx
Master Mixing Valves		Cooling Tower		Switchboard	x	Fire Pump	xxx
Backflow Preventer	xx	CW Pumps		Panelboards	x	Piping	xxx
Domestic Water Piping	xxx	Boiler(s)		Wiring/Distribution	x	New Heads	xxx
Sanitary/Vent Piping	xxx	Heating Pumps		Emergency Power		Kitchen Hood Suppression	xxx
Plumbing Fixtures	xxx	Air Handling Units		UPS		Gaseous System	
Fixture Hardware	xxx	Terminal Units		Energy Metering	x	other	
Storm Piping	xx	CRAC Units		Electric Power Monitoring to BMS	xx		
Overflow Drains		Exhaust Fans		Lightning Protection System	xxx		
Roof Drains	xx	Ductwork		Surge Protection	xxx		
Sump Pumps		Piping		Fire Alarm Upgrades	x		
Ejectors		Controls/BMS		other			
Insulation Systems		Energy Metering to BMS					
Lab Sinks		other					
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

McKeldin Gymnasium							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xxx	Chiller(s)	N/A	Lighting Upgrades	xxx	Sprinkler	xxx
Circulation Pumps	xxx	CHW Pumps	N/A	Lighting Controls	x	Backflow Preventer	xxx
Master Mixing Valves		Cooling Tower	N/A	Switchboard	x	Fire Pump	xxx
Backflow Preventer	xxx	CW Pumps	N/A	Panelboards	xxx	Piping	xxx
Domestic Water Piping	xxx	Boiler(s)	XXXX	Wiring/Distribution	x	New Heads	xxx
Sanitary/Vent Piping	xxx	Heating Pumps	N/A	Emergency Power		Kitchen Hood Suppression	xxx
Plumbing Fixtures	xxx	Air Handling Units	XX	UPS	xxx	Gaseous System	
Fixture Hardware	xxx	Terminal Units		Energy Metering	xx	other	
Storm Piping	xxx	CRAC Units		Electric Power Monitoring to BMS	xx		
Overflow Drains	xxx	Exhaust Fans		Lightning Protection System	xxx		
Roof Drains	xxx	Ductwork	X	Surge Protection	xxx		
Sump Pumps		Piping	X	Fire Alarm Upgrades	x		
Ejectors		Controls/BMS	XXX	other			
Insulation Systems		Energy Metering to BMS	X				
Lab Sinks		other	XXX				
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Student Center							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xx	Chiller(s)		Lighting Upgrades	x	Sprinkler	xx
Circulation Pumps	xx	CHW Pumps		Lighting Controls	x	Backflow Preventer	xx
Master Mixing Valves	xx	Cooling Tower		Switchboard	x	Fire Pump	xx
Backflow Preventer	xx	CW Pumps		Panelboards	x	Piping	x
Domestic Water Piping	xx	Boiler(s)		Wiring/Distribution	x	New Heads	x
Sanitary/Vent Piping	xx	Heating Pumps		Emergency Power	x	Kitchen Hood Suppression	xx
Plumbing Fixtures	xx	Air Handling Units		UPS	x	Gaseous System	
Fixture Hardware	xx	Terminal Units		Energy Metering	x	other	
Storm Piping	xx	CRAC Units		Electric Power Monitoring to BMS	x		
Overflow Drains	xx	Exhaust Fans		Lightning Protection System	x		
Roof Drains	xx	Ductwork		Surge Protection	x		
Sump Pumps		Piping		Fire Alarm Upgrades	x		
Ejectors		Controls/BMS		other			
Insulation Systems		Energy Metering to BMS					
Lab Sinks		other					
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Center for Natural Sciences, Mathematics and Nursing							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	x	Chiller(s)		Lighting Upgrades	x	Sprinkler	x
Circulation Pumps	x	CHW Pumps		Lighting Controls	x	Backflow Preventer	x
Master Mixing Valves	x	Cooling Tower		Switchboard	x	Fire Pump	x
Backflow Preventer	x	CW Pumps		Panelboards	x	Piping	x
Domestic Water Piping	x	Boiler(s)		Wiring/Distribution	x	New Heads	x
Sanitary/Vent Piping	x	Heating Pumps		Emergency Power	x	Kitchen Hood Suppression	x
Plumbing Fixtures	x	Air Handling Units		UPS	x	Gaseous System	
Fixture Hardware	x	Terminal Units		Energy Metering	x	other	
Storm Piping	x	CRAC Units		Electric Power Monitoring to BMS	x		
Overflow Drains	x	Exhaust Fans		Lightning Protection System	x		
Roof Drains	x	Ductwork		Surge Protection	x		
Sump Pumps	x	Piping		Fire Alarm Upgrades	x		
Ejectors	x	Controls/BMS		other			
Insulation Systems	x	Energy Metering to BMS					
Lab Sinks	x	other					
Water Metering to BMS	x						
Gas Metering to BMS	x						
other							
insulation & marking of pipes	x						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Towers Residence Hall							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xxx	Chiller(s)	N/A	Lighting Upgrades	xxx	Sprinkler	xxx
Circulation Pumps	xxx	CHW Pumps	N/A	Lighting Controls	xxx	Backflow Preventer	xxx
Master Mixing Valves	xxx	Cooling Tower	N/A	Switchboard	xxx	Fire Pump	xxx
Backflow Preventer	xxx	CW Pumps	N/A	Panelboards	xxx	Piping	xxx
Domestic Water Piping	xxx	Boiler(s)		Wiring/Distribution	xxx	New Heads	xxx
Sanitary/Vent Piping	xxx	Heating Pumps	XX	Emergency Power		Kitchen Hood Suppression	
Plumbing Fixtures	xxx	Air Handling Units	XXX	UPS		Gaseous System	
Fixture Hardware	xxx	Terminal Units	XX	Energy Metering	xxx	other	
Storm Piping	xxx	CRAC Units	XX	Electric Power Monitoring to BMS	xxx		
Overflow Drains	xxx	Exhaust Fans	X	Lightning Protection System	xxx		
Roof Drains	xxx	Ductwork	XX	Surge Protection	xxx		
Sump Pumps	xxx	Piping	X	Fire Alarm Upgrades	xx		
Ejectors		Controls/BMS	XX	other			
Insulation Systems		Energy Metering to BMS	XX				
Lab Sinks		other	XX				
Water Metering to BMS							
Gas Metering to BMS	xxx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Alex Haley Residence Hall							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xxx	Chiller(s)	2018	Lighting Upgrades	xxx	Sprinkler	xxx
Circulation Pumps	xxx	CHW Pumps	XX	Lighting Controls	xx	Backflow Preventer	xxx
Master Mixing Valves	xxx	Cooling Tower	N/A	Switchboard	x	Fire Pump	xxx
Backflow Preventer	xxx	CW Pumps	N/A	Panelboards	x	Piping	xxx
Domestic Water Piping	xxx	Boiler(s)	XXX	Wiring/Distribution	x	New Heads	xxx
Sanitary/Vent Piping	xxx	Heating Pumps	XX	Emergency Power	xx	Kitchen Hood Suppression	
Plumbing Fixtures	xxx	Air Handling Units	XXX	UPS		Gaseous System	
Fixture Hardware	xxx	Terminal Units	XXX	Energy Metering	xxx	other	
Storm Piping	xxx	CRAC Units	XXX	Electric Power Monitoring to BMS	xxx		
Overflow Drains	xxx	Exhaust Fans	XXX	Lightning Protection System	xxx		
Roof Drains	xxx	Ductwork	X	Surge Protection	xxx		
Sump Pumps	xxx	Piping	XX	Fire Alarm Upgrades	x		
Ejectors	xxx	Controls/BMS	XXX	other			
Insulation Systems		Energy Metering to BMS	XXX				
Lab Sinks		other	NA				
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.							

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Dwight Holmes Residence Hall							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xx	Chiller(s)	NA	Lighting Upgrades	xxx	Sprinkler	xxx
Circulation Pumps	xx	CHW Pumps	NA	Lighting Controls	xx	Backflow Preventer	xxx
Master Mixing Valves	xxx	Cooling Tower	NA	Switchboard	x	Fire Pump	xxx
Backflow Preventer	xxx	CW Pumps	NA	Panelboards	x	Piping	xxx
Domestic Water Piping	xxx	Boiler(s)	2015	Wiring/Distribution	x	New Heads	xxx
Sanitary/Vent Piping	xxx	Heating Pumps	XX	Emergency Power		Kitchen Hood Suppression	
Plumbing Fixtures	xxx	Air Handling Units	NA	UPS		Gaseous System	
Fixture Hardware	xxx	Terminal Units	XXX	Energy Metering	xxx	other	
Storm Piping		CRAC Units	NA	Electric Power Monitoring to BMS	xxx		
Overflow Drains		Exhaust Fans	XX	Lightning Protection System	xxx		
Roof Drains	xxx	Ductwork	NA	Surge Protection	xxx		
Sump Pumps	xx	Piping	XXX	Fire Alarm Upgrades	x		
Ejectors		Controls/BMS	XXX	other			
Insulation Systems		Energy Metering to BMS	XXX				
Lab Sinks		other	NA				
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.	xxx						

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Christa McAuliffe Residential Community						
MEP Needs						
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler
Water Heater(s)		Chiller(s)	NA	Lighting Upgrades		Sprinkler
Circulation Pumps		CHW Pumps	NA	Lighting Controls		Backflow Preventer
Master Mixing Valves		Cooling Tower	NA	Switchboard		Fire Pump
Backflow Preventer		CW Pumps		Panelboards		Piping
Domestic Water Piping		Boiler(s)		Wiring/Distribution		New Heads
Sanitary/Vent Piping		Heating Pumps		Emergency Power		Kitchen Hood Suppression
Plumbing Fixtures		Air Handling Units		UPS		Gaseous System
Fixture Hardware		Terminal Units		Energy Metering		other
Storm Piping		CRAC Units		Electric Power Monitoring to BMS		
Overflow Drains		Exhaust Fans		Lightning Protection System		
Roof Drains		Ductwork		Surge Protection		
Sump Pumps		Piping		Fire Alarm Upgrades		
Ejectors		Controls/BMS		other		
Insulation Systems		Energy Metering to BMS				
Lab Sinks		other				
Water Metering to BMS						
Gas Metering to BMS						
other						
insulation & marking of pipes						
crawl space cleaning & etc.						

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Lucretia Kennard Residence Hall						
MEP Needs						
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler
Water Heater(s)	xxx	Chiller(s)	NA	Lighting Upgrades	xxx	Sprinkler xxx
Circulation Pumps	xxx	CHW Pumps	NA	Lighting Controls	xx	Backflow Preventer xxx
Master Mixing Valves	xxx	Cooling Tower	NA	Switchboard	xx	Fire Pump xxx
Backflow Preventer	xxx	CW Pumps	NA	Panelboards	xx	Piping xxx
Domestic Water Piping	xxx	Boiler(s)		2018 Wiring/Distribution	xx	New Heads xxx
Sanitary/Vent Piping	xxx	Heating Pumps	XX	Emergency Power		Kitchen Hood Suppression
Plumbing Fixtures	xxx	Air Handling Units	NA	UPS	xx	Gaseous System
Fixture Hardware	xxx	Terminal Units	XXX	Energy Metering	xxx	other
Storm Piping		CRAC Units	X	Electric Power Monitoring to BMS	xxx	
Overflow Drains		Exhaust Fans	XX	Lightning Protection System	xxx	
Roof Drains	xxx	Ductwork	XX	Surge Protection	xxx	
Sump Pumps	xxx	Piping	XXX	Fire Alarm Upgrades	x	
Ejectors		Controls/BMS	XXX	other		
Insulation Systems		Energy Metering to BMS	XXX			
Lab Sinks		other	NA			
Water Metering to BMS						
Gas Metering to BMS	xx					
other						
insulation & marking of pipes	xxx					
crawl space cleaning & etc.	xxx					

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Harriet Tubman Residence Hall							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xxx	Chiller(s)	NA	Lighting Upgrades	xxx	Sprinkler	xxx
Circulation Pumps	xxx	CHW Pumps	NA	Lighting Controls	xxx	Backflow Preventer	xxx
Master Mixing Valves	xxx	Cooling Tower	NA	Switchboard	xxx	Fire Pump	xxx
Backflow Preventer	xxx	CW Pumps	NA	Panelboards	x	Piping	xxx
Domestic Water Piping	xxx	Boiler(s)	X	Wiring/Distribution	x	New Heads	xxx
Sanitary/Vent Piping	xxx	Heating Pumps	XXX	Emergency Power		Kitchen Hood Suppression	
Plumbing Fixtures	xxx	Air Handling Units	XXX	UPS		Gaseous System	
Fixture Hardware	xxx	Terminal Units	XXX	Energy Metering	xxx	other	
Storm Piping		CRAC Units	XXX	Electric Power Monitoring to BMS	xxx		
Overflow Drains		Exhaust Fans	XXX	Lightning Protection System	xxx		
Roof Drains	xxx	Ductwork	XXX	Surge Protection	xxx		
Sump Pumps	xxx	Piping	XXX	Fire Alarm Upgrades	x		
Ejectors		Controls/BMS	XXX	other			
Insulation Systems		Energy Metering to BMS	XXX				
Lab Sinks		other	NA				
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.	xxx						

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

Goodloe Apartments (4 units)							
MEP Needs							
Plumbing		HVAC		Electrical		Fire Protection/Sprinkler	
Water Heater(s)	xxx	Chiller(s)	NA	Lighting Upgrades	xxx	Sprinkler	xxx
Circulation Pumps	xxx	CHW Pumps	NA	Lighting Controls	xxx	Backflow Preventer	xxx
Master Mixing Valves	xxx	Cooling Tower	NA	Switchboard	xxx	Fire Pump	xxx
Backflow Preventer	xxx	CW Pumps	NA	Panelboards	xx	Piping	xxx
Domestic Water Piping	xxx	Boiler(s)	XXXX	Wiring/Distribution	xx	New Heads	xxx
Sanitary/Vent Piping	xxx	Heating Pumps	XXXX	Emergency Power		Kitchen Hood Suppression	
Plumbing Fixtures	xxx	Air Handling Units	NA	UPS		Gaseous System	
Fixture Hardware	xxx	Terminal Units	NA	Energy Metering	xxx	other	
Storm Piping		CRAC Units		2019 Electric Power Monitoring to BMS	xxx		
Overflow Drains		Exhaust Fans	NA	Lightning Protection System	xxx		
Roof Drains	xxx	Ductwork	XXX	Surge Protection	xxx		
Sump Pumps		Piping	XXX	Fire Alarm Upgrades	x		
Ejectors		Controls/BMS	XXX	other			
Insulation Systems		Energy Metering to BMS	XXX				
Lab Sinks		other	NA				
Water Metering to BMS							
Gas Metering to BMS	xx						
other							
insulation & marking of pipes	xxx						
crawl space cleaning & etc.	xxx						

Key: XXXX = immediate; XXX=within next 2 years; XX= next 2-5 years; x= next 5-10 years. Other notes indicate year replaced or are self-explanatory.

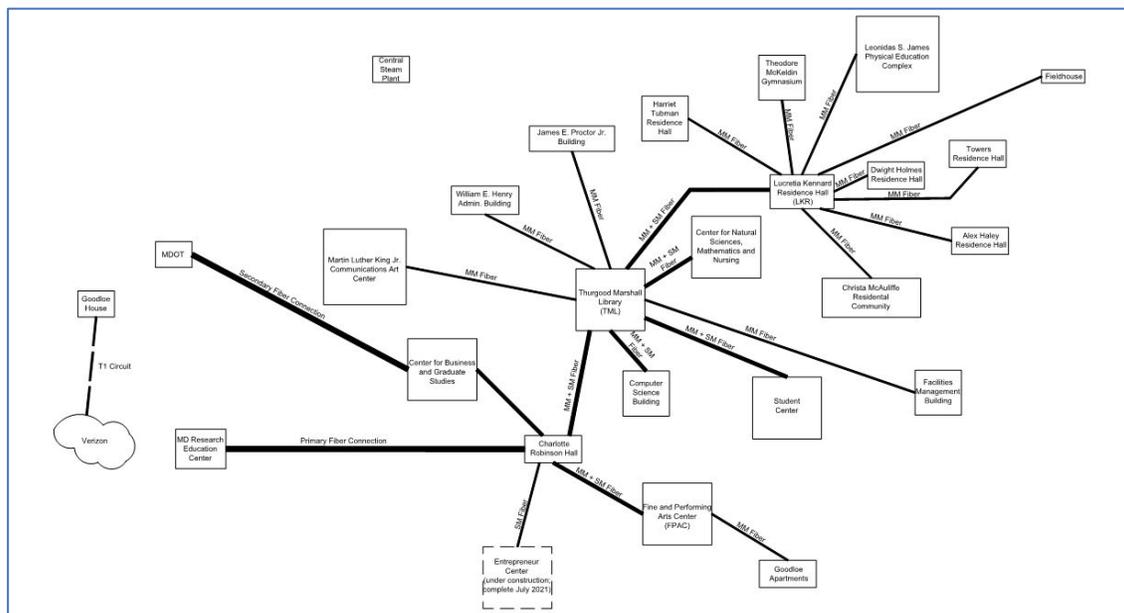
TECHNOLOGY SYSTEMS

Considering the state of technology on the Bowie State University (BSU) campus for the 2020 Facilities Master Plan, it is necessary to look at several items, namely 1) the state of the campus infrastructure, including the fiber backbone, telecommunications rooms, and network equipment, 2) the state of the use of wired and wireless technology throughout campus, and 3) the state of physical security as it relates to access control and video surveillance on campus. Each is addressed in the sections below.

CAMPUS INFRASTRUCTURE

OPTICAL FIBER BACKBONE

The BSU campus has a well-defined data network that supports voice, data, wireless, etc. technologies throughout campus. The “center” of the network, where the campus Data Center resides, is in the basement of the Thurgood Marshall Library (Library). Optical fiber backbone cabling connects most of the non-residential buildings to the Library Data Center. However, a few buildings are connected to intermediate locations before connecting to the Library. Also, in many cases, the optical fiber cable that supports the data networks on campus is older multimode (MM) fiber rather than singlemode (SM) fiber. Some buildings are connected with both MM and SM fiber. However, there is a desire to move away from MM connectivity for all SM connections. The Logical Network Diagram below depicts how each building is connected.



While all of the buildings are connected to the Data Center via a fiber backbone cable, in more buildings than not, BSU IT has indicated either the type of fiber or the number of strands of fiber (or both) is inadequate. Furthermore, other than the optical fiber service to the campus as a whole, where the primary connection is from the Maryland Research Education Center (MDREN) and the secondary connection is from a Maryland Department of Transportation (MDOT) facility near the Metro Station, there is no fiber backbone redundancy at all. If one of the fiber cables gets damaged in any way, there is no other pathway to connect the affected building (or buildings) to the network. See the Table below showing this information.

BSU Fiber Backbone								
Building General Information				Fiber Connectivity			Adequate Backbone Riser	Service Providers PoP
Building Name	University or Residence Building	GSF	Year Constructed	Type (SM / MM)	Connected to (which building)	Redundant (Y / N)	Y / N	Y / N
James E. Proctor Jr. Building	University	101,193	2000	MM	TML	N	Y	N
Thurgood Marshall Library (TML)	University	166,869	1977	MM/SM	Many	N	N	N
William E. Henry Administration Building	University	37,396	1976	MM	TML	N	Y	N
Martin Luther King Jr. Communication Arts Center	University	149,374	1973	MM	TML	N	N	N
Center for Business and Graduate Studies	University	66,000	2007	MM/SM	CRH	N	Y	MDoT
Charlotte Robinson Hall (CRH)	University	31,534	1960	MM/SM	TML	N	N	MDREN
Computer Science Building	University	47,000	2002	MM/SM	TML	N	??	N
Facilities Management Building	University	29,613	1967	MM	TML	N	N	N
Fine & Performing Arts Center (FPAC)	University	123,475	2011	SM/MM	CRH	N	??	N
Goodloe House	University	3,815	1916	None	None (T1)	N	N	N
Leonidas S. James Physical Education Complex	University	102,135	1973	MM	LKR	N	N	N
Field House	University	7,909	1992	MM	LKR	N	Y	N
Theodore McKeldin Gymnasium	University	21,142	1957	MM	LKR	N	N	N
Student Center	University	95,503	2013	SM/MM	TML	N	Y	N
Center for Natural Sciences, Mathematics and Nursing	University	149,109	2016	SM/MM	TML	N	Y	N
Towers Residence Hall	Residence	40,828	1973	MM	LKR	N	Y	N
Alex Haley Residence Hall	Residence	90,855	1994	MM	LKR	N	N	N
Dwight Holmes Residence Hall	Residence	21,779	1951	MM	LKR	N	N	N
Christa McAuliffe Residential Community	Residence	185,240	2002	MM	LKR	N	Y	N
Lucretia Kennard Residence Hall (LKR)	Residence	22,646	1957	SM/MM	TML	N	N	N
Harriet Tubman Residence Hall	Residence	33,282	1921	MM	LKR	N	N	N
Goodloe Apartments (4 units)	Residence	5,946	1954	MM	FPAC	N	None	N

TELECOMMUNICATIONS ROOMS

As part of the infrastructure review, we looked the telecommunications rooms throughout campus. There are a variety of “rooms” that serve as telecommunications rooms. With a variety of building types and ages on campus, there is a wide variety of telecommunications room as well. As depicted in the Table below, many of the rooms are not adequately sized to support today’s network equipment and associated systems. These rooms have little or no security, as well as inadequate power and cooling. Also, quite often, equipment is not properly grounded. All of this leads to difficulty in properly maintaining data cables and supporting equipment, as well as a much shorter life of the data network equipment.

BSU Telecom Rooms								
Building General Information				Telecom Rooms (Y or N for all)				
Building Name	University or Residence Building	GSF	Year Constructed	Adequate Size	Adequate Power	Adequate Cooling	Grounding	Secure
James E. Proctor Jr. Building	University	101,193	2000	N/A	N	N	N/A	N
Thurgood Marshall Library (TML)	University	166,869	1977	N	N	N	N	N
William E. Henry Administration Building	University	37,396	1976	N	N	N	N	N
Martin Luther King Jr. Communication Arts Center	University	149,374	1973	N	N	N	N	N
Center for Business and Graduate Studies	University	66,000	2007	Y	Y	Y	Y	N
Charlotte Robinson Hall (CRH)	University	31,534	1960	Y	N	N	N/A	N
Computer Science Building	University	47,000	2002	Y	Y	N	N/A	N
Facilities Management Building	University	29,613	1967	N	N	N	N/A	N
Fine & Performing Arts Center (FPAC)	University	123,475	2011	Y	Y	N	N/A	N
Goodloe House	University	3,815	1916	N	N	N	N/A	N
Leonidas S. James Physical Education Complex	University	102,135	1973	N	N	N	N/A	N
Field House	University	7,909	1992	N	Y	N	N/A	N
Theodore McKeldin Gymnasium	University	21,142	1957	N	N	N	N/A	N
Student Center	University	95,503	2013	Y	Y	Y	Y	N
Center for Natural Sciences, Mathematics and Nursing	University	149,109	2016	Y	Y	Y	Y	N
Towers Residence Hall	Residence	40,828	1973	N	N	N	N/A	N
Alex Haley Residence Hall	Residence	90,855	1994	N	N	N	N/A	N
Dwight Holmes Residence Hall	Residence	21,779	1951	N	N	N	N/A	N
Christa McAuliffe Residential Community	Residence	185,240	2002	Y	N	N	N/A	N
Lucretia Kennard Residence Hall (LKR)	Residence	22,646	1957	N	N	N	N/A	N
Harriet Tubman Residence Hall	Residence	33,282	1921	Y	N	N	N/A	N
Goodloe Apartments (4 units)	Residence	5,946	1954	Y	N	N	N/A	N

DATA NETWORK EQUIPMENT

From a network perspective, at the center of the network in the Library resides the core. This essentially consists of (2) core data switches (Cisco 6500 series) that provide redundancy in the network. There is also a Cisco 6500 series switch in Lucretia Kennard Residence Hall (LKR), as all of the residence halls connect through LKR. In the main telecom rooms in most of the buildings (especially the larger ones), an access layer switch (Cisco 4500 series) provides the connectivity to the core. If there are other telecom rooms in a building, these are supported by fixed-port, 1RU (rack unit) stackable switches. For the most part, the core network provides 1-gigabit of throughput over its backbone. Since BSU has implemented Voice over Internet Protocol (VoIP), this network configuration supports both voice and data requirements throughout campus. It should be noted that this Cisco equipment is “end-of-life” and should be considered for upgrade in the near future.

While the Library is the sole network node on campus, some of the critical data that typically resides on the network is backed up off-site. This provides disaster recovery for the most important data, including e-mail, core applications, financial information, and student information. However, this does not provide a comprehensive data backup.

While the network continues to evolve, there have not been many changes since the 2016 Facilities Master Plan, and therefore, this infrastructure continues to provide several challenges, including the following to name a few:

- Not every building connected directly to the network core
- Older fiber still providing connectivity to many buildings
- No redundancy in the fiber backbone
- Potential bottleneck with 1G of throughput to multiple buildings
- Only some (critical), not all, data is backed up off-site
- Poor quality of telecommunications rooms in most buildings other than those that have been recently constructed

WIRED AND WIRELESS CONNECTIVITY

The expectation of high-quality, reliable, and secure wireless connectivity has quickly become the norm on college and university campuses. This is true for today’s classrooms, as well as residence halls and surrounding gathering places on campus. Students don’t care how it works, just that it always works. If they can’t access the applications they rely on for both school work and social activities, then they will have no problem letting everyone know their frustrations.

Also, it is important to note that while the demand for ubiquitous wireless access continues to grow, it is, after all, a shared service, requiring it to be robust enough to support more and more simultaneous connected devices. Therefore, when it makes sense to provide a wired connection, that should be the standard.

In reviewing the wired and wireless connectivity within each building, BSU reported that in most buildings, it is meeting the requirements of the students, faculty, and guests. This is clearly shown in the following Table. It is important that BSU continue to support wired and wireless technology, as demands for more and more bandwidth increase.

BSU Wired and Wireless Connectivity					
Building General Information				Adequate Wired Connectivity	Adequate Wireless Connectivity
Building Name	University or Residence Building	GSF	Year Constructed	Y / N	Y / N
James E. Proctor Jr. Building	University	101,193	2000	N	N
Thurgood Marshall Library (TML)	University	166,869	1977	Y	Y
William E. Henry Administration Building	University	37,396	1976	Y	Y
Martin Luther King Jr Communication Arts Center	University	149,374	1973	N	Y
Center for Business and Graduate Studies	University	66,000	2007	Y	Y
Charlotte Robinson Hall (CRH)	University	31,534	1960	Y	Y
Computer Science Building	University	47,000	2002	Y	Y
Facilities Management Building	University	29,613	1967	Y	Y
Fine & Performing Arts Center (FPAC)	University	123,475	2011	Y	Y
Goodloe House	University	3,815	1916	Y	Y
Leonidas S. James Physical Education Complex	University	102,135	1973	Y	Y
Field House	University	7,909	1992	Y	Y
Theodore McKeldin Gymnasium	University	21,142	1957	Y	Y
Student Center	University	95,503	2013	Y	Y
Center for Natural Sciences, Mathematics and Nursing	University	149,109	2016	Y	Y
Towers Residence Hall	Residence	40,828	1973	Y	Y
Alex Haley Residence Hall	Residence	90,855	1994	Y	Y
Dwight Holmes Residence Hall	Residence	21,779	1951	Y	Y
Christa McAuliffe Residential Community	Residence	185,240	2002	Y	Y
Lucretia Kennard Residence Hall (LKR)	Residence	22,646	1957	Y	Y
Harriet Tubman Residence Hall	Residence	33,282	1921	Y	Y
Goodloe Apartments (4 units)	Residence	5,946	1954	Y	Y

PHYSICAL SECURITY

The campus Police, located in Charlotte Robinson Hall, is the center of the Security network at BSU. While the physical security systems provide some access control and video surveillance, the campus doesn't seem to have one campus-wide system that is implemented throughout. Rather, there are disparate systems that often do not effectively communicate with each other and are in various stages of operational effectiveness. Older system components, including storage devices, are intermixed with new devices.

Again, we could not find any specific campus-wide standards, so it is unclear what the overall campus strategy is as it relates to access control and video surveillance across campus. The table below clearly shows that while video surveillance is reported as being adequate, access control is severely lacking

BSU Physical Security Systems					
Building General Information				Adequate Building Access Control	Adequate Building Video Surveillance
Building Name	University or Residence Building	GSF	Year Constructed	Y / N	Y / N
James E. Proctor Jr. Building	University	101,193	2000	N	Y
Thurgood Marshall Library (TML)	University	166,869	1977	N	Y
William E. Henry Administration Building	University	37,396	1976	N	Y
Martin Luther King Jr Communication Arts Center	University	149,374	1973	N	N
Center for Business and Graduate Studies	University	66,000	2007	N	Y
Charlotte Robinson Hall (CRH)	University	31,534	1960	N	Y
Computer Science Building	University	47,000	2002	N	Y
Facilities Management Building	University	29,613	1967	N	N
Fine & Performing Arts Center (FPAC)	University	123,475	2011	N	Y
Goodloe House	University	3,815	1916	N	N/A
Leonidas S. James Physical Education Complex	University	102,135	1973	N	Y
Field House	University	7,909	1992	N	Y
Theodore McKeldin Gymnasium	University	21,142	1957	N	Y
Student Center	University	95,503	2013	N	Y
Center for Natural Sciences, Mathematics and Nursing	University	149,109	2016	Y	Y
Towers Residence Hall	Residence	40,828	1973	N	Y
Alex Haley Residence Hall	Residence	90,855	1994	N	Y
Dwight Holmes Residence Hall	Residence	21,779	1951	N	Y
Christa McAuliffe Residential Community	Residence	185,240	2002	N	Y
Lucretia Kennard Residence Hall (LKR)	Residence	22,646	1957	N	Y
Harriet Tubman Residence Hall	Residence	33,282	1921	N	Y
Goodloe Apartments (4 units)	Residence	5,946	1954	N	N/A

SUMMARY

The technology systems at BSU continue to be in a state of flux. There are no real technology standards for any of these systems, and while the designs for newer buildings are making valiant efforts to include appropriate infrastructure and supporting technologies that are more current, there are no real guidelines for how systems should be designed or implemented. It has been reported that lack of funds is a big factor in many of these inadequacies. This is clearly evident with the newest building, the Entrepreneurship Living Learning Community currently under construction and scheduled to be completed in July 2021. After the initial design had the new building connecting to the Library (as would seem appropriate), it was decided that the fiber connection directly to the Library was too costly and would need to be changed to a closer building (Charlotte Robinson Hall).

While many of the active components of the voice and data networks continue to evolve and contain some redundancy and off-site data storage, the fiber backbone supporting them is not very robust and does not provide any protection should any segment of the network be damaged. Also, the current network equipment implemented throughout the campus is at its end-of-life and will soon require an upgrade for it to be properly supported.

Telecommunications rooms in the newer buildings seem to be adequately sized to provide support for a variety of equipment, but this continues to be a challenge with each new project, as well as in older buildings. Critical backbone components housed in these rooms (e.g. Lucretia Kennard Residence Hall) are often working in environments that are not conducive to maintain proper network connectivity. The upgrade of the most critical of these spaces should be immediately addressed.

While wireless connectivity has been reported as currently adequate, it will be important for BSU to continue to expand their wireless network so they can meet or stay ahead of the likely growth of user expectations, expansion of on-line learning and cloud-based applications, and the ever increasing number of wireless devices that want to connect to the network.

SUSTAINABILITY, CLIMATE ACTION, RESILIENCY, AND WELL-BEING



INTRODUCTION

Bowie State University is already making great sustainability strides. Their commitment and implementation of various initiatives on campus has resulted in many substantial achievements over the last several years. They recognize the importance of stewardship, responsibility, accountability, and leadership on global environmental issues and challenges. They acknowledge that addressing resiliency in addition to climate action and sustainability can yield positive effects on the environment, ecology, economy, equity, and the overall health and well-being of their campus and its occupants.

CAMPUS AND STRATEGIC PLANS

STRATEGIC PLANS

Sustainability is specifically referenced in the mission and goals of the following strategic plans.

Division of Administration & Finance Strategic Plan FY 19-22

- Mission: The Division of Administration and Finance will provide operational support service including stewardship of our physical and financial resources that ensures a foundation for student and institutional success.

'Racing to Excellence' Strategic Plan FY19-24

- Goal 5: Ensure Long term viability - to advance strategic priorities that create a sustainable future for the university, the county, and the State of Maryland.
- Objective 5.7 5.7 Sustainability and facilities development - Continue to develop a campus infrastructure that supports a commitment to eco-friendly practices in expanding facilities that enhance student development and innovative instructional practices.

CLIMATE ACTION PLAN (CAP)

Published October 2009 (Planned update late Spring 2020 with Resiliency)

PEOPLE – ENGAGEMENT AND OUTREACH



Bowie State University



The Power is in the Green



PEOPLE AND ORGANIZATIONS

- C4, Climate Commitment Coordinating Committee (est. 2007) (Previously BEST, BSU Environmental Sustainability Team)
- ELLC, Entrepreneurial Living Learning Community, (Entrepreneurship Academy)
- Student Green Ambassador Program (est. 2013)
- Keeping Bowie Clean – Student Group
- Plans to establish an annual paid student internship / work study job
- Collaboration (AASHE conference, 2016; Community Resilience Report, 2016; Global Entrepreneurship Week Panel Discussion, 2019)

ENGAGEMENT AND OUTREACH

- **Events:** Earth Week/ Earth Day Programs (since CAP ~2007), Poetry Slam (5 years), Food Day (8 years), Green Expo (3 years), Campus Clean Ups
- **Commitments:** Presidents Climate Commitment (Second Nature); White House Act on Climate Pledge (Paris Climate Agreement); Electronic Pledge (2019)
- **Sustainability Fee:** BSU Green Fund (est. in 2012 at \$2)

INFORMATION SHARING AND TRANSPARENCY

- Website and Resources (Waste web page – Recycling Info, Accomplishments, Tips, Facts)
- Newsletters
- Access to Sustainability Library Resource (Libguide)
- Dashboards (Energy: Student Center, Fine Arts, Solar) (Sustainability CNSMN, Student Center)

ACADEMICS

- No existing campus wide mandate, program, or degree.
- Existing C4 faculty members inclusion of sustainability into curriculum and a few other instructors

HEALTH AND WELL-BEING

- Wellness and Fitness Center (in separate buildings)
- Trails (WB&A (Washington, Baltimore and Annapolis) Trail; Horsepen Park Trail (MNCPPC))
- Bikeshare program
- Cycling Club
- Retrofits of some water fountains for bottle refilling

SITE, GROUNDS, AND LAND USE



OVERVIEW

- 303 total acres
- 80% pervious open space, including campus core and conservation areas (forest reserve and wetlands)
- Only 18% (44 acres) is buildable land

PEOPLE SPACES

- Existing Green Plaza (Student Center Quad)
- Existing people charging stations (Bus stop, benches, tables)

SITE LIGHTING

- Existing Parking Lot Lighting – 50% replaced with LED
- Existing Site Lights - reduce Light Pollution

VEGETATION AND IRRIGATION

- Existing beautification program (Steam Plant)
- Existing football field converted to artificial turf
- Existing Irrigation on campus

RAINWATER / STORM WATER

- Existing Goal By 2022– 40% reduction in TSS from 2006 (CAP)
- Existing green roof and rain gardens (Student Center)

SANITARY/ WASTEWATER

- Off site with WSSC, Washington Suburban Sanitary Commission

TRANSPORTATION AND PARKING



WALKSCORE OVERVIEW

- Walkscore: 3, Car Dependent – Almost all errands require a car
- Transit Score: 30, Some Transit – A few nearby transportation options
- Bike Score: 15, Somewhat Bikeable – Minimal bike infrastructure

CAR AND PARKING USAGE

- Existing Car Usage Data: 96% Staff, 61% Faculty, 39% Students (CAP)
- Existing Parking Data: 3,189 parking permits (2017), 2024 parking spaces (without Lot I)

CAMPUS FLEET

- Existing hybrid, electric, and fuel-efficient multi-passenger vehicles

BICYCLES

- Existing bicycle racks (at all Residence halls and most Academic buildings)
- Existing bicycle club (est. 2015)
- Existing bikeshare program (est. 2019)

PUBLIC TRANSPORTATION

- Existing Shuttle Service (Bulldog Shuttle)
- 10% student discounts with MARC train

ALTERNATIVE TRANSPORTATION

- Existing Carpool and Rideshare
- Existing ZipCar program (4 total)

ALTERNATIVE PARKING

- Existing electric car charging stations (8 total)
- Existing 20% parking discounts for fuel efficient / hybrid/ electric vehicles



ENERGY AND CARBON

EXISTING ENERGY AND CARBON GOALS

- Existing Goal by 2021 - Carbon Neutrality
- Existing Accomplishments: 15% reduction since 2007 and 40% reduction over 12 years
- Existing Goal by 2022– 20% reduction in Electricity from 2006 baseline (CAP)
- Existing Goal by 2022– 20% reduction in Fossil Fuel Heating from 2006 (CAP)
- Existing Carbon Footprint / Greenhouse Gas Inventory/ Reporting (Appendix IV of CAP)

RENEWABLE ENERGY

Overview: Seven sites and 18% of total campus electrical power

- Large scale solar panel system with WGL energy (10% of campus)
- Roof Mounted PV (Student Center and FPAC) (2% of campus)
- Solar Canopy (Parking Lot I/J) (7% of campus)
- Solar Charging Stations (Bus Stop, Smart landscape tables, benches)
- Solar Hot Water (swimming pool)

BUILDINGS AND INDOOR ENVIRONMENTAL QUALITY (IAQ)

EXISTING BUILDINGS

- Existing aging facilities
- Some efficient upgrades (including doors / windows / lighting / MEP / plumbing fixtures)
- No individual metering (except for gas)
- 90% of campus buildings - building management with Johnsons Controls

NEW BUILDINGS

- MD High Performance Building Bill requires LEED Silver
- Existing buildings exceed minimum requirement (Platinum - CNSMN; Gold - Student Center)

INDOOR ENVIRONMENTAL QUALITY, IAQ

- Existing green cleaning products being used in all buildings



WASTE AND RECYCLING

Existing Goal by 2022 – 30% reduction in Solid Waste from 2006 (CAP)

STRATEGIES

- Solar compactor trash bins
- Recycle bins in all academic buildings and now multi-recyclers in Residence Halls
- Co-mingled recycling collection (Not coordinated or consistent across campus and in buildings)
- Paper use reduction programs (no paper contracts/ salary letters)
- Florescent bulbs, ink cartridge, and toner recycling program

ORGANIZATIONS AND OUTREACH

- KBC, Keeping Bowie Clean (monthly campus wide clean ups)
- ELLC, Entrepreneurial Living Learning Community (Entrepreneurship Academy)
- Keep Our Campus Clean (Planned campus wide recycle motivation campaign, Spring/ Fall 2020)
- Planned Recycle Task Force (from Newsletter)

EVENTS

- Residence Halls participation in Recycle-mania competition (have not participated in 2-3 years)
- Annual Shred Day since ~2008, (9,000 lbs or 4.5 tons collected in 2019)
- Clean Up Days (exists, but not consistent)
- Homecoming Clean Up Day, est. 2018, (2,300 lbs or 1 ton of trash collected in 2019)

DINING HALL AND FOOD

PROGRAMS

- Existing Tray-less Cafeteria, (est. 2013) (Student Center)
- Existing Food Pantry Program (Food Lion) (Expanded in 2019/2020)
- Planned Future Community garden / Fruit trees / Garden Committee

EVENTS

- Food Day (8 years)
- Mid Atlantic Food Recovery Summit (2018)

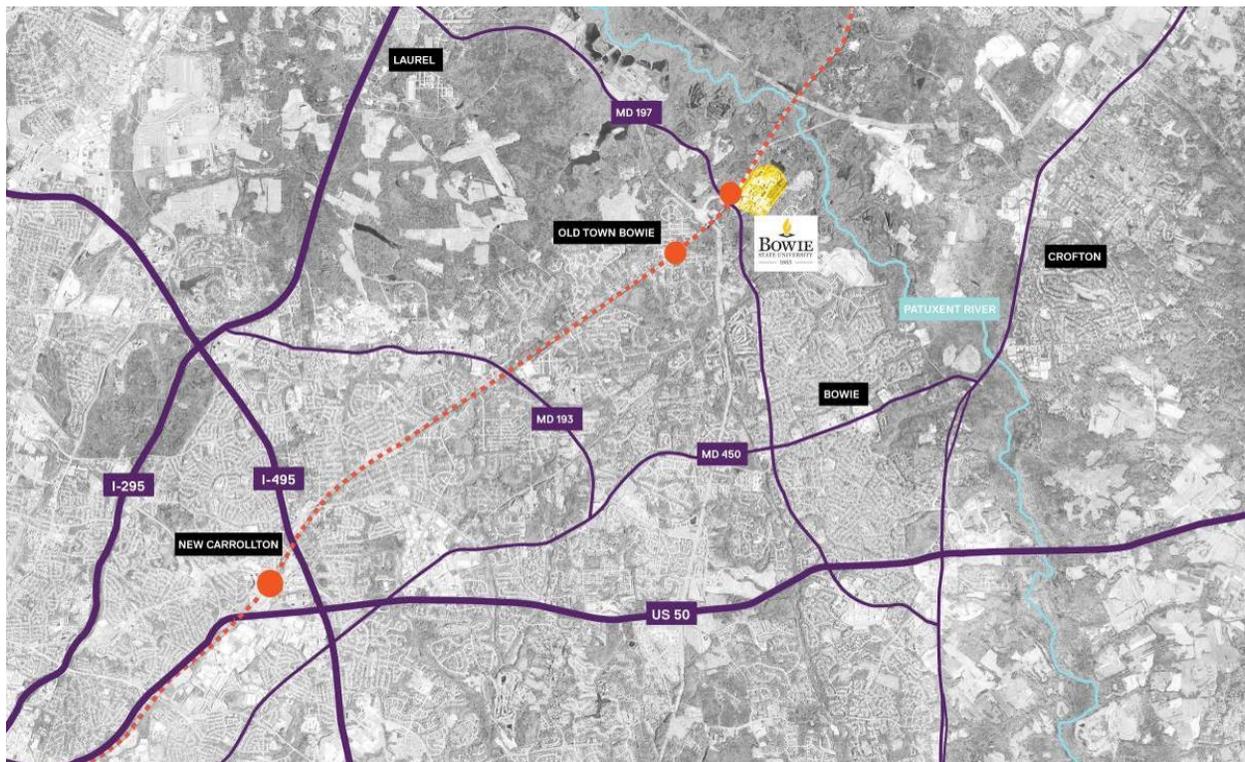
SITE ANALYSIS

COMMUNITY CONTEXT

Located in northeastern Prince Georges County, Bowie State University is situated centrally in the Baltimore / Washington / Annapolis metropolitan area. The campus is easily accessible to the region by road and heavy rail. The campus has direct access to Maryland Route 197, an arterial road with access to the Baltimore-Washington Parkway I-295, a major highway corridor linking Baltimore and Washington. The BSU MARC station (regional commuter rail line) is located southwest of the campus and provides quick and direct access to both Washington DC and Baltimore. Four METRO bus lines provide connections between the University and Bowie Town Center as well as New

Carrollton Station, with METRO subway, MARC and Amtrak rail service. The City of Bowie and Old Town Bowie are in close proximity to BSU.

Despite its access to the metropolitan region, the area has retained a rural character, with significant areas of permanent environmental open space to the north and west, including the Patuxent National Wildlife Research Refuge, the Fran Uhler Natural Area and the Patuxent River Park. Surrounding residential neighborhoods are typically low-density single-family homes. This rural, picturesque setting contributes to the sense of isolation of the campus.



BSU Campus Context

EXISTING CAMPUS



- 1 Center for Business and Graduate Studies
- 2 Martin Luther King Jr. Communication Arts Center
- 3 Williams E Henry Administration Building
- 4 James E Proctor Jr. Building
- 5 Harriet Tubman Residence Hall
- 6 Theodore McKeldin Gymnasium
- 7 Leonidas S James Physical Education Complex
- 8 Track and Field
- 9 Softball Field
- 10 "Bulldog" Football Stadium
- 11 Field House
- 12 Tennis and Basketball Courts
- 13 Alex Haley Residence Hall
- 14 Towers Residence Hall
- 15 Dwight Holmes Residence Hall
- 16 Christa McAuliffe Residential Community
- 17 Lucretia Kennard Residence Hall
- 18 Center for Natural Sciences, Mathematics and Nursing
- 19 Thurgood Marshall Library
- 20 Student Center
- 21 Computer Science Building
- 22 Charlotte Robinson Hall
- 23 Fine & Performing Arts Center
- 24 Goodloe Apartments
- 25 Facilities Management Building
- 26 Central Steam Plant
- 27 Goodloe House
- 28 Entrepreneurship Living Learning Community
- A Parking

CAMPUS ORGANIZATION AND LANDSCAPE CHARACTER

The overall character and physical setting of the Bowie State University is an important asset to be preserved. The approximately 300-acre campus is surrounded and framed by wooded open space. Internal to the campus, well-maintained landscaped quads, lawns and courtyards create a comfortable academic environment. The site is gently rolling and sloping down to the Patuxent River north of the campus. There is a topographical change of over 80 feet from Jericho Park Road to the northern portion of the Loop Road.

The northern edge of the University includes a swath of contiguous forest land along the Patuxent River. Wetlands, floodplains and storm water ponds inundate this landform. The parcel southeast of Jericho Park Road contains a forest stand along the steep slopes of a stream valley. The western portion, at the of this forest, at the intersection of Jericho Park Road and MD 197, is being developed for the Entrepreneurship Living Learning Residences Halls. Portions of both forest stands are dedicated Forest Conservation Areas, created to meet the requirements of the State of Maryland forestation requirements.

The main campus, north of Jericho Park Road, is organized into three distinct zones from south to north, the academic core surrounding Henry's Circle, the residential cluster north of the academic core and the athletic fields beyond. The main campus is surrounded by parking lots and a perimeter road system- Loop Road and Jericho Park Road.

The new Entrepreneurship Living Learning Residences will establish a front door to the campus on the southside of Jericho Park Road outside of the main campus. This building in addition to the tall masonry gateway walls and signage provides greater visibility of the university from MD 197.

Henry Circle, a one-way drive circling an attractive open space and pond, creates the fore-court to the academic core. Well landscaped spaces between the Center for Learning and Technology (CLT), Henry Administration Building, and the Thurgood Marshall Library are comfortable and welcoming portals into the campus.

The "heart" of the campus is the Western Courtyard, a pedestrian quadrangle, formed by the Center for Learning and Technology, the Henry Administration Building, the Library, Tubman Residential Hall, Kennard Residential Hall and Center for Natural Sciences, Mathematics and Nursing Building. The tall Obelisk with its eternal flame and location on high ground is the focus of quad. The gently sloping space features curvilinear paved walkways, small gathering spaces, sculptures and shade trees. This central campus space is picturesque and well-maintained.

Holmes Plaza, an open lawn framed by Holmes and Kennard Residence Halls and James Physical Education Complex and the McKeldin Gym continues the pedestrian realm. The broad lawn is used for intramural and informal field sports. Additional shade trees are needed to reinforce the formal arrangement of this quad.

The Student Center Quad framed by the Student Center, the Library, Center for Learning and Technology and Center for Natural Sciences, Mathematics and Nursing is open lawn with terraced seat walls along the northern edge and a bioretention facility on the southern edge. Shade trees are young and will eventually help fill the space and provide shade.

ENVIRONMENTAL FEATURES

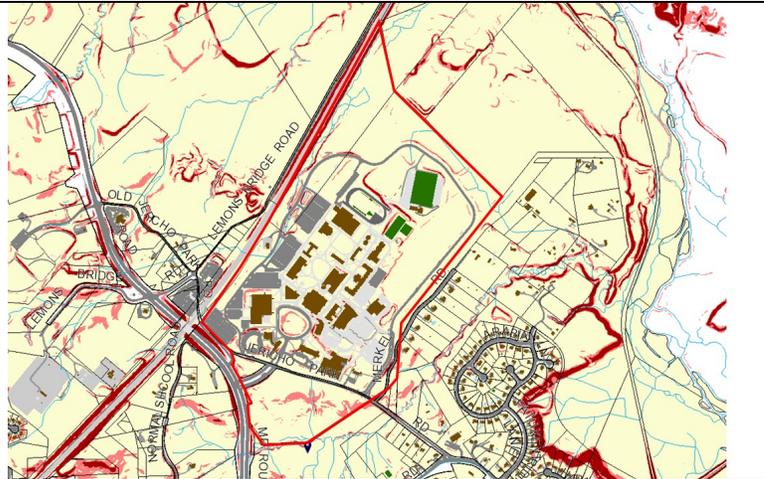
The campus is located along the edge of the Patuxent River corridor, a major watershed of the Chesapeake Bay. The core of the campus between Jericho Park Road, Route 197, Amtrak right-of-way and within the Loop Road is largely previously disturbed. Land area is available within this core area for future campus expansion and development.

The southeast corner of the campus, south of Jericho Park Road is largely undisturbed, forested and includes significant grade changes and steep slopes. At the base of this slope is a forested stream corridor. This area is not easily accessible for development and should remain undisturbed.

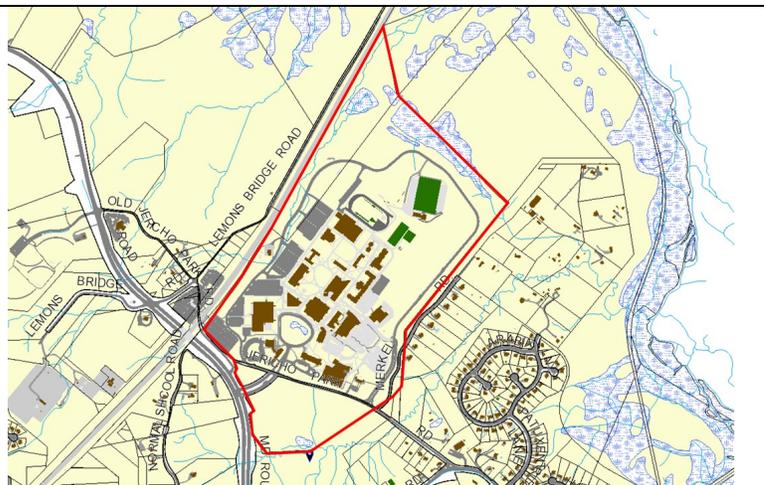
The land north of the Loop Road is the lowest portion of the campus. It collects stormwater from the campus into an extensive ecosystem of streams, ponds and wetlands. The land is forested with a few unpaved roads leading towards the Patuxent River further north. Development should be limited within this area, particularly avoiding impacts to drainage patterns and impacts to wetlands.



Stream Corridor (source: PG Atlas)



Steep Slopes (source: PG Atlas)

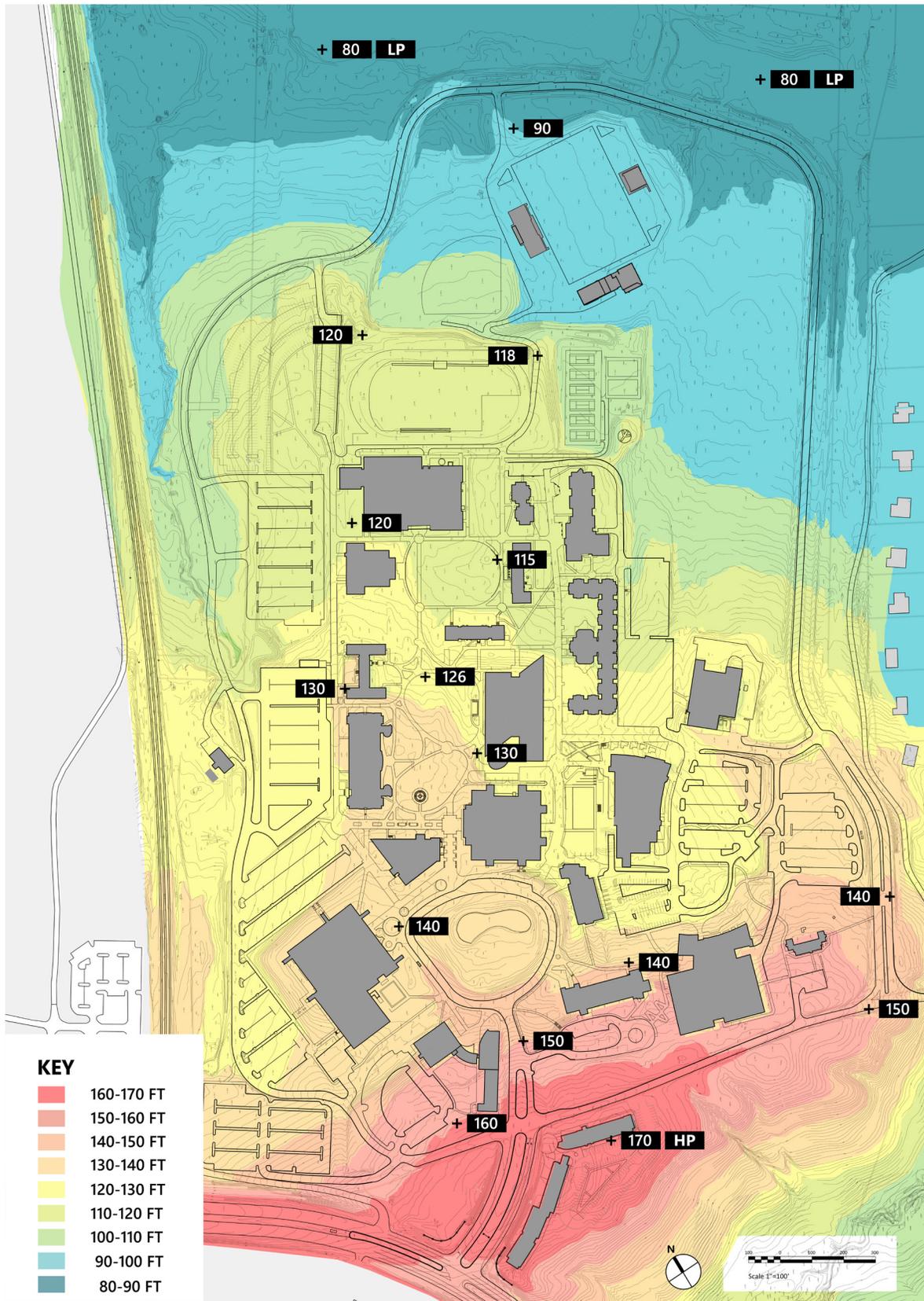


Wetlands (source: PG Atlas)

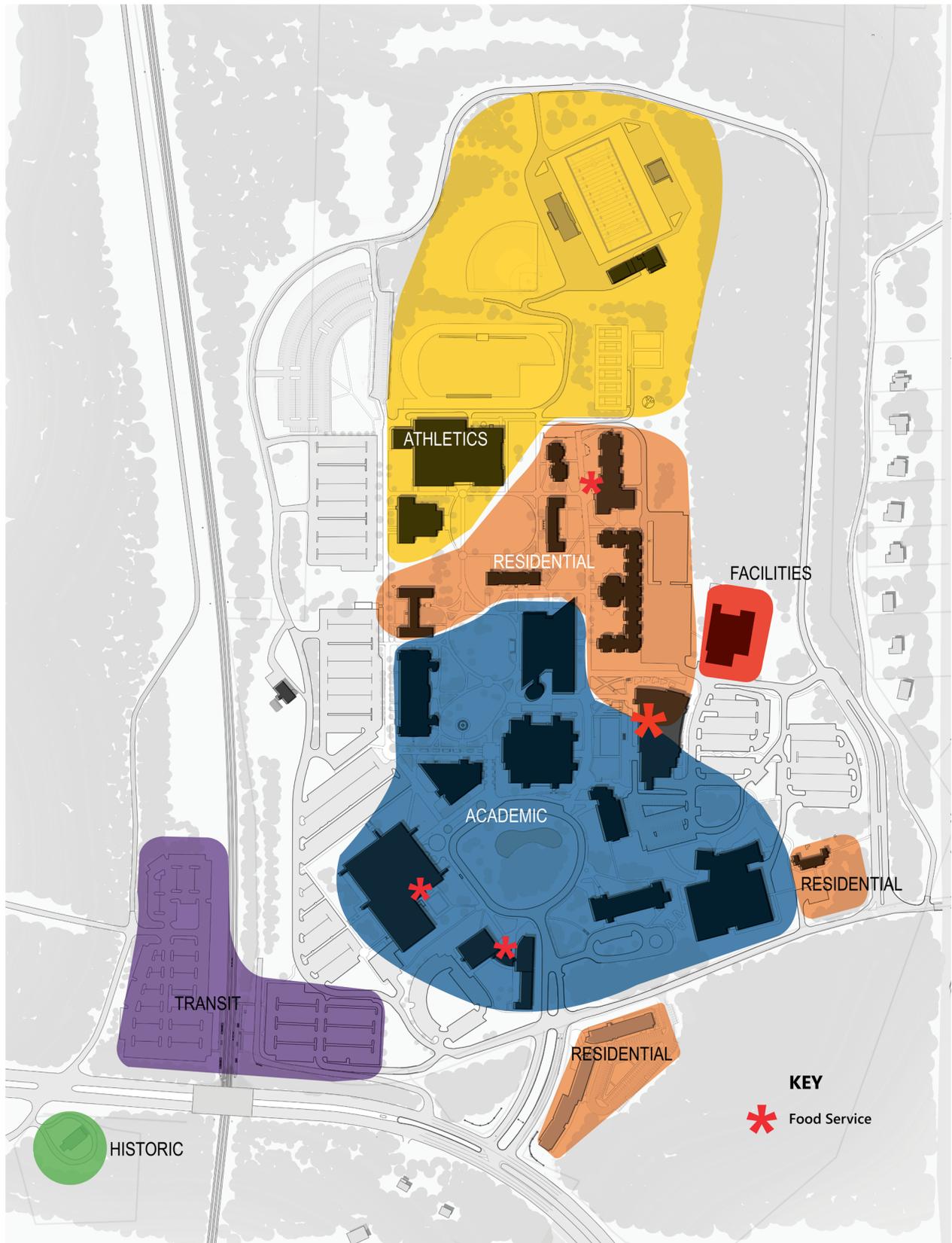
OPEN SPACE DIAGRAM



TOPOGRAPHY DIAGRAM



CAMPUS ZONES DIAGRAM



VIEWS OF CAMPUS



Sculpture and landscaping in West Courtyard



Pond and open space at Henry Circle



Access road leading to Student Union Terrace and campus core



East Promenade view towards northern terminus (Residential area)



East Promenade view towards southern terminus (Computer Science Building)

VIEWS OF CAMPUS



Gathering space around sculpture in West Courtyard



Walk looking north from Holmes Plaza (near McKeldin Gym)



Holmes Plaza (lawn in front of McKeldin Gym)



Entrance to Harriet Tubman Residence Hall



Plaza at MLK



Landscaped pedestrian promenade near Henry Building

PEDESTRIAN CIRCULATION

The pedestrian system is primarily organized along three north-south corridors, a central meandering pathway system through the West Courtyard into Holmes Plaza and two wide straight promenade walkways. Secondary east-west connections link the buildings, open spaces with parking fields. These three pedestrian corridors originate at the northern side of Henry Circle, where METRO buses and visitor parking are located. The red brick paver palette of these corridors extend to Henry Circle creating a welcome mat for visitors.

The network of walkways of the West Courtyard provide a scenic and comfortable pedestrian route linking Holmes Plaza to Henry Circle and the many buildings surrounding this corridor. Small seating areas and plazas reinforce building entries as well intersections of paths. Public art is integrated into the landscape providing a layer of cultural meaning. The paths vary in width but have a consistent materiality- running bond pattern of assorted neutral red bricks edged with concrete edging.

The West Promenade is a wide path lined with shade trees providing a straight pedestrian access from MLK Jr. Communication Arts Center to James Physical Education Complex. The West Promenade separates the campus core to the east from the surface parking lots to the west. People entering the campus from parking lots cross this corridor. This wide path accommodates small service vehicles. There are two different material patterns. The path adjacent to James E Proctor Jr. Building consists of a simple pattern of scored squared concrete, whereas the pathway north of the Proctor Jr. Building consists of a wider scored concrete pattern flanked by a wide red brick panel.

The spaces between buildings linking the promenade to the interior of the campus are similar in appearance. There is a lack of a strong gateway into the campus from the west. Future development or site improvements could help establish a portal from the west side of the campus, as well as improve the spatial definition of the promenade.

The East Promenade originates at the base of the stairs descending from Henry Circle east of the Library and proceeds north ending at chain link fence line near Towers Residence Hall. Unlike the Western Promenade, this pathway is framed by a variety of buildings and links a variety of different open spaces, plazas, lawns and cross pathways. The composition of these pedestrian elements active the pathway, creating a lively experience where people can casually meet, be social and play. The material palette consists of pattern of scored concrete flanked by a wide running bond brick panel.

East-west pathways are evenly dispersed creating a simple grid over the north-south corridors. The wide, well-landscaped parallel pedestrian pathways along the north side of the Student Center links Parking Lot O and P with the interior of campus, linking activity centers, such as the Student Union and Library. Integrated stormwater management adds a layer of hierarchy to this east-west corridor. The pathway is typically scored concrete but introduces brick pavers to accent the surrounding landscape. The corridor unceremoniously terminates on the overly functional Facilities Management Building and surface parking lots.

The Center for Business and Graduate Studies, Charlotte Robinson Hall, Fine and Performing Arts Center, Goodloe Apartments and the new Entrepreneurship Living Learning Community are physically separated from the campus core. The separation is exacerbated by the combination of slopes, natural features (forest stands and pond), roads, service and surface parking areas and poor sight lines.

Parking Lot K prevents the formation of a clear and direct pedestrian link between the campus core to the Fine & Performing Arts Center and southeastern corner of the campus. Site improvements and campus development can improve visual and physical connection in this area can better integrate the Fine & Performing Arts Center to Student Center Quad and campus core. Additionally, sidewalk and open space improvements along Jericho Park Road will need to address connections between the Entrepreneurship Living Learning Community and the Arts Center.

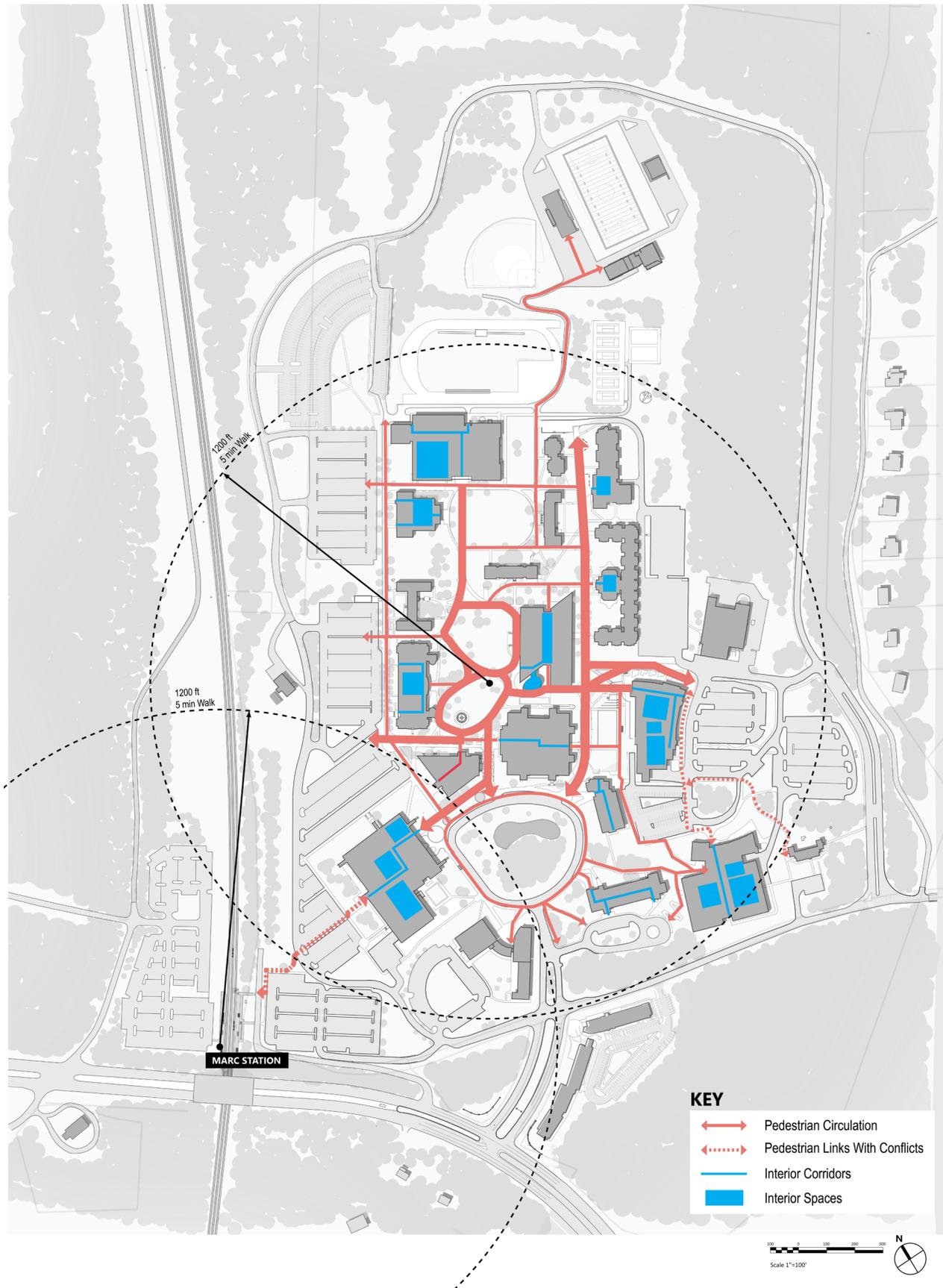


The Athletics precinct on the northern end of the campus is located beyond a 5-minute walk from the West Courtyard and downhill. The north-south corridors do not extent into this area. The northern ends of both promenades link to secondary walkways leading to athletic facilities. These paths are not reinforced by landscape, signage and building forms. The paths are a different material, asphalt, and lack site furniture. The procession from the campus core to the stadium and fields is not ceremonial.

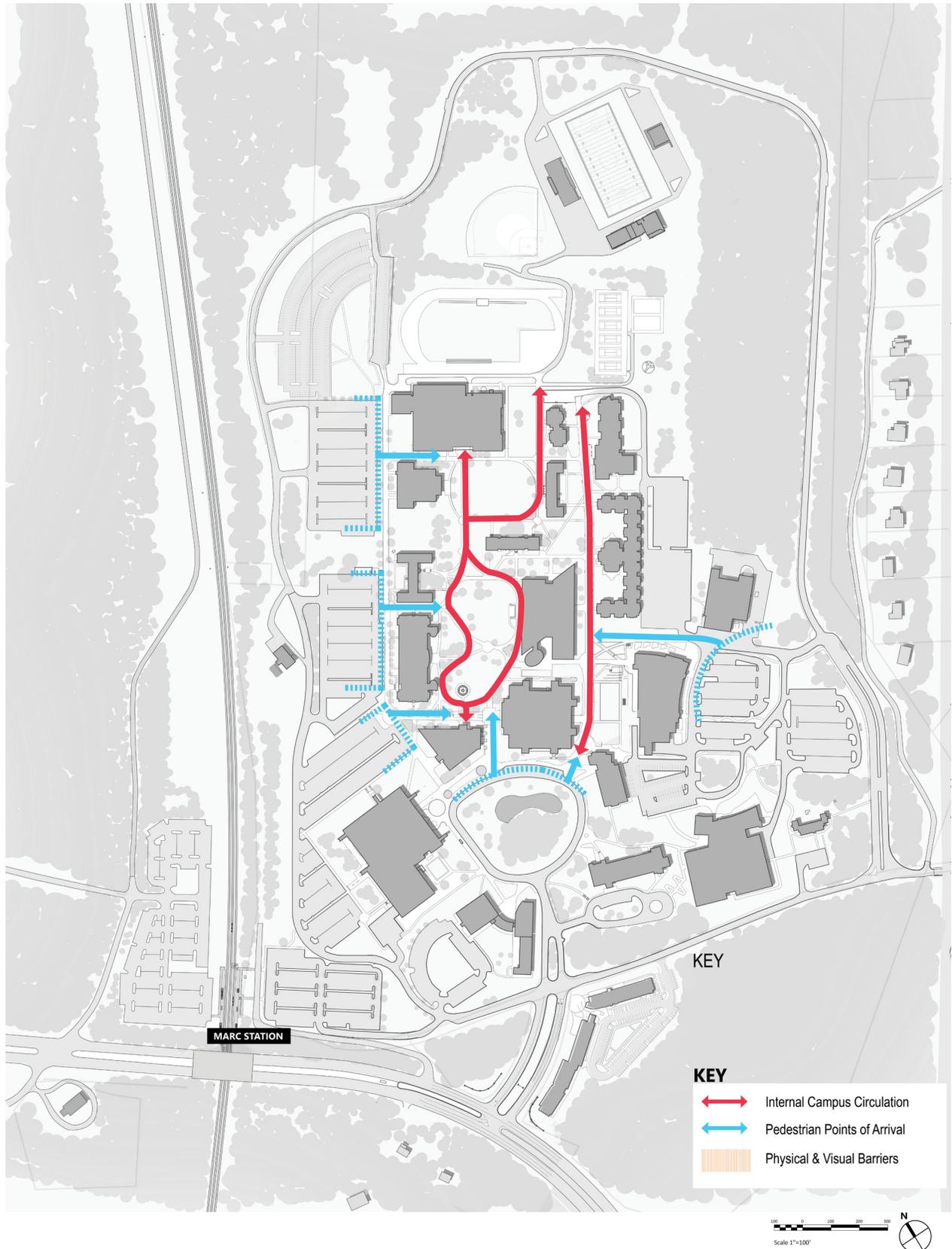
The MARC station is an important gateway between Bowie State University and the world. Surface parking lots decrease the quality and experience of the pedestrian connection between the station and campus core. Improved pedestrian accommodations are needed between the MARC Station and the center of campus to support ridership of this important service.

The campus is an important nexus between two trail systems- the Bowie Heritage Trail from the south and the WB&A trail from the north. Connections to these systems will enable greater regional bike and pedestrian access and recreational opportunity for campus constituents. The Loop Road sidewalk provides recreational circulation around the campus and helps link the campus to the northern wooded area. There are significant gaps in the sidewalk, particularly along the western side of the loop, that prevent this recreational system from being easily accessible and complete.

PEDESTRIAN NETWORK DIAGRAM



CAMPUS EDGES & CONNECTIONS DIAGRAM



BIKE NETWORK

The location of this compact walkable campus at the edge of a rural setting does not help foster a culture of commuter cycling that is experienced on larger, urban campuses such as the University of Maryland, College Park. Regional trails, such as the WB&A trail, and scenic country roads, offer cycling opportunities particularly for recreation. The development of regional trails and bike infrastructure around campus will help support a cycling as an alternative mode of infrastructure. The Bowie Heritage Trail, in development, will offer multi-use trail connection between the campus, old Bowie, and WB&A Spur Trail.

BSU continues to improve bike infrastructure and a culture on campus. Bike racks are located at residential halls and most academic buildings. The BSU Bike Share program enables people to rent a bike, helmet and locks, free of charge. As bike culture grows BSU should be prepared to expand infrastructure to support commuter users. Facilities may include shower and changing facilities with locker storage, bike repair center and weather protected bike lockers.

VEHICULAR CIRCULATION

The main entrance to Bowie State University is from Maryland Route 197. The entrance is marked by large brick monument walls framing a divided boulevard into the campus. The future Entrepreneurship Living Learning Community Building will further strengthen the sense of arrival to the campus from Maryland Route 197. Once inside this gateway the first four-way stop intersection at Jericho Park Road is chaotic with multiple vehicular turning movements and limited space and time for drivers to make directional decisions. This intersection may get more confusing when pedestrians will need to cross Jericho Park Road.

The eastern portion of the Loop Road from Jericho Park Drive is a divided boulevard, and then narrows to a two-lane road. Visitors must make

a left turn onto Campus Drive to access parking lots. This transition of Loop Road and necessary left turn feels temporary and unresolved. Campus Drive brings people directly to the Student Center and a major east-west pedestrian connection into campus. It is a front approach for many regular constituents and visitors. However, this sequence feels more akin to a back-door approach as drivers must navigate multiple confusing intersections and end up in front of the garage doors of the Maintenance Building.

Vehicular access to the athletic fields is from the Loop Road. Parking is limited in this area. When necessary parking on the lawn is permitted for stadium events, but typically reserved for event personnel.

No handicapped parking accommodations are evident near the stadium. Recently completed Lot J provides parking closest to athletic facilities. There is not a direct walking pathway between this parking lot and athletic fields and stadium. A winding and steep service access lane links the stadium with James Physical Education Building.

Parking lots F, E, D, C are not physically separated from the Loop Road. Drive aisles connect directly to the Loop Road creating multiple vehicular conflict points within short distance of each other, thereby potentially creating unnecessary congestion.

The recently constructed solar arrays over parking lots provide shaded parking spaces helping to reduce urban heat islands. Many other parking lots have limited landscape and tree canopies to reduce urban heat. Sidewalk connections are typically limited to the inner edges of the parking lots, requiring pedestrians to walking down drive aisles to get to the campus.

While there are sufficient parking spaces based on requirements, the distribution is not balanced with the demand, in particular near the academic and residential areas.

WAYFINDING

Wayfinding relies on visual and informational cues such as signs, maps and physical forms to reinforce navigation to or through a place. The clarity of this system helps support the identity of an institution and provide comfort for the visitor's experience. For visitors, wayfinding may start on-line with the review of information and maps of the campus. Online written directions are clear and brief, but end after directing visitors to turn Jericho Park Road. From that point on visitors must rely on a 2-D map to navigate. Visitors are required to register their vehicle. Visitor parking registration can be acquired at Robinson Hall and McKeldin Gymnasium. Parking at Robinson Hall, Lot RC, has limited space and can quickly be full.

The campus is accessible by train, bus and car. The arrival by bus places visitors at the core of the campus, where a campus map sign, directional signage and building labels are present to welcome an arriving visitor. The MARC train station is clearly named Bowie State University. The pedestrian experience between the station and campus is less than desirable. Visitors traverse parking lots and enter behind or through buildings to get to the campus.

There appears to be limited directional signage for Bowie State University prior to Exit 11 in both directions along the Baltimore-Washington Parkway to alert motorists to take MD-197 to the campus. The 5-mile journey along MD-197 is generally scenic through the Patuxent wildlife preserves and park spaces, reinforcing the bucolic setting of the campus. There are few directional signs along MD-197 to guide and assure visitors they are approaching the University.

The flanking masonry piers and site walls at the intersection of Jericho Park Road and MD-197 announce the arrival to the campus. This highly visible gateway directs visitors to enter towards the campus on Jericho Park Road. The pull-over lane in the median of Jericho Park Road provides a safe place for a driver to review a campus map. The next intersection is a four-way intersection

with a variety of visual information and multiple turning movements to create confusion for a first-time visitor. A directional sign is located on the right-hand side of the Jericho Park Road immediately at the intersection, providing limited time for a motorist to react to the information. The natural inclination for a visitor would be to proceed straight to Henry Circle, however there is limited visitor parking on the loop.

The Student Center and the Fine and Performing Arts Center are located east of the campus core. Both facilities are destinations for future students and visitors from the surrounding community. However, obtaining a visitor parking pass must be obtained on the other side of the campus. Directional signage along Jericho Park Road and East Loop Road help direct visitors to these destinations. Motorists are required to make a series of left turns to arrive at a cluster of parking lots with multiple drive lanes and parking access points. This sequence of is not intuitive for first time visitors.

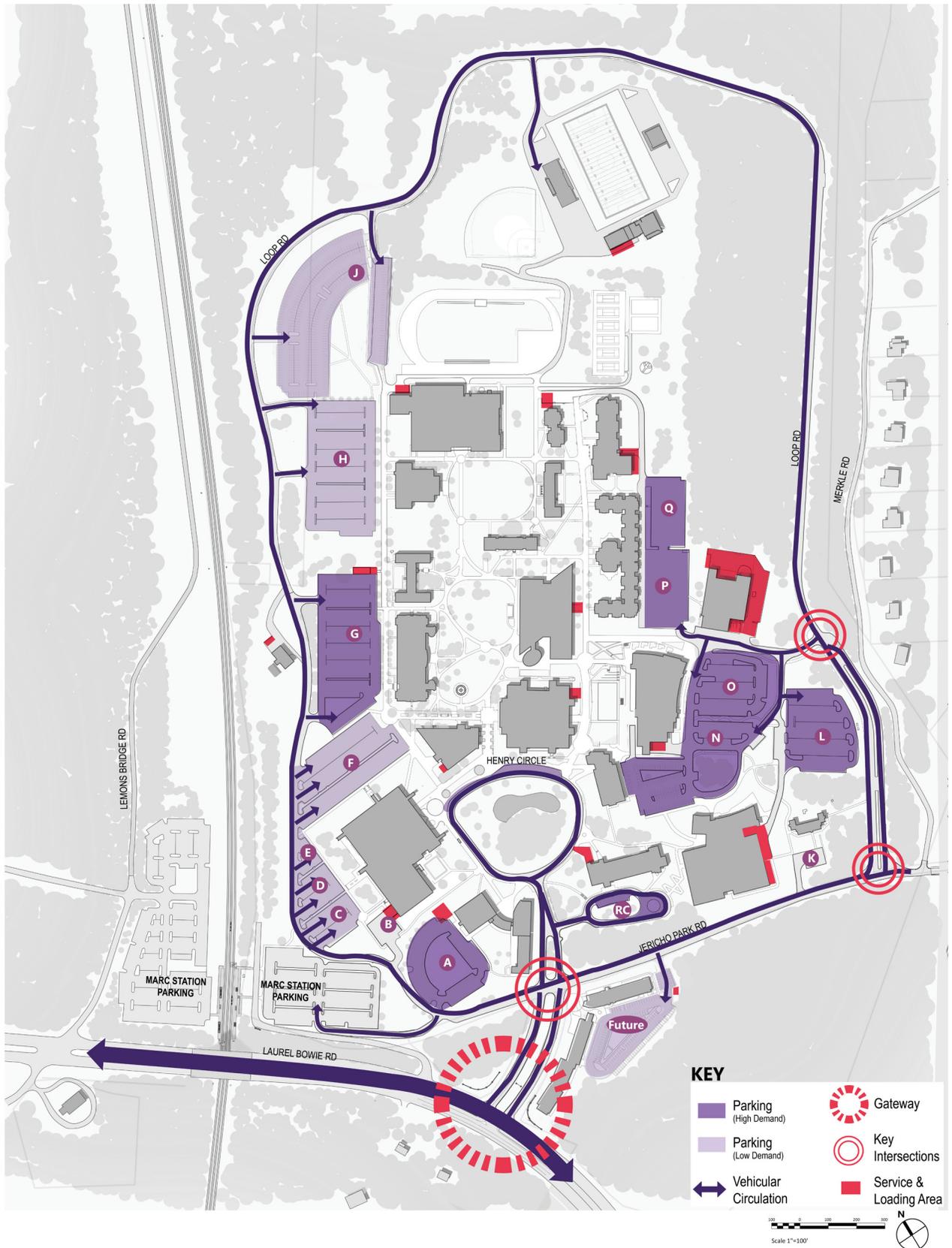
Internal to the campus the landscape and open spaces support the clear organization of the University. In general, there is a consistent language of site furniture, lighting fixtures, banner posts and paving materials to create a common campus identity.

Buildings are identified by landscape signs as well as labeled directly on the building. The building mounted signs vary in size, location and color and tailored to address the background surface of the building. Direct mounted letters are less successful to read when the building surface is patterned and textured.

The site signage family is uniform in appearance, coordinated and articulate the University's brand.

Campus street and walkway name signs are branded with the school's color, reinforcing the identity of the University.

VEHICULAR SYSTEM DIAGRAM



VIEWS OF CAMPUS CIRCULATION



Fraternity plot seating area



Western Promenade view south



East Promenade view north (near Haley Residence Hall)



Western Promenade view north



Paving area along Thurgood Marshall Library



Stairs leading to Fine and Performing Arts Center

VIEWS OF CAMPUS CIRCULATION



Solar panel covered parking lots



MetroBus stop near MLK Center



Bioretention facility adjacent to Student Commons

ATHLETIC AND RECREATIONAL FACILITIES

The indoor and outdoor athletic facilities are located on the northern portion of the campus and include a track and field, six tennis and two basketball courts, a softball field and the football stadium. The track is located adjacent to the James Physical Education Building. Site slopes significantly, with the courts and softball and football fields at a much lower elevation. There are no additional practice fields.

While located in an attractive setting surrounded by woods, the athletic area lacks organization and

pedestrian amenities. The stadium lacks a sense of arrival, or ceremonial entrance. The stadium complex is surrounded by vast areas of asphalt paving and tall chain link fencing and lacks a strong identity from the Loop Road or from the interior of the campus. The softball field has limited spectator seating, particularly accessible seating.

The physical connections between the campus and the athletic precinct are understated and do not promote school spirit and traditions.

IEWS OF ATHLETICS FACILITIES



Bulldog Stadium



Tennis courts



Slope between Track and Football field



Walkway / service drive to softball field



Track

OFF-CAMPUS OPPORTUNITIES

GOODLOE ALUMNI HOUSE

The 3-acre Goodloe Alumni House site is located at the corner of Lemons Bridge Road and Maryland Route 197. Although the site is less than a ½ mile from campus, it is separated by Maryland Route 197 and the Amtrack/MARC rail right-of-way. Today the house provides space for the Bowie State University National Alumni Association.

This historic farmhouse was built in 1915 on the edge of a hilltop overlooking the Maryland Route 197. The site is open with a few mature trees around. The perimeter of the site is enclosed on two sides by a forest stand. The forest buffers the house and lawn from PEPCO right-of-ways, power

substation yards, and the railroad line. Overhead high-voltage power line corridor skirts the edge of the site along Lemons Bridge Road. The tall power line towers diminish the idyllic scenic setting of the house.

The open and relatively flat lawn surrounding the house and enclosed by forests offers a warm setting for social and celebratory functions, such as holiday parties, indoor and outdoor banquets. The historic setting, limited land area to expand and distance from the campus challenges development opportunities at this site.

View of Goodloe Alumni House Site



BOWIE STATE UNIVERSITY MARC STATION TOD SITE

The Bowie State University MARC Station Transit-Oriented Development (TOD) site consists of developed and undeveloped land north of Maryland Route 197 surrounding the MARC station, with most of the land development opportunity northwest of the Amtrak/ MARC right-of-way. A concept TOD development plan was developed as part of the Approved Bowie State MARC Station Sector Plan and Sectional Map Amendment (approved 2009). The TOD plan provided a vision for a mixed-use neighborhood opposite the tracks from the University, a relocated and expanded station and roadway (via tunnel) access between campus and new neighborhood. A convocation center was envisioned as a part of the mix of uses.

In 2011, the Urban Land Institute hosted a Technical Advisory Panel to review the Sector Plan recommendations and analyze market strengths around the station. Their conclusion identifies a limited market capacity to achieve the vision of the Sector Plan. The ULI TAP report identifies the University as a major player to advance development around the station. Key anchors may include Lab School / Learning Center,

Conference Center/Spa/Hotel, Environmental Research Facility, Washington Redskins Training Facility, with limited housing (to support the University) and retail. The report recognizes the cost challenges with relocating the station and tunneling roadways below the tracks. The illustrative plan shows strategies for campus growth along an extended quad from the Henry Circle and a secondary open space connection between Tubman Residence Hall and McKeldin Gym.

Concurrently with this Master Plan, Maryland National Capital Park and Planning Commission is undergoing a Bowie master plan process that will update the Bowie Station Sector Plan.

The TOD development area offers opportunities for Bowie State University to better leverage transit access and expand and connect to the region and world. The commuter parking lot south of the station is a valuable opportunity for University expansion and improved connectivity to the station. Relocating this parking facility to the north side of the tracks would alleviate the impact of peak commuter traffic away from the campus.

View of MARC Station and Vicinity



BOWIE RACE TRACKS

The approximately 156.32-acre Bowie Race Track is a storied horse racing track and stable facilities located along the Patuxent River. The grandstand and most of the stables have been demolished north of Race Track Road. A cluster of stables and training track are located on a smaller lot south of Race Track Road. The two land areas are connected by a covered bridge.

The race track is surrounded on three sides by forested land. M-NCPPC manages recreational sports fields in the northeast corner of the park. Large lot suburban housing communities are located along Race Track Road adjacent the tracks.

The future of the site is connected with the future of Pimlico and Laurel Tracks. At the time of this planning report, the State of Maryland and the owner, The Maryland Jockey Club, are in

negotiation regarding the future of horse racing in Maryland, and consequently the future of Bowie Race Track, and the funding legislation appears to be becoming law after the 2020 Maryland Legislative session.

Through interviews with the City of Bowie and M-NCPPC, it appears the primary long-term use of the race track will not be horse racing. Future uses could include expansion of regional recreational and athletic facilities. The low-density suburban residential pattern along Race Track Road and in vicinity of the track will limit land uses that would increase vehicular volume and congestion.

Aerial view of Bowie Race Track Site



4 PROPOSED CAMPUS DEVELOPMENT

PROPOSED PROJECTS

CONSIDERATIONS RELATED TO DEVELOPMENT OF PROJECTS

The following considerations influence, to varying degrees, the selection of projects recommended for development.

Item no.	Consideration (in no particular order other than Strategic Plan Goals)
1	Supports BSU's Mission, Vision, and Strategic Plan
2	Strategic Plan Goal 1: Achieve academic excellence supported by curricular as well as co-curricular experiences
3	Strategic Plan Goal 2: Promote a holistic and coordinated approach to student success
4	Strategic Plan Goal 3: Encourage academic and administrative innovation to meet student needs
5	Strategic Plan Goal 4: Enhance our campus culture of diversity, inclusion, and civic engagement
6	Strategic Plan Goal 5: Ensure long-term viability of BSU
7	Unique to BSU
8	Conclusions of an environmental scan
9	Recommendations of an academic assessment
10	Determinations from enrollment/ space utilization/ needs analysis
11	Recommendations from a learning environment analysis
12	Funding, budget, financial impact on BSU
13	Cost, affordability
14	Should be located on campus
15	Sustainability, energy savings
16	BSU's visibility and image; awareness and recognition of BSU
17	Connectivity – on campus
18	Connectivity – beyond the campus
19	Governor's priorities – e.g return on investment, access, innovation
20	Research opportunities
21	External forces, including: <ul style="list-style-type: none"> • Economic development • Workforce development • Supports regional and local economy and culture
22	Comprehensive transportation analysis
23	Health and well-being

DRIVING FORCES RELATED TO DEVELOPMENT OF PROJECTS

The following elements are considered driving forces which are major factors that should prevail in the selection of projects recommended for development in this report

Item no.	Driving Force
1	BSU Priority
2	Academic Plan
3	Critical need for space and infrastructure
4	Obsolete, deteriorating facilities and systems
5	Student success
6	Enrollment growth
7	Critical mass of students living on campus
8	Safety – public safety, life safety, pedestrian, vehicular
9	External forces, including: <ul style="list-style-type: none"> • Legal requirements and issues • Planned land use for external sites
10	Orderly campus development

SUMMARY DESCRIPTIONS, PROPOSED SEQUENCE

Note: All proposed projects must begin with a facilities program which will establish 1) the extent of spaces to serve programs and activities in the building or extent of campus-wide systems and 2) estimated costs. Gross areas indicated in the list of proposed projects should be viewed as orders of magnitude only, to be confirmed or modified during program development. The proposed sequence is a blueprint for orderly development; specific timing will ultimately be a function of the University's Capital Improvement Plan.

PROJECTS TO MEET CRITICAL NEEDS

1. Technology Infrastructure Upgrades

This extensive project, critical to the future needs of the University, will involve upgrades to the campus fiber network, equipment, and some related software. A new data center will be created in the proposed Public Safety and Communications Complex, and an existing data node in the Kennard residence hall will be replaced by a new data node to be located in the CNSMN building. Distribution to all buildings from the new data center will be by singlemode fiber. In addition, partial-to-extensive re-cabling will be required in several buildings. Refer to section 5D for additional information. The technology infrastructure is already in need of correcting deficiencies; In addition, rebuilding the network, replacing and expanding fiber and equipment, network nodes and terminal units must be undertaken to be ahead of proposed building projects. This should be of the highest priorities for the University. The technology master plan needs to be performed first to establish the scope and extent of the upgrades

2. Public Safety and Communications Complex.

(N2) This 48,000 SF project, to be located on the current site of the Goodloe Apartments, will provide a replacement facility for the existing and aging Public Safety spaces in McKeldin and Robinson and DIT offices and data centers in Thurgood Marshall and Kennard. A building program is being reviewed and upgraded by

the University. This project should be the first building project, preceding the Thurgood Marshall Library renovation, so that the Department of Information

Technology spaces in the library can be relocated before the library work begins.



3. Site Utilities

Upgrades Certain site utilities including some lengths of sanitary sewer and storm water piping are broken and in need of replacement. This project addresses those current needs and should also anticipate replacement of other older pipe and utility systems including water, gas, and power. A comprehensive survey should be undertaken first to determine extent of replacement. The replacement and extension of sanitary and stormwater lines can and should begin as soon as the specific locations are identified.

4. Install Electric and Gas Meters at Each Building.

In order to assess the efficiency of campus-wide energy use, it will be necessary to install gas and electric meters at each building. Tracking and measurement of both gas and electric will provide the University with critical information to be able to assess energy use on a square-foot basis for each building, allowing BSU to make decisions relative to equipment, controls, envelope, operations, and disposition of all buildings, which should result in energy savings for several buildings. At relatively low cost, this will enable BSU to measure energy usage within buildings, including building systems and sectors, which then will point to inefficiencies that may then be corrected, realizing operating cost savings.

5. Thurgood Marshall Library Renovations (N12.)

This large project will take advantage of the extensive space of the 167,000 SF library building by re-envisioning the library as a 21st century learning commons, with corresponding support functions such as library offices and processing space, tutoring, writing labs, help desk, group study rooms, maker space, faculty support center, and more. This plan envisions carving out a proposed sky-lit central east-west structural bay at the upper two levels of the building to open it up and improve connectivity between all floor levels. During development of the program for the Thurgood Marshall Library renovations, it is conceivable that the existing building will be able to accommodate all learning commons functions plus administrative and student services spaces now in the Henry Administration building. The library has needed a major top-to-bottom renovation for several years. As the learning hub for the campus, this project is key to support of the continued improvements to BSU's academic programs. It is the next high priority large project for the University. After completion and accommodation of administrative and student services spaces, the Henry Building can be demolished. The 20,000 SF Welcome and Admissions Center addition should occur in conjunction with the Library Renovations. It would serve to receive first-time visitors, house Admissions and related functions, and accommodate a proposed Center for Bowie State University History, Culture, and Traditions.



6. McKeldin Gym Renovation and Addition (N3).

As a Wellness Center, this 21,142 SF building plus proposed 32,000 SF addition will provide long-needed space for wellness, fitness,



and recreation functions. When completed, the renovation and addition will allow more flexibility in use and continued renovations to the James Complex.

7. New Residence Hall (N7). This first of three proposed new student housing projects will be located west of the Jericho Park Road connector to Maryland Route 197, across from the Entrepreneurship Living Learning Community now under construction. It is proposed as a 200-bed apartment project; capacity defined by the size of the site; estimated area 130,000 SF.

Removal of the Towers residence hall should occur after its completion, allowing for expansion of the James Complex.



8. James Complex Renovation and Addition (N4).

A much-needed overhaul of those portions of the existing 102,135 SF building not recently renovated plus upgrades to the building infrastructure, envelope and a proposed 40,000 SF addition will provide additional practice, team rooms, strength and exercise, locker/shower facilities, and training spaces. Continuing with recent renovations will help achieve the still-needed comprehensive renovation to this building.

Implementation of the proposed addition will facilitate renovation of not-yet-completed upgrades throughout the building.



OTHER PROJECTS SUPPORTING BSU'S MISSION AND STRATEGIC PLAN

9. **Facilities and Maintenance Building (N5).** This 44,000 SF project will replace the existing 29,600 SF Maintenance Building now located east of the CMRC parking lot, moving it to a new site adjacent to the northwest section of the campus loop road. It will provide new space for most of the same functions currently housed in the existing aging building and much needed additional site area for parking and storage. Replacement of this building to the northwest corner of campus will free up space at its current location for expanded surface parking and eventual construction of a future additional residence hall.



10. **Computer Science Addition and Renovation (N6).** Responding to the need established by the Computer Science leadership, this project acknowledges shortcomings of the existing building, mostly in the form of classrooms that are too small, with renovation of all existing spaces and an 18,000 SF 3-story addition to the south side of the building, providing additional and flexible learning spaces, labs and offices. Its placement in the sequence of proposed projects is not dependent on other projects and can be flexible, as funding will permit.



All of the following projects are important to the continued improvement and development of the BSU campus. Some may be viewed as critical. Some, including a proposed Convocation Center, Athletics and Recreation Field House and Fields, and Innovation and Incubator Center, will depend in small or large part on private development and/or funds generated by others with BSU participation and may be located on land not now owned by the University. Further study, including program development, is recommended to better define these and other projects listed below. Priorities will ultimately depend on funding and will be influenced by development of the Projects to Meet Critical Needs.

Proctor Building Renovation Now 20 years old, Proctor is showing signs of age. In particular, building systems including MEP, IT and AV systems are in need of upgrade and update, and since the Nursing program moved to the CNSMN building, configuration of those spaces should be reconsidered. A comprehensive renovation for the 101,200 SF building is recommended.

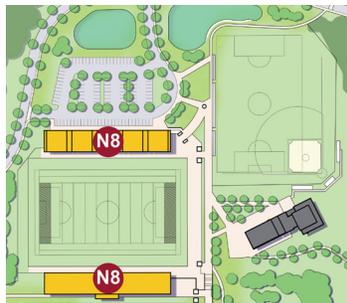


Tubman Hall Renovation As the oldest building on the main campus, Tubman is one of three historic buildings located in the “Historic Triangle” engaging both the Holmes and main academic quads. Further study is recommended to determine/confirm its continued use as a residence hall and the extent of renovation and construction (original building vs original plus wings vs original and replacement of wings).

Charlotte Robinson Hall Renovation A successful renovation two years ago provided space for Human Resources and University Relations & Marketing, and the two classrooms have been retro-fitted twice in the past five years. The remainder of the building, including the building envelope, is in need of major renovation and

upgrade. The proposed attached to Robinson and renovate Robinson or 2) build the first wing and replace Robinson with a concurrent or future second wing attached to the first; this latter scenario is illustrated in the proposed Campus Development Plan.

Stadium Complex (N8). The proposed campus master plan calls for complete replacement of the existing football stadium and grandstands, to be located immediately north of the track and west of the existing Field House. This location would take advantage of the natural slope down from the track, providing views not only to the football field but to the forested area beyond. A new softball field is shown to be located on the current site of the football field.



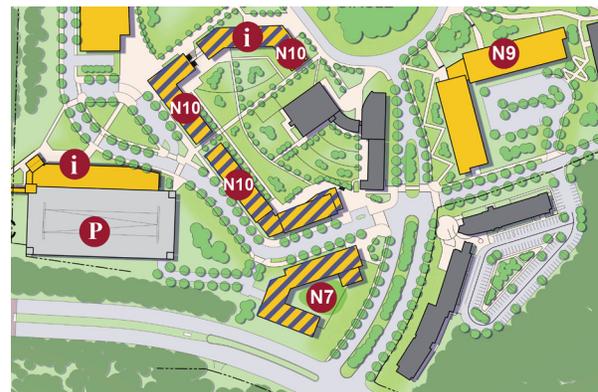
Steam Plant Demolition This small building, unused for at least 10 years, has no value to the University, has been deteriorating, and should be removed.

Alex Haley Residence Community The 90,900 SF residence hall is now 26 years old and should be undergo a comprehensive renovation.

Future Academic Building (N9). This new 100,000 SF building is referred to in the Charlotte Robinson Hall Renovation described above. It is envisioned as an L-shaped footprint, the N-S wing to be completely new and the E-W wing to incorporate Robinson Hall or to replace it. Programs to occupy space in the building to be determined at a later date.



New Residence Halls. These two projects providing approximately 500 beds are integral to the “Innovation Village” envisioned at the southwest corner of the campus. They will expand the critical mass of on-campus student housing as well as inject additional vitality to the proposed location. This is also a high priority, facilitating continued expansion of the University’s goal of increasing on-campus student housing to a larger critical mass. Demolition of the existing Martin Luther King Jr. Communication Arts Center must precede this project.



Site Improvements. Separate from site utility work, the site improvements here would include improved pedestrian routes, lighting, landscaping, special features such as an amphitheater, and site amenities such as benches, trash and recycling containers, and bike racks. Related to these improvements would be reconfiguration of the Greek Plots, suggested to be located along the East Promenade and possibly in part of the Holmes quad. A study is needed to program the plot locations, size, and character.

Building Systems Upgrades. Systemic upgrades to buildings such as lighting, HVAC systems, door hardware and security controls may be undertaken to improve those systems on a more campus-wide basis than as part of individual renovation projects. Specifically, more efficient lighting systems are recommended to save energy, and hardware and security control systems should be undertaken to provide uniform systems throughout all buildings. IT systems upgrades are addressed elsewhere.

Parking. Additional parking is recommended at key locations throughout campus and in different forms:

- New parking lots east of Alex Haley and CMRC residence halls
- A parking garage on the current MARC Station surface lot east of the station. This need not be more than two-to-three levels, keeping a low profile.
- Convenience parking at the proposed new Academic Building
- Stadium parking north of the proposed new stadium location.
- Parking associated with the proposed new Facilities and Maintenance Building.
- Parking associated with the proposed new Public Safety and Communications Building

Future Residence Hall (N11). This 200-bed residence hall is envisioned as an Y-shaped footprint, to be located on the site of the current Maintenance Building. That location is convenient to existing residence halls and the central academic precinct of the campus. It will help define the “gateway” entrance experience for persons entering the campus along the east stretch of the loop road. Academic space is envisioned for the ground floor.



Goodloe House. Located across Maryland Route 97 from the BSU campus, Goodloe House is an important, iconic reminder of the rich history of Bowie State University. It currently serves as offices for the BSU Alumni Association. At 3,800 square feet and occupying about three acres, possibilities for future development are limited, unless the University and/or alumni were to acquire additional, adjacent land. If that were to occur, possible development could include, in addition to alumni functions, a center for conferencing, special events, studies, research, BSU history, University development and more. Further study is recommended.

Convocation Center. The FMP embraces the idea of locating this project in the Transit Oriented Development (TOD) parcel west of the MARC train station as previously proposed by Prince

George’s County and suggested by others. The Convocation Center will provide large and small scale conference, assembly and meeting space for the University as well as for nearby surrounding institutions, business organizations, and communities. The TOD envisions a development with office, retail, housing, institutional, parking, and other uses in addition to the Convocation Center. Further study is needed to determine the scope and size of this project.



Athletics and Recreation Field House and Fields. While the main BSU campus already accommodates practice and athletic fields, and the FMP further develops and recommends improvements to those elements, a robust slate of athletics and recreation programs will require additional space and facilities. A convenient location for additional practice and athletic fields can be found at the old Bowie Race Track site, about a mile to the east from the campus. Support facilities ranging from modest storage, maintenance, locker and bath facilities to a large field house accommodating indoor sports and practice space would complement the practice fields. Joint use by BSU and the community is anticipated. The Bowie Race Track site is controlled by the Stronach Group who would need to approve such development. Further study is needed to determine the scope and size of this project and to convene the University, Prince George’s County, State of Maryland and Stronach to work out how such a development could happen.

Innovation and Incubator Center. Shown in the proposed campus development plan to be located in the south campus area known in this report as “Innovation Village”, this 30,000 SF project is envisioned as a public-private partnership, fostering initiatives related to University programs and research, possibly in the fields of health, computer science and/or business. It may also be located in the TOD west of the MARC station. It may be a stand-alone building or joined as part of another. As with other projects above, further study is needed to determine size and scope.

The afore-described projects are summarized in the following table and are recommended for development. Specific timing will be a function of the University's Capital Improvement Plan.

Bowie State University Proposed Projects				
Projects to Meet Critical Needs				
	Renovation (GSF)	New (GSF)	Category	Remarks
1 Technology Infrastructure Upgrades			Systems Upgrades	Campus-wide and in buildings
2 Public Safety & Communications Complex*		48,000	Admin. & Support	On Goodloe Apartments site
3 Site Utilities Upgrades			Systems Upgrades	Storm, sanitary, water, gas, power, lighting
4 Install Electric & Gas Meters at Each Building				Excluding vacant and buildings to be demolished
5 Thurgood Marshall Library Renovation & Addition	166,869	20,000	Academic & Admin.	See Note 2
6 McKeldin Gym Renovation & Addition - Wellness Center	21,142	32,000	Wellness, Recreation	Addition size function of available footprint to south
7 New Residence Hall - 200 Beds (Apartments)		130,000	Student Housing	Replaces Towers beds
8 James Complex Renovation & Addition	102,135	40,000	Academic	Completes James renovation - by BSU over time
9 Facilities & Maintenance*		44,000	Admin. & Support	Incl Facilities Maintenance Building demolition
10 Computer Science Renovation & Addition	47,000	18,000	Academic	Renovation + expansion
Total: (not including Residential)	337,146	202,000		
Other Projects Supporting BSU's Mission and Strategic Plan				
	Renovation (GSF)	New (GSF)	Category	Remarks
Proctor Building Renovation	101,193		Academic	Comprehensive renovation
Tubman Hall Renovation	33,282		Student Housing	Further study recommended to determine best use
Charlotte Robinson Hall Renovation	31,534		Academic	Not required if Future Academic Building proceeds
Stadium Complex and Athletics Field		50,000	Wellness, Athletics	Incl Bleachers, Training, Concessions, Gateway
Steam Plant Demolition				Building unused for at least 10 years
Alex Haley Residence Community	90,855			
Future Academic Building		100,000	Academic	Replaces Robinson Hall
New Residence Hall - 250 Beds (Suites)		155,000	Student Housing	Replaces Holmes beds
New Residence Hall - 250-Beds (Apartments)		170,000	Student Housing	Expansion of total beds
Site Improvements				Non-utility - e.g. sidewalks, amphitheater
Building Systems Upgrades			Systems Upgrades	HVAC, plumbing, electric, lighting, security
Additional Parking				As needed
Future Residence Hall - 200 beds (Suites)		125,000	Student Housing	Market determines timing
Total: (not including Residential)	132,727	150,000		
*GSF based on prior program and available footprint				
Extended Campus Potential Development Projects. All projects need further study.				
	Renovation (GSF)	New (GSF)	Category	Remarks
A. Convocation Center				TOD site; Size TBD
B. Athletics & Recreation Field House and Fields		80,000	Wellness, Athletics	BSU and community joint use - Race Track site
C. Innovation & Incubator Center		30,000		South Campus or TOD site
Notes				
1. Two projects currently underway are not included in the above-recommended projects: A.) the 169,188 GSF Entrepreneurship Living Learning Community student housing now under construction, and B.) the 183,527 GSF Communication Arts and Humanities Building now in design.				
2. The proposed Thurgood Marshall Library renovation assumes Student Services and Administration relocate to the Library, vacating the Henry Building which then would be demolished. The proposed addition would include Admissions and Welcome Center.				
3. The following properties represent development opportunities: Goodloe House and property, Transit-Oriented Development (TOD) site adjacent to the AMTRAK right of-way west of the campus, and the Bowie Race Track site. The University owns and controls the Goodloe House and property.				

COVID-19 CONSIDERATIONS

Bowie State University, like most every institution of higher education, has been profoundly affected by the current COVID-19 pandemic, not the least of which impact was the closing of the campus during the 2020 Spring semester. It is acknowledged that the coronavirus circumstances will indelibly change the ways that BSU plans for the future, carries out its mission, and continues to operate. The University and consultant team has considered factors other than those that we typically deal with in Facilities Master Plans, and which will influence decisions affecting both short and long term plans.

During the development of the Plan, the University's leadership has been forced to let go of nearly all of its previous rules of operation in order to be able to establish a workable basis for learning. While needing to focus on preparations for and implementation of the 2020-2021 academic year, the University's leadership also made time to help form the direction of campus development as described in this plan.

Every school, college and university that is still open has been making plans for the 2020-2021 academic year to the best of their abilities, but it has all been new territory. This is a year of transition as every institution has been learning what will work or not – on campus or remote, in learning, support, and living spaces and all the spaces in between, and with the systems needed to support the education experience. There will be successes and failures, and as the University moves

on to subsequent academic years, its plans will assuredly be different than previous experiences would have suggested. Means of course delivery, enrollment, affordability, emphasis on different kinds of programs, readiness of incoming students, seat spacing in learning spaces, the need for flexibility in the ways programs are delivered and the spaces to accommodate them, populations in residence halls, and other factors and safeguards all are regularly being evaluated and implemented by the University. The FMP looks beyond the exigencies of the 2020-2021 school year to the 10-year planning horizon.

Accordingly, and recognizing that all higher education is now in a period of transition, this Facilities Master Plan is, first, a long term plan incorporating a campus “build-out”; second, the plan provides for flexibility in terms of schedule and on-going programming, for proposed projects. Assuming the pandemic becomes resolved, it will be appropriate to re-visit this Plan, taking stock of the short- and long-range impacts of the effects of the coronavirus.

In addition to the FMP, the University commissioned Hord Coplan Macht to undertake a separate but related study examining the pandemic and its impact on the University. That study, the Bowie State University Post-Pandemic Scenario Planning Study, looks at a shorter planning horizon of 3-5 years. It is included as an appendix to the FMP.

SITE: INFRASTRUCTURE RECOMMENDATIONS

RECOMMENDATIONS

Future construction projects for Academics, Athletics, Wellness, Recreation, Administrative, Residences and other building construction will require additional utility capacity and extensive site infrastructure upgrades. Since the campus contains many underground utility lines, each new construction project or addition will likely require relocation of existing lines to provide adequate clearances within the new work areas. New Stormwater Management (SWM) designs, improvements and upgrades to current SWM criteria will also be required to support new development. Based on our review and cursory assessment of the BSU campus, we have concluded that its site infrastructure in the academic core area is in relatively good condition.

We recommend BSU have a (drone) flown survey performed for the entire campus. The survey drawing (*.dwg) file can be kept for BSU's records and the file can be utilized as the basis for future campus sitework. Our ongoing recommendation is that BSU's campus real estate representatives study the property boundary discrepancies, resolve any conflicting data and have an up to date boundary survey performed.

BSU has a Forest conservation Plan, last updated May 2005 and, as of this report, a Forest Conservation Bank of 12.003 acres. Projects disturbing more than 40,000 square feet will require a Forest Stand Delineation (FSD) and Forestry requirements met. All future plans for improvements must take into account existing specimen and mature trees throughout the campus. As noted in Section 4B, it is understood that areas of dedicated trees currently exist on campus to satisfy the Maryland Tree Conservation Act for past projects. These trees should be retained and/or incorporated into a future FCMP when available.

Any proposed project disturbing more than 5,000 square feet will be required to meet stormwater management requirements based on current Maryland Department of the Environment Stormwater Management Manual.

A breakdown of the site infrastructure recommendations is below:

OVERALL UTILITIES

Due to age and ongoing utility issues, we recommend BSU employ the services of a Utility Locator, such as Master Locators, to provide Quality Level C/B utility location/mapping to develop an accurate and up to date campus utility drawing (*.dwg) file. The utility file can be used in conjunction with the survey drawing described above.

Typical Utility Designation Descriptions are as follows:

Quality Level D (QL-D): Includes utilities designated through record documents. This data could be digital records, paper records, or GIS data. The available data could be limited and not produce a complete picture of what is onsite. The source of some data may be unknown, the completeness and accuracy of the information could be compromised. However, the data collected is shown and designated so as to reflect the potential for the existence of utilities.

Quality Level C (QL-C): Includes utilities designated through the process of surveying the visible utility surface features. This data is compiled with the quality level D data to provide an increased, not absolute, level of horizontal position accuracy for underground, non-visible, quality level D information.

Quality Level B (QL-B): Includes designating the underground utilities by markings provided through an 811 call, by contacting an individual utility company, or performing tracing or ground penetrating radar. The designated utility markings are then surveyed and added to the drawing. This data is added to the data collected from quality levels D and C to provide an increased level of horizontal position accuracy for underground, non-visible utilities.

Quality Level A (QL-A): Involves physically locating the actual utility by means of test pitting or other methods of exposure. Once the utility is exposed it is located horizontally and vertically by survey measurements.

SANITARY SEWER

Replace and/or upgrade underground pipes and fittings, beginning with known problem areas at Theodore McKeldin Gymnasium and Computer Science Building/Charlotte Robinson Hall. Replace and/or upgrade older underground sanitary sewer pipes and fittings. These older sections of pipe are known to be more than 50 years old and are considered to be more than 25 years beyond their useful life cycle. Also, based on future campus growth, sanitary sewer pipe systems will need to be modified, upgraded and/or extended to accommodate future building construction.

WATER SYSTEMS

Due to the age of most of the water system and the known “brown” water issue, we recommend BSU employ the services of an Engineering Design Team (Civil and Plumbing Engineers at a minimum) to thoroughly evaluate and test the existing water system and, more specifically, known problem areas. Based on the Engineering Design Team’s findings, replace and/or upgrade underground pipes and fittings as required. The oldest sections of water pipe are known to be more than 50 years old and are considered to be more than 25 years beyond their useful life cycle. Also, based on future campus growth, water pipe systems will need to be modified, upgraded and/or extended to accommodate future building construction locations and capacities.

We recommend that with each major building project design, the design team perform fire flow tests at the nearest existing fire hydrants around the Campus Loop Road.

IRRIGATION SYSTEMS

We recommend BSU employ the services of an Irrigation Specialist to provide recommendations for existing areas of concern and to provide designs for any future work. Repair/replace/upgrade existing services as required to accommodate current and future campus needs.

STORMDRAINS, DRAINAGE & STORM WATER MANAGEMENT

Repair, replace and/or upgrade stormdrain pipes and structures, beginning with any known problem areas, such as the swale by the parking lot across from the Christa McAuliffe Residential Community. Replace and/or upgrade older stormdrain pipes and structures. The older stormdrain systems are known to be more than 50 years old and are considered to be more than 25 years beyond their useful life cycle. Also, based on future campus growth, stormdrain systems will need to be modified, upgraded and/or extended to accommodate future building construction.

Recommendations for the two drainage issues mentioned in Section 4B are as follows. For the cascading water feature at the Center for Natural Science, Mathematics and Nursing, we recommend BSU employ the services of a Civil Engineer or Landscaper to provide recommendations on how to resolve the drainage and erosion problems with the existing water feature and surrounding vegetative areas. For the standing water between Charlotte Robinson Hall, the Computer sciences building and the Fine & Performing Arts Center, we recommend BSU employ the services of a Surveyor and Civil Engineer to analyze the existing stormdrain system, parking lot and site grades within the problem area. Based on the Civil Engineer’s findings, make necessary repairs and improvements to omit drainage issue.

Similar to current construction, future projects which disturb more than 5,000 square feet of soil will require stormwater management facilities per the current Maryland Department of the Environment regulations. We recommend BSU continue to update the Existing Stormwater Management Map created by Site Resources, dated May 2018.

PRIVATE UTILITIES

Upgrade current electric service to the campus as required for current and future improvements.

ROADS & PAVEMENT

Due to ongoing pavement issues with the older sections of the loop road, we recommend BSU employ the services of an Engineering Design Team (Civil and Geotechnical Engineers) to thoroughly evaluate and test the existing pavement and soils. Based on the Engineering Design Team's findings, replace, repair or upgrade the roadway. A similar service should also be employed for problem areas within the parking lots.

Much of the older curbs (without gutter pan) are deteriorating from age. Replace older curbs where there is damage or deterioration.

Replace or repair existing concrete and paver walkway sections that are settled, damaged or deteriorated. We recommend that with each major building design, the design team evaluate the walkways to reconfigure and improve circulation as required.

As mention in the 2015 Master Plan, we recommend that BSU Facilities allocate adequate funds to maintain and improve the existing roadways and parking areas. Also verify that a Geotechnical Engineer test soils and provide recommendations on all future roadway/parking work.

HANDICAPPED ACCESSIBILITY

We recommend existing handicapped accessibility parking be checked against the current ADA requirements for compliance of the parking space size, slopes, access aisles and proper signage. All campus accessible routes are required to have ADA compliant curb ramps, detectable warning surfaces and building entrance ramps where necessary. Based on the 1918 spaces listed in the Bowie State University Traffic and Parking study, the campus is striped for 63 reserved handicap parking spaces and does appear to meet or exceed the current ADA regulations.

RECREATIONAL FIELDS

No issues were noted with the recreational areas.

MISCELLANEOUS SITE INFRASTRUCTURE

Any spot damages and overall deterioration of the campus retaining and screen walls need to be addressed.

There are noticeable roadway signage improvements around the campus. We recommend that BSU continue to improve campus information and wayfinding signage through the property. Refer to section 5G Campus Planning and Implementation for additional recommendations.

UTILITIES MASTER PLAN

Similar to the recommendations above for BSU to employ the services of an Engineering Design Team to thoroughly evaluate the Sanitary, Water and Stormdrain Systems, we strongly encourage BSU to complete a master plan specific to these wet utilities. The Utility Master Plan should devise a strategy on the best approach to implement current and future wet utility work, including such information as, but not limited to the following:

- Existing utility materials, conditions, age and life expectancy
- Existing utility Deficiencies and recommendations for upgrades
- Sequencing of repairs and upgrades to existing systems
- Recommendations for standardizing materials and installation methods.

The Utility Master Plan would assist in understanding future expansions and documenting the current systems. This will be critical as the campus continues to grow and expand. This information should be developed in a manner to be utilized by Engineers and Designers on future construction project, as well as repairs to existing utilities.

MEP SYSTEMS RECOMMENDATIONS

Continuing from the description of existing mechanical, electrical and plumbing systems in Chapter 4, the following are recommendations for MEP systems for individual buildings as well as campus-wide:

1. Continue with campus-wide **solar (photovoltaic) strategies** and implement where feasible on projects.
2. Continue with **LED upgrade programs** across campus.
3. Establish a project to set site **Energy Performance Index (EUI) goals** for individual buildings, in kBtu/sf/year using such tools as Energy Star Target Finder.
4. Establish **campus-wide energy metering**. This project would consist of adding gas and electric metering for each building where it does not exist and tying into the Johnson Controls System which is present in every building. In some of the newer buildings the metering might exist and it just needs to be connected to the JCI system. This will allow energy usage to be closely monitored and proactively managed at a building level consistent with the Campus Climate Action and Energy Management goals. As part of this project, perform Energy benchmarking and tracking using such tools as Energy Star and My Portfolio or other 3rd party software. Also consider using dashboards either through JCI or other 3rd party Software.
5. Perform **retro-commissioning** on select buildings. This project would retro-commission and tune-up buildings that are not new or recently renovated but must remain in place and continue to operate for the next 5-10 years or more without a systemic upgrade, major renovation, or replacement. These could be grouped together and become a capital project or done individually.
6. **Continuous commissioning**: Once building energy usage goals have been established, energy metering installed and tied back for monitoring, and benchmarking has begun, Continuous Commissioning will allow for monitoring and adjustment to building operation to proactively manage energy usage.
7. Consider **combined heat and power (CHP)**: Develop a Microgrid or install CHP perhaps as part of a microgrid since there is no central plant on campus. This sounds counter intuitive to greenhouse gas reduction but because about 70% of the utility generated electric energy is lost in transmission to the site, onsite generation with use of the waste heat recovery for heating, cooling, and domestic hot water can result in a lower total source carbon footprint. More study beyond this Master Plan is needed to really hone in on what this would entail.
8. Utilize **geothermal energy** for HVAC and domestic water applications where feasible. This mainly requires the real-estate needed to establish the well field. Good candidates might be outlying buildings such as the proposed Facilities Building.
9. Take advantage of **comprehensive renovations** in buildings to upgrade MEP systems and controls including adding solar strategies.
10. Replace **mechanical equipment** with more efficient equipment as equipment becomes aged.
11. Employ new HVAC **more efficient control strategies** when systems are modified or upgraded or as part of equipment replacement.

Specific to the University's Climate Action Plan, climate action strategies to continue reducing energy consumption and greenhouse gas emissions include:

- Continue Solar Strategies and monitor reductions.
- Utilize Geothermal Energy where feasible.
- Continue with LED lighting upgrade programs to reduce electrical energy consumption.
- Take advantage of comprehensive renovations to improve building envelope and MEP systems efficiencies.
- Replace Mechanical Equipment with more efficient equipment.
- Install additional metering needed to monitor and manage energy use in buildings.
- Establish building level DDC controls.
- Perform Commissioning/Re-Commissioning/Retro-Commissioning/Continuous Commissioning buildings.
- Employ new HVAC Control Strategies that help reduce energy consumption.
- Consider opportunities to use CHP or Microgrid technology.
- In addition, refer to Section 4E Sustainability for additional recommendations

TECHNOLOGY RECOMMENDATIONS

When the consultants were considering the state of technology on the Bowie State University campus for the 2020 Facilities Master Plan, the focus was on (3) main issues, namely 1) the communications infrastructure (fiber backbone, telecommunications rooms, network), 2) wired and wireless technology, and 3) physical security (access control and video surveillance). The recommendations for each are provided in the following section.

COMMUNICATIONS INFRASTRUCTURE

One of the most important aspects of the BSU campus network is the optical fiber backbone that connects buildings to the Data Center and thereby to the campus-wide networks. Presently, this fiber backbone is not very robust and does not provide any protection should any segment of the network be damaged. Also, all of the housing buildings route back through the Lucretia Kennard Residence Hall before connecting to the Data Center creating the potential for all housing buildings to be without connectivity should anything happen to Kennard. Furthermore, as part of the overall master plan, the current Data Center residing in the basement of Thurgood Marshall Library will be relocating to the new Public Safety and Communications Center that will be constructed where the current Goodlow Apartments is located. Therefore, the following is recommended:

- Design a new backbone optical fiber network using singlemode fiber that provides connectivity from the new Data Center location to each of the other buildings on campus
- Strongly consider establishing a secondary data node (e.g. in Center for Natural Science, Mathematics, and Nursing)
- Consider having a redundant fiber cable to critical buildings that takes a different pathway than primary connection
- As the data node in Lucretia Kennard Residence Hall is in serious disarray, in lieu of updating this location, utilize other newer locations as secondary network nodes (e.g. Center for Natural Science, Mathematics, and Nursing)

- Size cables (number of strands) to take advantage of increasing data speeds in the future.
- Create a Logical Network Diagram that depicts the connectivity between each building, including cable type, size, etc., and keep this document current, updating it whenever a change is made
- Create a campus-wide network (CAD) drawing that shows actual locations of ductbank, conduits, cables (size, quantity), manholes, hand holes, etc. and keep this document current, updating it whenever a change is made

While the telecommunications rooms in the newer buildings seem to be adequately sized and located, telecommunications rooms in older buildings do not meet current industry standards. These rooms should be reviewed and upgraded to meet typical standards for telecommunications rooms, including:

- Size and shape
- Location
- Power
- Cooling
- Access

The current data network equipment (mainly Cisco 45XX and 65XX switches) installed throughout the campus are at their end-of-life and will soon require an upgrade. A migration plan to implementing new equipment should be developed.

WIRED AND WIRELESS CONNECTIVITY

While wireless connectivity has been reported as currently adequate, it will be important for BSU to continue to expand their wireless network so they can meet or stay ahead of the likely growth of user expectations, expansion of on-line learning and cloud-based applications, and the ever increasing number of wireless devices that want to connect to the network. To support this continued growth in wireless access, BSU should consider installing more robust cables (minimum of 2 Category 6A cables) to each wireless access point.

Also, it is important to note that while the demand for ubiquitous wireless access continues to grow, it is, after all, a shared service, requiring it to be robust enough to support more and more simultaneous connected devices. Therefore, when it makes sense to provide a wired connection, that should be the standard.

PHYSICAL SECURITY

While the physical security systems provide some access control and video surveillance, the campus still does not seem to have one campus-wide system that is implemented throughout. Rather, there are disparate systems that often do not effectively communicate with each other and are in various stages of operational effectiveness. Older system components, including storage devices, are intermixed with new devices. We recommend the following:

- Implement an integrated, campus-wide access control and video surveillance system
- Ensure that the storage of video is adequate
- Ensure that the network can adequately support video from security cameras and that it doesn't impact the performance of the network
- Implement more robust and standard access control on critical spaces, including entrances, telecom rooms, classrooms/labs that house expensive and important instructional technology, etc.

IT MASTER PLAN / CREATION OF TECHNOLOGY SYSTEMS STANDARDS

Finally, before BSU can specifically address the campus infrastructure, wired/wireless technology, and physical security, they should strongly consider conducting an IT Master Plan / Strategic Plan to review all aspects of technology on campus. This IT Master Plan should include a thorough review of all aspects of technology on the BSU campus, including, but not limited to the following:

- Manhole and ductbank surveys
- Telecommunications Rooms surveys
- Backbone network
- Physical security systems

This will assist in documenting what is currently installed and provide the basis for what needs to be changed, upgraded, etc. This is critically important given the plan to relocate the primary Data Center to the new Public Safety and Communications Center building.

As a part of this Plan, a set of detailed technology systems standards in the form of a Technology Systems Standards document should be developed that can be used by designers and installers for new building projects, as well as for updates to existing buildings. This document should include campus standards for communications pathways, both outside plant (ductbank, manholes, hand holes, conduits) and inside plant (outlet boxes, conduit, cable tray, fire-rated sleeves, J-hooks, etc.), spaces (telecommunications rooms sizes, locations, power requirements, cooling requirements, etc.), cabling (outside plant and inside plant, copper, fiber, coaxial, connectivity, racks, redundancy, etc.), voice and data network (switches and associated modules, wireless access points, wireless controllers, gateways, wired and wireless, phones, redundancy, etc.), physical security (access control, intrusion detection, video surveillance systems, blue light phones, etc.). This document can also include other supporting and emerging systems like instructional technology standards, Distributed Antenna Systems standards, distance learning standards, remote network access requirements, etc. that are becoming increasingly important on today's university campuses. This Technology Systems Standards document should be a living document that gets reviewed and updated at least once a year.

SUSTAINABILITY, CLIMATE ACTION, RESILIENCY, AND WELL-BEING



INTRODUCTION

Bowie State University is already making great sustainability strides. Their commitment and implementation of various initiatives on campus has resulted in many substantial achievements over the last several years. They recognize the importance of stewardship, responsibility, accountability, and leadership on global environmental issues and challenges. They acknowledge that addressing resiliency, in addition to climate action and sustainability, can yield positive effects on the environment, ecology, economy, equity, and the overall health and well-being of their campus and its occupants.

The sustainability accomplishments that have already been achieved by Bowie State University are impressive and provide a great foundation to build upon. The recommendations enhance what has already been started, to help make connections, align goals among the initiatives and organizations, and inspire the University to take even bolder strides.

CAMPUS AND STRATEGIC PLANS

STRATEGIC PLANS

Sustainability is specifically referenced in the mission and goals of the following strategic plans.

Division of Administration & Finance Strategic Plan FY 19-22

- *Mission: ... provide operational support service including stewardship of our physical and financial resources that ensures a foundation for student and institutional success.*

‘Racing to Excellence’ Strategic Plan FY19-24

- *Goal 5: Ensure Long term viability - to advance strategic priorities that create a sustainable future for the university, the county, and the State of Maryland.*
- *Objective 5.7 5.7 Sustainability and facilities development - Continue to develop a campus infrastructure that supports a commitment to eco-friendly practices in expanding facilities that enhance student development and innovative instructional practices.*

The integration and implementation of sustainable and resilient strategies and recommendations also has the ability and opportunity to enhance the first four goals of the strategic plan:

- 1) *“Achieve academic excellence supported by curricular as well as co-curricular experiences*
- 2) *Promote a holistic and coordinated approach to student success*
- 3) *Encourage academic and administrative innovation to meet student needs*
- 4) *Enhance our Campus Culture of Diversity, Inclusion and Civic Engagement”*

CLIMATE ACTION PLAN (CAP)

Published October 2009 (Planned update late Spring 2020 with Resiliency)

- Include a hazard mitigation plan component if not already included.

PEOPLE – ENGAGEMENT AND OUTREACH



TAKE A WALK

Walking around the office 9 times is about 1 mile and provides about 20 minutes of physical activity. The Surgeon General recommends 150 minutes of physical activity a week, as your ability and health conditions allow, to maintain a healthy lifestyle.



PEOPLE AND ORGANIZATIONS

Overall goal: Increase visibility and outreach of the organizations involved and increase collaborations.

Existing organizations include:

- C4, Climate Commitment Coordinating Committee (est. 2007) (Previously BEST, BSU Environmental Sustainability Team)
- ELLC, Entrepreneurial Living Learning Community, (Entrepreneurship Academy)
- Student Green Ambassador Program (est. 2013)
- Keeping Bowie Clean – Student Group
- Plans to establish an annual paid student internship / work study job
- Collaboration (AASHE conference, 2016; Community Resilience Report, 2016; Global Entrepreneurship Week Panel Discussion, 2019)

ENGAGEMENT, OUTREACH, AND TRANSPARENCY

Overall goal: Increase awareness, visibility, engagement, outreach, involvement, and participation of students, faculty, and staff

- Develop a structured sustainability campaign (like “Bowie Bold”)
- Promote the campus (site and buildings) as teaching tools, learning environments, and living labs
- Include environmental, sustainability, well-being educational signage in addition to wayfinding (signage example shown above)

- Consider art / video Installations to foster connections to global issues (Example shown above: CO2 CUBES art installation during a UN Climate Conference: “Visualize a Tonne of Change is a structure 27 feet on each side that represents 1 metric ton of carbon dioxide, the amount produced by the average citizen of an industrialized country in a month”)
- Coordinate sustainability briefing at new student orientations
- Increase social media presence

EVENTS

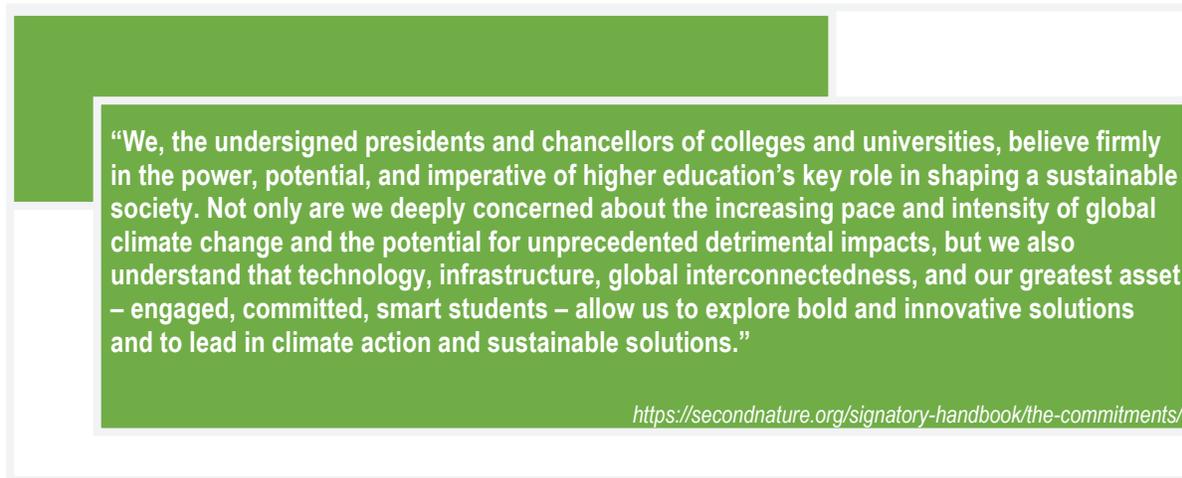
Earth Week/ Earth Day Programs (since CAP ~2007), Poetry Slam (5 years), Food Day (8 years), Green Expo (3 years), Campus Clean Ups

- Encourage and incentivize participation in events (with free food for students)
- Consider a Green Events Calendar to track all events

COMMITMENTS

Presidents Climate Commitment (Second Nature); White House Act on Climate Pledge (Paris Climate Agreement); Electronic Pledge (2019)

- Consider quoting a powerful statement from these commitments in outreach materials.



Sustainability Fee: BSU Green Fund (est. in 2012 at \$2)

- Consider increasing the fee in 2022 to fund additional projects or larger projects

INFORMATION SHARING AND TRANSPARENCY

Overall goal: Coordinate and consolidate information gathering and data collection (from website, reports, presentations, newsletters) to share with the Campus community

- Establish baseline metrics and database for cumulative data collection over time
- Align goals and targets from all programs and initiatives
- Establish a review period (annually) to evaluate progress and update metrics
- Consider development of a “B.S.U.sustainability mAPP” app to share data and information about the sustainable achievements and initiatives on campus
- Consider a timeline graphic to document achievements thus far
- Coordinate all information on Website and newsletters

- Track access to Sustainability Library Resource (Libguide)
- Expand dashboards to share information on other sustainable strategies such as water usage on campus, total waste diverted, transportation, etc.
- Existing Dashboards (Energy: Student Center, Fine Arts, Solar) (Sustainability CNSMN, Student Center)

ACADEMICS

- No existing campus wide mandate, program, or degree
- Existing C4 faculty members inclusion of sustainability into curriculum and a few other instructors
- Increase opportunities for student learning and understanding of global environmental issues through curriculum integration
- Consider mandated curriculum or introductory class
- Offer research, programs, and / or certificate opportunities
- Increase opportunities for professional development

HEALTH AND WELL-BEING

Overall goal: Encourage and incentivize health and well-being of students, faculty and staff on campus and provide incentives and targeted messaging / advertising to increase participation



PROMOTE PHYSICAL FITNESS AND ACTIVITY

- Provide the needed programming and class offerings among the various campus facilities (wellness center, fitness center, gym, pool) (Existing Wellness and Fitness Center in separate buildings)
- Consider a walking club to explore the existing trails (WB&A (Washington, Baltimore and Annapolis) Trail; Horsepen Park Trail (MNCPPC))
- Establish baseline metric and target goals for increased participation in the Bikeshare program and Cycling Club
- Provide active desk options in student lounges and faculty offices (Sit/ stand desks, treadmill desks, bike desks, desk pedals)
- Consider “Human Powered” gyms to charge devices or to contribute to building power (The Green Microgym example shown above)
- Promote Drinking Water by retrofitting remaining water fountains (retrofits already completed for some water fountains for bottle refilling)
- Provide BSU water bottles to new students- or all students, faculty, and staff
- Consider a tracking program (Cupanion,

example shown above: Tell your story with a custom Fill it Forward program: Feature your branding on a Fill it Forward sticker and track your organization’s collective impact. Drive engagement with a custom water project or rewards—perfect for schools, companies, and events.

PROMOTE HUMAN AND NATURE CONNECTEDNESS

- Consider partnerships/ collaboration with Patuxent Research Center and River Park
- Reinforce programs with Natural Sciences
- Consider Biophilic design strategies to enhance natural connections, reduce stress, and improve overall well-being (Explore the 14 Patterns of Biophilic Design)

SITE, GROUNDS, AND LAND USE



Wildlife



Health



Energy



Heritage



Safety



EXISTING SITE OVERVIEW

- 303 total acres
- 80% pervious open space, including campus core and conservation areas (forest reserve and wetlands)
- Only 18% (44 acres) is buildable land

Overall goal: Establish target goals for open space, natural habitat, and urban heat island

- Target future development near MARC station
- Increase biodiversity
- Reduce insecticides, pesticides - find sustainable alternatives
- Increase shade trees
- Adopt management plans (landscape and hardscape, integrated pest management)

PEOPLE SPACES

- Existing Green Plaza (Student Center Quad)
- Existing people charging stations (Bus stop, benches, tables)
- Consider creation of additional outdoor classrooms / learning opportunities

SITE LIGHTING

- Existing Parking Lot Lighting – 50% replaced with LED
- Existing Site Lights - reduce Light Pollution
- Determine if light levels meet a Dark Sky initiative – balanced with security (Darksky.org)

VEGETATION AND IRRIGATION

- Existing beautification program (Steam Plant)
- Existing football field converted to artificial turf
- Existing Irrigation on campus
- Consider no irrigation on new projects with native/ adapted plants
- Consider non-potable water sources if irrigation if needed
- Meter irrigation water separately

RAINWATER / STORM WATER

- Existing Goal By 2022– 40% reduction in TSS from 2006 (CAP)
- Existing green roof and rain gardens (Student Center)
- Establish a process for data collection and measurement
- Consider Rainwater collection (reuse of rainwater for new buildings and cisterns for new / existing buildings) (Cistern example shown above)

SANITARY/ WASTEWATER

- Off site with WSSC, Washington Suburban Sanitary Commission
- Establish baseline metric and target goal for Wastewater reduction
- Consider natural wastewater treatment for learning opportunity such as a living machine (provide example)

TRANSPORTATION AND PARKING



Overall Goal: Establish baseline metric and target goal for % increase in biking and alternative transportation usage / % decrease in parking permits and traffic. Provide incentives and targeted messaging / advertising to increase participation

OVERVIEW

- Walkscore: 3, Car Dependent – Almost all errands require a car
- Transit Score: 30, Some Transit – A few nearby transportation options
- Bike Score: 15, Somewhat Bikeable – Minimal bike infrastructure
- Existing Car Usage Data: 96% Staff, 61% Faculty, 39% Students (CAP)
- Existing Parking Data: 3,189 parking permits (2017), 2024 parking spaces (without Lot I)
- Existing campus fleet: hybrid, electric, and fuel-efficient multi-passenger vehicles

BICYCLES

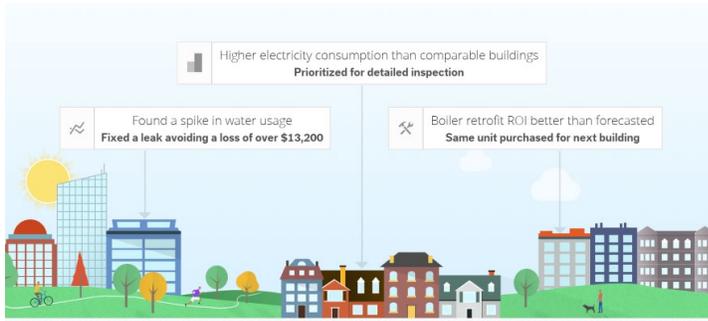
- Existing bicycle racks (at all Residence halls and most Academic buildings)
- Existing bicycle club (est. 2015)
- Existing bikeshare program (est. 2019)
- Evaluate access to showers and changing facilities for commuters, faculty and staff.

PUBLIC TRANSPORTATION

- Existing Shuttle Service (Bulldog Shuttle)
- 10% student discounts with MARC train
- Provide more favorable discount to students
- Extend partnership discounts to faculty and staff
- Target future development near MARC Station

ALTERNATIVE TRANSPORTATION AND PARKING

- Existing Carpool and Rideshare
- Establish Target Goal - % of total spaces for preferred carpool spaces
- Existing ZipCar program (4 total)
- Establish Target Goal - % of total spaces for Zip Car spaces
- Existing electric car charging stations (8 total)
- Establish Target Goal - % of total spaces for charging spaces
- Existing 20% parking discounts for fuel efficient / hybrid/ electric vehicles
- Establish baseline metric and target goal for % of total parking space/ permits
- Provide vehicular drop off and pick up areas
- Establish an anti-idling Campaign/ Program (examples: Turn it Off Pledge, Idle Free MD program)



ENERGY AND CARBON

EXISTING ENERGY AND CARBON GOALS

- Existing Goal by 2021 - Carbon Neutrality
- Existing Accomplishments: 15% reduction since 2007 and 40% reduction over 12 years
- Existing Goal by 2022– 20% reduction in Electricity from 2006 baseline (CAP)
- Existing Goal by 2022– 20% reduction in Fossil Fuel Heating from 2006 (CAP)
- Existing Carbon Footprint / Greenhouse Gas Inventory/ Reporting (Appendix IV of CAP)

Overall Goal: Evaluate progress, align all existing goals and targets, establish consistent baseline metrics and evaluate or develop database for cumulative data collection over time

- Set energy reduction targets for new buildings and existing buildings in addition to campus wide goals.
- Consider zero energy or solar ready for all new buildings
- Install individual building metering and connect to existing building management
- Track and monitor energy (and water) usage in a portfolio manager (Examples: Energy Star Portfolio Manager, ESPM or WegoWise (image above))
- Pursue energy efficient utility incentives to assist in the funding of upgrades (Example: Empower Maryland)
- Consider carbon offset programs for transportation and travel (Article: 11 Best and Popular US Carbon Offset Providers)
- Consider purchasing green power to offset buildings' operating energy
- Consider alternative energy systems (Geothermal if land available; combined heat and power (CHP), etc)

- Consider an all-electric future campus
 - Find an alternative fuel source for the eternal flame (electric in lieu of gas)

RENEWABLE ENERGY

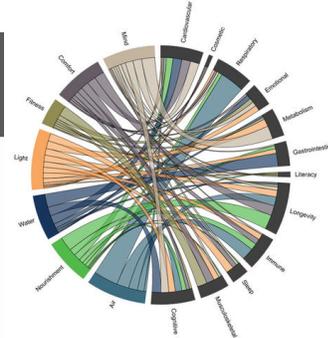
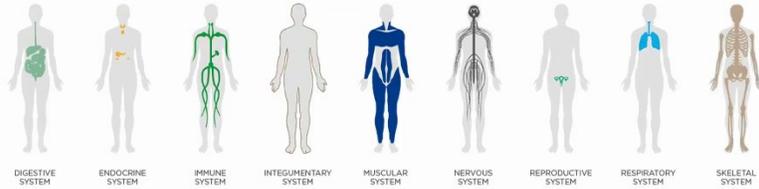
Overall Goal: Establish target goal for increased % of total energy

- Determine amount of the 669,099 SF of existing roof area across campus that is feasible for roof mounted PV for % of total renewable energy
- Consider Solar Hot Water for new construction or major renovation projects

Existing Overview: Seven sites and 18% of total campus electrical power

- Large scale solar panel system with WGL energy (10% of campus)
- Roof Mounted PV (Student Center and FPAC) (2% of campus)
- Solar Canopy (Parking Lot I/J) (7% of campus)
- Solar Charging Stations (Bus Stop, Smart landscape tables, benches)
- Solar Hot Water (swimming pool)

“first standard of its kind that focuses solely on the health and wellness of building occupants”



EXISTING BUILDINGS

- Existing aging facilities
- Some efficient upgrades (including doors / windows / lighting / MEP / plumbing fixtures)
- No individual metering (except for gas)
- 90% of campus buildings - building management with Johnsons Controls
- Establish a database / inventory of existing buildings and upgrades completed
- Install individual building metering and connect to existing building management
- Retro commission or re-commission existing buildings as upgraded
- Implement and upgrade items to level of New Building Design Guideline as feasible

NEW BUILDINGS

- MD High Performance Building Bill requires LEED Silver
- Existing buildings exceed minimum requirement (Platinum - CNSMN; Gold - Student Center)
- Consider LEED Gold as minimum target
- Consider other rating systems (Living Building Challenge, WELL Building Standard)
- Consider developing BSU mandatory credits and sustainable strategies which support the triple bottom line
 - o Student performance (Indoor Air Quality, Access to Daylight and Quality Views, etc.)
 - o Building performance (Energy and water minimum % reductions)
 - o Natural environment (Campus open space, Rainwater Management, etc)

INDOOR ENVIRONMENTAL QUALITY, IAQ

- Existing green cleaning products being used in all buildings
- Consider providing green cleaning baskets as student gift idea in Residence Halls
- Establish IAQ mandatory strategies for all new building and major renovations
 - o Construction IAQ Management plan and IAQ testing before occupancy
 - o IAQ minimum performance and chemical source control measures
 - o Specification and installation of low-emitting and healthy materials
- Consider an ongoing IAQ Management plan
- Establish other mandatory strategies that enhance student learning, occupant satisfaction, and overall health and well-being; (connection diagram above)
 - o Lighting and thermal comfort and control
 - o Access to daylight and views
 - o Connections to nature/ biophilic design strategies
- Consider strategies that support environmental responsibility
 - o Specification of recycled / regional / low maintenance / durable / rapidly renewing / sustainably harvested materials / materials with EPDs and HPDs
 - o Minimum construction waste reduction target

WATER

- Establish baseline metric and target goal for water use reduction
- Set water reduction targets for new buildings, existing buildings, and campus wide
- Individually meter each building as well as irrigation
- Track / monitor water usage in a portfolio manager (ESPM or WegoWise- provide links)
- Establish testing for water quality (reference WELL credits)
- Consider a Zero Water goal (Example: LEED Zero)

WASTE AND RECYCLING

Existing Goal by 2022 – 30% reduction in Solid Waste from 2006 (CAP)

- Evaluate progress and establish new target goal for % waste reduction and increased % of recycling
- Establish database for data collection of all strategies, initiatives, and events
- Provide break out of solid waste if possible (i.e. food waste)

STRATEGIES

- Solar compactor trash bins
- Recycle bins in all academic buildings and now multi-recyclers in Residence Halls
- Ensure recycling bins are located next to trash cans throughout campus
- Co-mingled recycling collection (Not coordinated or consistent across campus and in buildings)
- A campus-wide motivation campaign is already planned - Spring/ Fall 2020
- Paper use reduction programs (no paper contracts/ salary letters)
- Establish baseline metric and target goal for decreased % of paper use / Increased paperless / digital practices
- Florescent bulbs, ink cartridge, and toner recycling program
- Consider extending program to include

batteries and e-waste or host an E-waste recycling event twice a year

- Establish baseline metric and target goal for collection
- Consider establishing a sharing swap station / tool sharing library near Residence Halls
- Consider a Zero Waste goal (Example: LEED Zero)

ORGANIZATIONS AND OUTREACH

- KBC, Keeping Bowie Clean (monthly campus wide clean ups)
- ELLC, Entrepreneurial Living Learning Community (Entrepreneurship Academy)
- Keep Our Campus Clean (Planned campus wide recycle motivation campaign, Spring/ Fall 2020)
- Planned Recycle Task Force (from Newsletter)

EVENTS

- Residence Halls participation in Recycle-mania competition (have not participated in 2-3 years)
- Annual Shred Day since ~2008, (9,000 lbs or 4.5 tons collected in 2019)
- Clean Up Days (exists, but not consistent)
- Homecoming Clean Up Day, est. 2018, (2,300 lbs or 1 ton of trash collected in 2019)

DINING HALL AND FOOD



EAT A VARIETY OF VEGGIES

According to the U.S. Dept of Health and Human Services, a healthy eating pattern includes a variety of vegetables from all of the subgroups—dark green, red and orange, legumes (beans and peas), starchy, and other.



CHOOSE WHOLE GRAINS

According to the U.S. Dept of Health and Human Services, a healthy eating pattern includes grains, at least half of which are whole grains.

PROGRAMS

- Existing Tray-less Cafeteria, (est. 2013) (Student Center)
- Existing Food Pantry Program (Food Lion) (Expanded in 2019/2020)
- Planned Future Community garden / Fruit trees / Garden Committee
- Existing Events: Food Day (8 years); Mid Atlantic Food Recovery Summit (2018)
- Establish target goal for decreased % of food waste
- Create access to portion size options
- Establish a composting program
- Establish food to go box return program or use compostable containers (Example: GoBox, Article: How to start a Reusable Take Out Program)
- Provide access to nutritious / sustainable/ organic food options
- Provide nutritional messaging/ food advertising for healthy eating

DESIGN GUIDELINES

CAMPUS LANDSCAPING AND SITE DESIGN

OBJECTIVES

- Create a cohesive, uniform landscape character and sense of place on campus
- Create a comfortable pedestrian scale environment throughout the campus
- Preserve and enhance the existing woodland character of the campus perimeter
- Organize and define campus circulation and highlight important entrances, gateways and gathering spaces
- Enhance and maintain biodiversity and establish connectivity with the ecological context

STRATEGIES

1. Use consistent tree species to define the main pedestrian corridors core to provide a uniform landscape character
2. Use groupings of ornamental tree plantings to highlight entrances, gateways and gathering spaces
3. Emphasize planting of major shade trees throughout campus
4. Provide tree planting in parking lots
5. Plant drought resistant plant types suitable to the soil conditions
6. Identify wildlife habitat and riparian corridors and protect habitat and natural systems on campus
7. Avoid the removal of mature trees and other alterations of sensitive topography and vegetation

LANDSCAPE MANAGEMENT

OBJECTIVES

- Maintain healthy planting soils for optimal plant growth
- Develop low cost, non-toxic maintenance practices
- Enhance and maintain biodiversity
- Minimize use of potable water for irrigation

STRATEGIES

1. Compost campus landscape material and apply compost to planting beds
2. Apply organic fertilizers and compost teas to maintain microbiological health of the soil
3. Cut back perennial plants in the spring to \ allow winter interest
4. Choose plant material that does not need to be trimmed & pruned

STORM WATER MANAGEMENT

Consistent with State of Maryland Storm Water Management Regulations, construction projects must "...rely less on single BMPs for all development projects and more on mimicking existing hydrology through total site design policies". This change will result in smaller, less obtrusive facilities that are an integral part of site design and reflect the landscape character of the campus.

OBJECTIVES

- Restore the hydrological process to its natural function
- Preserve and protect the existing wetlands and stream valleys which surround the campus
- Create visible water systems that can educate the campus community

STRATEGIES

1. Retrofit existing and design new parking lots to incorporate vegetated swales, infiltration/ flow-through planters, rain gardens and permeable paving
2. Disconnect building downspouts
3. Design campus landscapes to incorporate storm water management facilities as features
4. Consider pervious paving options for hardscape applications
5. Consider green roofs for new building construction
6. Strategically open/enhance views into existing wetlands and stream valleys
7. Provide educational signage to describe the hydrological process and functions

SITE AMENITIES

Site amenities found on the main campus quad north of the Henry Administration Building – benches and lighting – should serve as standards for future site development for projects on the main campus quad. For other areas on campus, the site amenities adjacent to the Center for Business and Graduate Studies – benches, waste containers, and lighting – should serve as standards for future site development, either stand-alone or as part of future construction projects.

The unit pavers for walkways found in the main campus quad and in the primary north-south promenades west of Proctor and McKeldin and east CNSMN and the library should be incorporated into future site pedestrian ways.

In contrast to the variation in architectural styles of the buildings, the campus is generally unified, thanks in large part to the landscaping, new signage, and site improvements that knit the buildings together. In particular, the site and building signage program completed in 2018 embraces the University's yellow, orange, red and black color palette adopted in 2015, and, in addition to making wayfinding clear and understandable, serves to put the University's stamp on its buildings and the pathways that connect them.

BUILDINGS

Three primary zones are identified in the existing campus diagram in this facilities master plan:

1. Athletic/Recreation, including athletic buildings and fields, at the north end of campus
2. Residential, including historic buildings in the central area of campus
3. Academic, administrative and support buildings, comprising the bulk and academic core of the campus, located in the south half +/- of campus

In addition, at the far southwest corner, the area near the MARC station is “transit”

Similar characteristics of buildings are found in each zone relative to building scale, eclectic mixture of styles, and age, including buildings ranging in age from 1916 (Harriet Tubman Residence Hall) to 2017 (Center for Natural Science, Mathematics and Nursing). The campus developed slowly until the 8-year period 1967-1976, when five new building / expansion projects totaling nearly 500,000 square feet were constructed, representing half of all occupied non-residential buildings on campus today. In chronological order of completion, these buildings included:

- Crawford Science Building
- James Physical Education Complex
- MLK Communication Arts Center
- Thurgood Marshall Library
- Henry Administration Building

Crawford was demolished in 2017, and its site has since been developed as open space. The scale of the remaining buildings varies from 32,000 square feet (Henry Administration) to 167,000 square feet (Marshall Library). The remaining buildings are “modern” in design, and three in particular are very large (James, MLK, Marshall). These buildings came to dominate the campus aesthetic and still are a major factor in the perception of BSU's built environment, including first impressions of the buildings fronting on Henry Circle as large, anonymous, and unwelcoming. Two – MLK and Henry – are faced in concrete; the others are brick. MLK is scheduled to be demolished as part of the new Humanities Building project, now in design, and Henry is recommended to be demolished in this report. Together, removal of these buildings will mitigate the overall influence of these 1970s-era buildings.

Newer buildings have since changed and continue to change the character of the campus, introducing a newer, articulated aesthetic, and, except for CNSMN, more modest scale. These buildings include:

- Computer Science Building
- Center for Business and Graduate Studies
- Fine and Performing Arts Center
- Student Center
- Center for Natural Science, Mathematics and Nursing

These more recent buildings have tended to incorporate: glazed curtain wall, red brick and articulated openings in the building envelopes; references to the more historic buildings on campus; and banded masonry accents. All of these buildings have been constructed without significantly sloping roofs found on several of the residence halls.

The campus buildings are like an extended family, with corresponding identities and common bonds. Older buildings including Tubman, Goodloe House, Kennard, McKeldin, and perhaps even Robinson, should be maintained and renovated in a way that celebrates the history, function and style of each. Otherwise, future buildings should be contemporary to their time, reflecting and incorporating newer technologies, materials, and imagery. It is not the intent of this plan to discourage architectural statements in future buildings that are unique, as long as the rationale responds to programmatic requirements and the architecture respects the existing context.

Scale of the buildings varies, from the one-story McKeldin Gym, to the six-story Alex Haley and Christa McAuliffe and Towers residence halls. Towers is recommended for demolition. Most buildings in the academic core are 2-3 stories. A north-south longitudinal section through the campus would show medium height buildings to the north and south, punctuated by the taller residential facilities in between. This plan suggests

building on this low-high-low scale by introducing higher buildings at the south end of campus. Future academic buildings should generally be limited to 3 stories in height. If prescribed footprints and programs suggest a fourth floor, the additional story should present 3 floors to the main campus quadrangles, allowing the fourth floor to open to grade on the west for buildings on the west side of campus and on the east for buildings on the east side of campus. Massing of all buildings should be modulated to avoid large perceived bulk in any building. Sloped roofs are acceptable, as are roofs with only nominal slopes.

Face brick, generally red range similar to existing buildings, contrasting with other neutral masonry materials such as stone, cast stone, or manufactured stone should be considered for the opaque portions of the buildings. Other facing materials such as pre-finished metal or cementitious panels may be considered but should not be a predominant material in any building. Generous use of glass – in windows, storefront, curtain walls, and skylights - is encouraged, to bring natural light into the buildings and maximize views to the outside. Bird-friendly glazing should be used in openings, particularly in large expanses of storefront or curtain wall. Use of aluminum or stainless steel for windows, doors and trim is encouraged: aluminum in clear anodized or fluoropolymer finishes.

All buildings shall accommodate disabled persons, allowing access through the same main entrances that able-bodied persons would use. And, all building projects shall conform to University System of Maryland standards, including LEED Silver sustainability designation as a minimum; LEED gold or platinum designations are encouraged, following the standards set by the CNSMN building.

The 1910 Goodloe House, 3,000 square feet of pleasantly scaled and proportioned 1916 domestic architecture, the oldest and most historic building owned by Bowie State University, is located off-campus, across Maryland Route 197, and is not considered contextual to the current and planned campus facilities.

GENERAL CAMPUS AND SITE RECOMMENDATIONS

CAMPUS ORGANIZATION AND LANDSCAPE

1. Promote infill campus development, where possible, to enhance the campus's walkability, reinforce existing open spaces and preserve sensitive land. Where development occurs outside of the Loop Road, it should strengthen the connection to the MARC Station and help frame the gateway along Jericho Park Road.
2. Continue to maintain the landscape character of the campus core.
3. Celebrate the portals into campus from surrounding parking lots, through the use of landscape materials, architectural features, lighting and signage.
4. Expand shade tree coverage to help organize and reinforce the spatial quality of quads, promenades and places. Shade trees reduce heat island impact, provide seasonal variation and color and support wildlife.
5. 5. Develop a tree inventory to assess the age and health of trees. Use the assessment to identify pruning, removal and replanting strategies to maintain a healthy and full canopy coverage.
6. 6. Encourage the use of native plant species adapted to this region to reduce water consumption and improve wildlife habitat
7. 7. Preserve sensitive wetland, floodplains, forests and steep slopes to protect important ecological functions, maintain wildlife habitat and provide a rural campus setting.
8. 8. Create outdoor learning spaces to expand and complement academic facilities. Learning spaces opportunities may include the completion of the amphitheater located behind the Center of Business and Graduate Studies.
9. 9. Encourage a dialogue about the placement and organization of Fraternity and Sorority Plots to reinforce their meaning and social functions.
- 10.10. Orient new buildings so that building service areas and dumpster locations are not in highly visible locations on campus. Where service areas cannot be located away from pedestrian activity services areas shall be screened using walls, fencing, gates and landscaping. Screening materials should be compatible with adjacent building and site materials.

11. BSU should undertake a comprehensive Campus Landscape Master Plan to identify the health of existing plants and recommendations for future plantings.

PEDESTRIAN CIRCULATION

1. Improve pedestrian safety, circulation and experience between the campus core and the following key peripheral locations:
 - a. Entrepreneurship Living Learning Community
 - b. MARC Station
 - c. Athletics precinct
 - d. Performing Arts Center
2. Continue to maintain the existing pedestrian realm on campus including benches, pedestrian lighting and recycling and trash receptacles.
3. Develop convenient pathway connection between Parking Lot J and future athletic precinct.
4. Replace and expand walkways using the standard palette of surface and paver materials.
5. Coordinate and develop bike and walking paths on campus and at the periphery to connect with the County and City pathways including Bowie Heritage Trail and WB&A trail.
6. Upgrade the Loop Road to support recreational uses such as walking and jogging. Upgrades may include but are not limited to completion of sidewalks, signage, new lighting to illuminate dark areas, benches and mileage markers. Traffic calming strategies should be used to reinforce the pedestrian safety.
7. Make trail connections to Patuxent Wildlife Refuge and conservation areas north of the Loop Road to provide access to ecology, natural sciences and conservation educational experiences.
8. Continue to expand bike infrastructure (bike share, repair stations and showers and lockers) to support regular bike usage.

VEHICULAR CIRCULATION

1. Improve the intersection at Jericho Park Road and the access drive to Henry's Circle. The intersection needs to accommodate safe pedestrian crossings, enhance the sense of arrival and manage peak traffic movements. Coordinate design with Prince George's County Department of Transportation.
2. Provide convenient accessible parking within the athletic precinct.
3. Improve the sense of arrival to the Student Center from Loop Road. Strategies may include the following: relocate the Maintenance Facilities with a more inviting land use, develop a coordinated landscape design to frame the roadway, celebrate the terminus of the roadway near the Student Center.
4. Develop parking management strategies to support campus growth and avoid the need to expand parking facilities.
5. Clarify and potentially expand convenient visitor parking around the campus, particularly on Henry Circle.

TRANSIT

1. Enhance and improve the pedestrian safety and experience between the campus and MARC station.
2. Encourage and endorse the use of the Student Advantage Card or other incentive programs to provide discounts for MARC riders.
3. Install bus shelters along Henry Circle to protect riders from the weather and to provide a place to sit and wait.
4. Coordinate bike infrastructure with transit facilities.

EXTENDED CAMPUS OPPORTUNITIES

1. Continue to improve the Goodloe Alumni House site to support event experiences. Use landscape design to block undesirable views, frame outdoor event areas and accentuate the views of the historic house.
2. Continue to work with the State of Maryland and Prince George's County to implement a transit-oriented neighborhood adjacent to campus. Consider moving the existing parking lot east of the tracks to the other side of the tracks to assemble development opportunities (academic, commercial or housing) between the campus and the station.
3. Continue to work with the State of Maryland and Prince George's County to reposition the Bowie Race Track into shared recreation and athletic facilities.

CAMPUS DEVELOPMENT

Campus development plans are addressed in Section 5H Campus Development and Implementation.

CAMPUS DEVELOPMENT AND IMPLEMENTATION

CAMPUS ORGANIZATION AND BUILDING PROJECTS

The proposed Campus Master Plan provides a framework for logical, sequential phased development over a more than ten year period. The master plan strives to respect and build upon the successful aspects of the existing campus, while building a new innovative academic community. The physical plan enhances existing traditions as well as offers new opportunities for ceremonies and celebrations. The plan identifies the location of future academic, administrative, residential and athletic facilities as well as building forms that give shape to shared outdoor spaces.

The key development strategies include the following:

1. Strengthens Henry Circle as a visitor destination, hub of campus activity and node to other campus spaces
2. Creates an innovative living-learning residential neighborhood between Jericho Park Road, Henry Circle and MARC station
3. Improves the arrival experience, spatial definition and pedestrian connections within the existing campus core
4. Reconfigures the athletics precinct to enhance the experience and strengthen access to sports events
5. Leverages MARC station to develop convocation center as an anchor for a future mixed-use TOD neighborhood.
6. Protects and enhances sensitive environmental features surrounding the campus.

The campus plan balances preserving the traditional campus while creating an innovating and forward-thinking center of living and learning around Henry Circle. The following outline discusses individual building, circulation and site improvement projects that collectively complete the vision for Bowie State University:

- The proposed Humanities Building will frame the western edge of campus and provide a new quad to receive people from Henry Circle. The quad space offers a variety of outdoor learning spaces, plazas and pathways. The building terminates the southern end of the western promenade. The position of this building and open space reinforces direct pedestrian connections to the existing MARC station.
- The proposed Innovation Village will consist of a mix of residential buildings with space for innovation, incubator or flexible academic uses as well as the potential for convenient retail, dining and student amenities. The Village will anchor the southwest corner of the campus adding critical residential mass to the Living-Learning Residence Community currently under construction. The Village adds vitality and improves visibility to and from the MARC station and Route 197. The first phase of this development includes a new residential building at Jericho Park Road to complete the architectural framing around the main gates at Route 197. Three other residential buildings within the Loop Road define the edge of Henry Circle, Loop Road and the new Humanities Quad. Open space between these buildings offers flexible residential amenity as well as outdoor innovation and learning spaces. Ground floor non-residential uses will activate the corridor between the Henry Circle and the MARC station.
- Future Research / Incubator Facilities will be incorporated within the residential buildings of the Village or located in a building adjoining the proposed parking garage. This facility, similar to the Center for Business and Graduate Studies, will provide space to help foster business, research and academic partnerships. The location at the MARC station and/or embedded in the Village provides visibility and convenience for visitors.
- A new academic building will be located opposite the Center of Business and Graduate Studies along the entrance drive to Henry Circle, at the current location of Robinson Hall and adjacent parking. The north-south

academic wing will be setback from the entrance drive creating a greenway link with a safe and accessible pedestrian route between Henry Circle and the Living-Learning Residence Building. Depending on the needs of the facilities and the condition of Robinson Hall, the new academic building could be designed to connect to Robinson Hall or be phased to receive a new academic wing as a replacement for Robinson Hall. This 'L' shaped building complex will define the pedestrian corridor between the Performing Arts Center and Henry Circle.

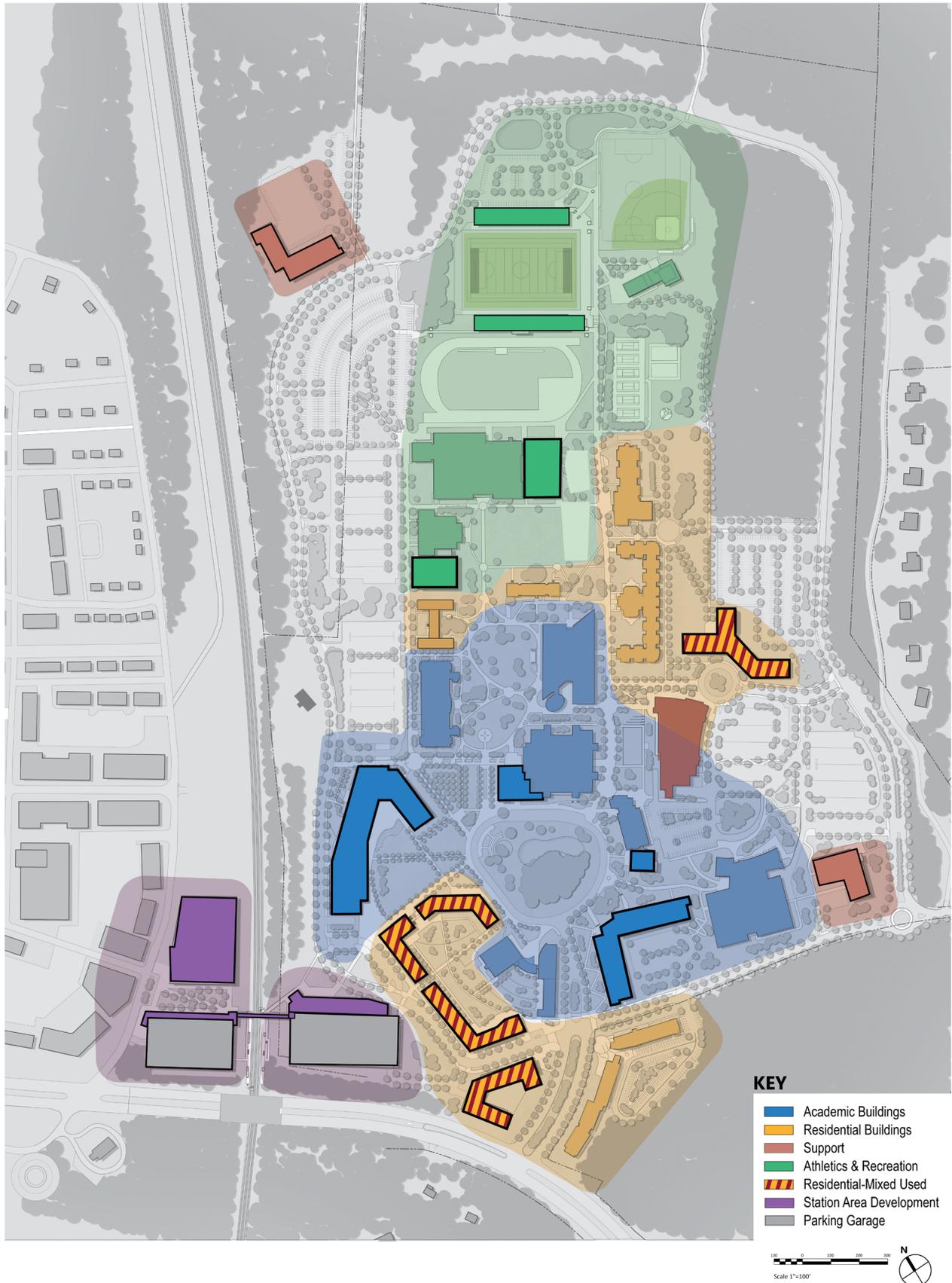
- A southern addition to the Computer Science Building forms the northern edge of the pedestrian corridor linking Henry Circle to the Performing Arts Center.
- A Welcome Center and Admissions addition to Thurgood Marshall Library provides a convenient location and highly visible focal point for visitors arriving to campus. The addition anchors both Henry Circle and the West Courtyard, an ideal location to start and end campus tours for prospective students. This corner addition along with the demolition of Henry Administration Building opens up and reinforces the north-south campus axis running between James Gym and the Obelisk to a proposed amphitheater within Henry Circle. Student Services and Administration offices from the Henry Administration Building will be relocated to the Library.
- A future residential hall will replace the existing Facility Maintenance and Office Building. This building will complete the promenade and gateway experience along the north side of the Student Center. This residence hall adds to the critical mass of residents north of the academic core and will enclose a new residential quad east of McAuliffe Residential Building.

- A new Public Safety and Communication Building will anchor the southeast corner of the campus and will replace Goodloe Apartments. This development will provide additional surface parking and a secondary exit point onto the Loop Road. Service and parking will be accessed also from Jericho Park Road.
- The James Physical Education Complex will be expanded to the east providing additional enclosure to Holmes Plaza. When the Towers Residential Hall is demolished a new quad will be created between James Physical Education Complex and the Eastern Promenade. This space could provide fitness and recreation opportunities as well as a secondary entrance to the James Physical Education Complex.
- McKeldin Gymnasium will be renovated and expanded. The McKeldin addition will strengthen the enclosure along Holmes Plaza and frame the West Promenade.
- A new Bulldog Football Stadium is proposed to replace the existing softball field. The stands of the new stadium will be incorporated into the slope adjacent to the track. The upper level of the stands will receive access from the East and West Promenades. In particular, the East Promenade will terminate on a gateway terrace located on the upper level of the stands overlooking the football field and athletic precinct. This vista strengthens the connection between the campus core and athletics and recreation. This plaza and monumental stairs down to the fields below creates opportunity to develop new traditions such as alumni and visitor processions to games along the East Promenade. New grandstands provide public bathrooms, concessions, ticketing, storage and team rooms as well as elevators to provide an alternative accessible route between the East Promenade and lower athletic fields. A plaza at the northeast corner of the stadium

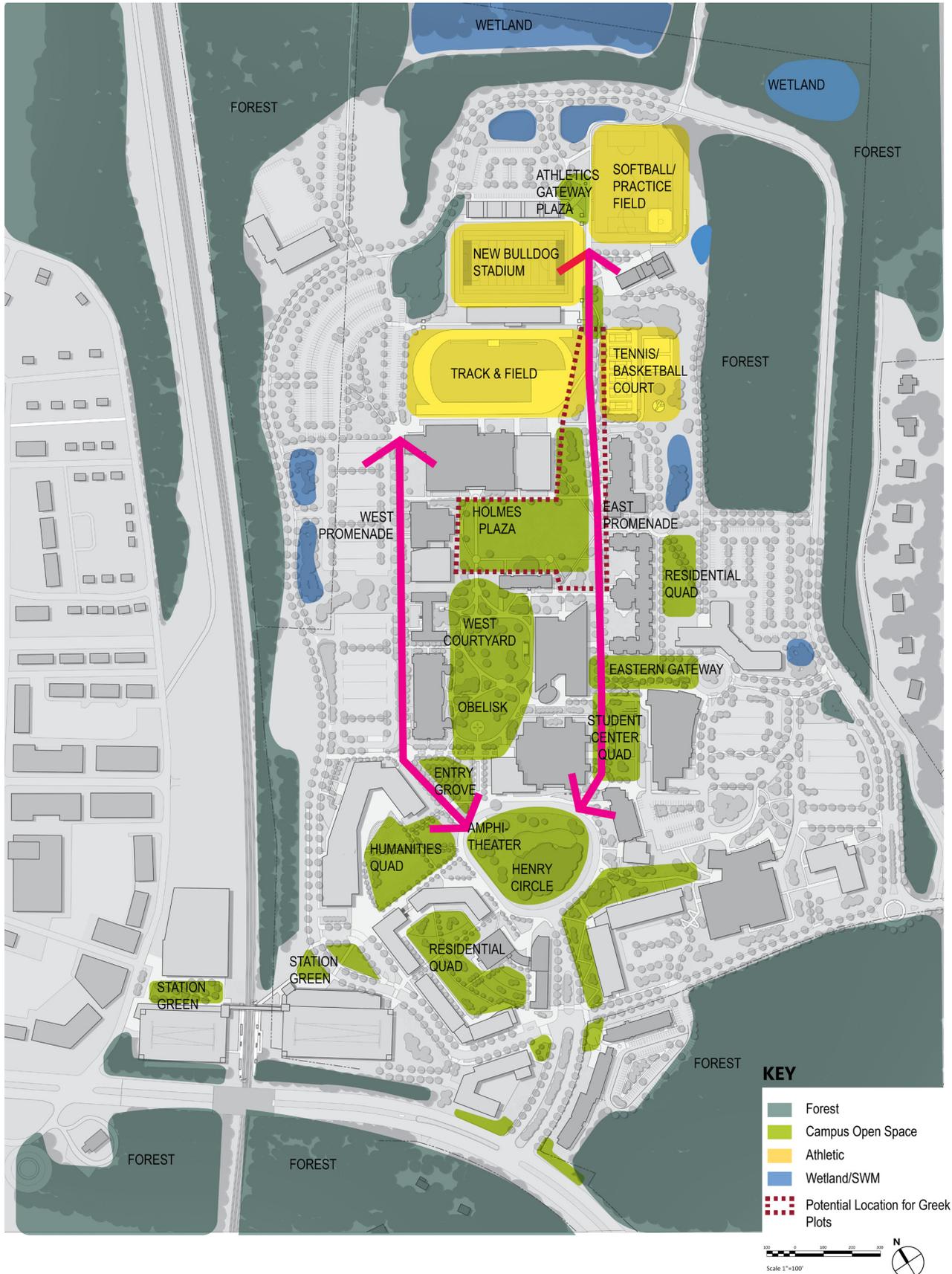
provides a central gathering space for visitors arriving from a new adjacent parking lot as well as pathway connections to the Loop Road sidewalks, fields and the East Promenade. The plaza creates a space to celebrate and memorialize the achievements of Bulldog sports.

- Holmes Plaza and the Eastern Promenade between the Center of Natural Sciences, Mathematics and Nursing and the Athletics Precinct offers open space to equitably reposition Greek Plots to support their individual mission as well as enhance Pan-Hellenic coordination during celebrations and athletic events. Relocation of Greek Plots requires discussion and planning with between the University and the Pan-Hellenic organizations.
- The softball field is relocated to the former football field site. The softball field will be expanded to provide an overlapping flexible practice sports field with the outfield. This provides year-round usage. New bleachers and press box will be provided around the edge of the infield.
- The Maintenance Facility and Offices are relocated outside the Loop Road on the northwest corner of campus. This location provides adequate space for maintenance operations and storage, without compromising valuable central campus real estate.
- The Convocation Center will be located in the extended campus west of the MARC station. This facility will serve as a cornerstone center for the TOD development district. The Convocation Center will provide conference and meeting space for the University as well as for nearby surrounding institutions, business organizations, and communities. Along the tracks, the building will serve as a billboard opportunity to celebrate and raise awareness of BSU. An iconic architectural form or super graphic signage along the tracks would be appropriate. A shared parking garage adjacent to the MARC Station and Convocation Center should provide ground level retail space to activate the transit plaza and create a sense of place for events at the Convocation Center as well as provide parking for commuters and visitors.
- The redevelopment of the Bowie Race Track site offers an opportunity to create additional space for new recreational and athletic facilities and fields. These shared facilities would provide flex space for teams during the relocation of the football and softball fields.

PROPOSED LAND USE PLAN



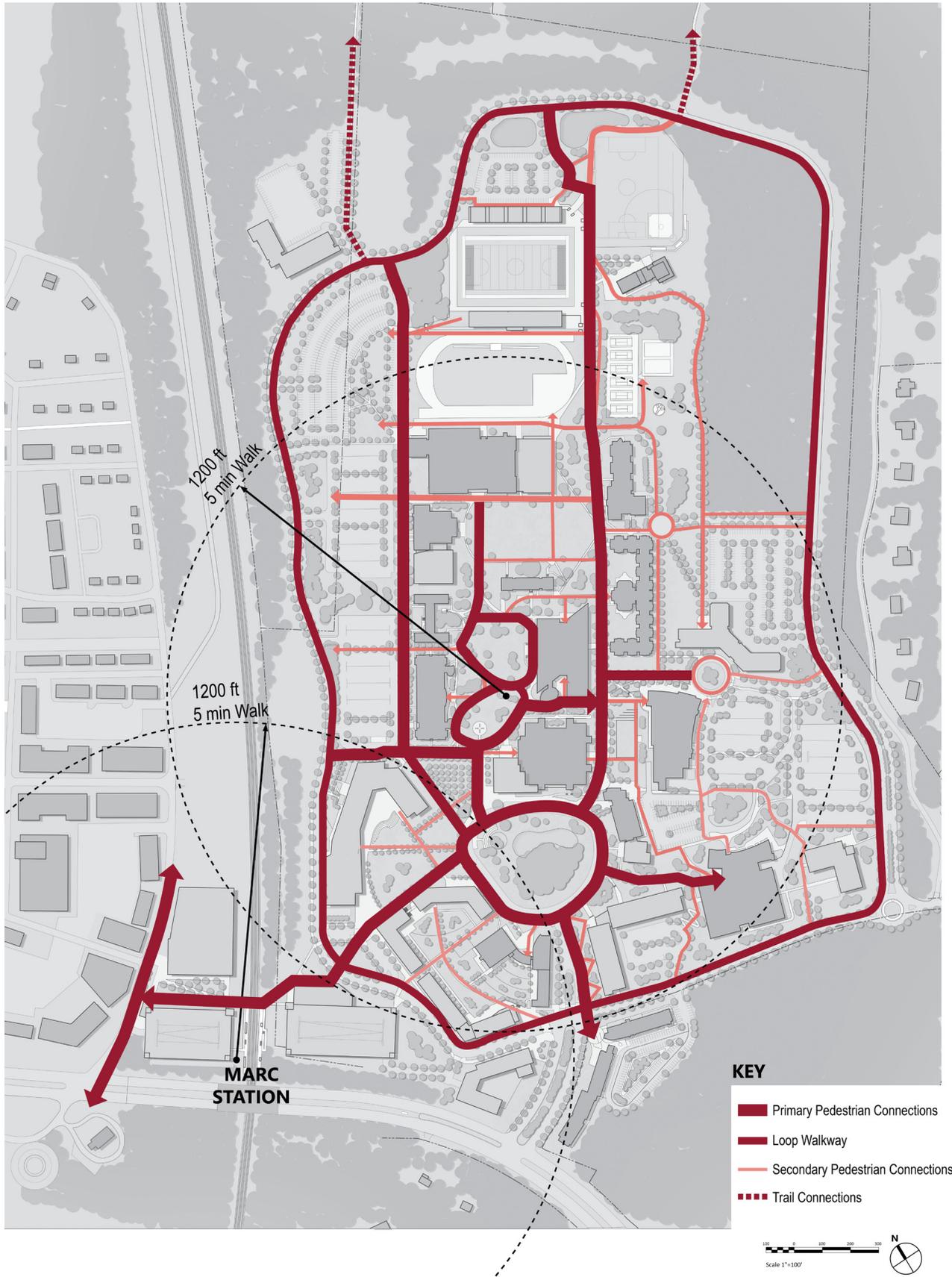
PROPOSED OPEN SPACE PLAN



PEDESTRIAN CIRCULATION AND CAMPUS OPEN SPACES

- Henry Circle will be expanded westward to conform with the geometries of the new Humanities Building, Library addition and Innovation Village. The additional open space inside the extended curve of Henry Circle provides an opportunity for a memorial site. This site is on axis with the Obelisk in the Western Courtyard strengthening the visual connection across the entire campus. Pathways through Henry Circle will create convenient and direct pedestrian connections, with raised boardwalks enhancing accessibility and gently imprinting on this natural, parklike setting.
- The new Humanities quad offers a variety of outdoor spaces including flexible lawns, outdoor classrooms and network of pathways. A promenade, along the southern edge of this Quad will connect Henry Circle with the MARC Station. The promenade will be activated by ground floor uses within the residential buildings, such as academic, innovation or retail and dining services.
- MARC Station access is expected to be improved with adjacent development. Improvements tunnel or bridge over tracks (Garage to garage) as means to connect the campus and proposed TOD Development.
- The demolition of Holmes and Towers Residence Halls expands Holmes Plaza to better accommodate recreational activities or for larger gatherings.
- The demolition of the Henry Administration Building visually opens up the strong north-south axis through the existing core of the campus with Henry Circle. The Welcome Center (library addition) and a potential future academic building creates a threshold between the historic campus and the new Henry Circle. To further enhance the threshold the two buildings could bridge over this organizing axis or connected by a ground level colonnade. The threshold creates a gateway and offers a narrative of about individual and collective growth, moving between the comforts of a nurturing academic community and entering prepared into the world ready to make positive change.
- A new residential quad north of the Student Center and east of McAuliffe Residential Community offers flexible play, study and socialization space for residents. As this space continues north, it transitions into a wildlife corridor between the Stadium and Loop Road. The wildlife corridor provides natural drainage and ground water recharge functions as well as habitat for species.
- The East Promenade will extend north past Alex Haley Residence Hall linking the campus with the relocated stadium and athletic precinct. The Promenade descends a flight of monumental stairs leading to Bulldog Stadium plaza at the center of the athletic precinct. The expansion of the Promenade the full length of the campus strengthens the purpose of this walkway for the celebration of campus life. The proposed organization of Greek Plots along the Promenade and possibly extending into the Holmes quad provides equitable distribution of their plots, but also helps celebrate their legacy and fosters new traditions of engaging alumni, staff and current students along a journey to the Stadium.
- The West Promenade will connect the Humanities Building with the southwest entrance of the relocated football stadium. This walkway serves as a secondary route between the campus and the stadium and provides entry points into the campus from adjacent parking lots.
- Trail connections leading north towards Patuxent River will link the campus with the WB&A Trail and Bowie Heritage Trail.
- The Loop Road alignment offers recreational opportunities for the campus community and surrounding neighborhoods. Completion of the pedestrian sidewalks and pathways along the Loop Road will provide safe walking and jogging circuit for the University constituents as well as neighbors. Site lighting should be placed to fill the gaps of dark areas along the sidewalks, without creating light trespass towards the sky and adjacent ecological areas. Connections to the Loop Road system should radiate from campus core and provide links to regional trail and neighborhood connections. The repainting of lanes on the Loop Road should include sharrow symbols to alert motorists to share the roadway with cyclists.
- Existing parking Lot K east of the Computer Science Building will be reduced in size to create an important pedestrian connection between the Fine and Performing Arts Center and the East Promenade.

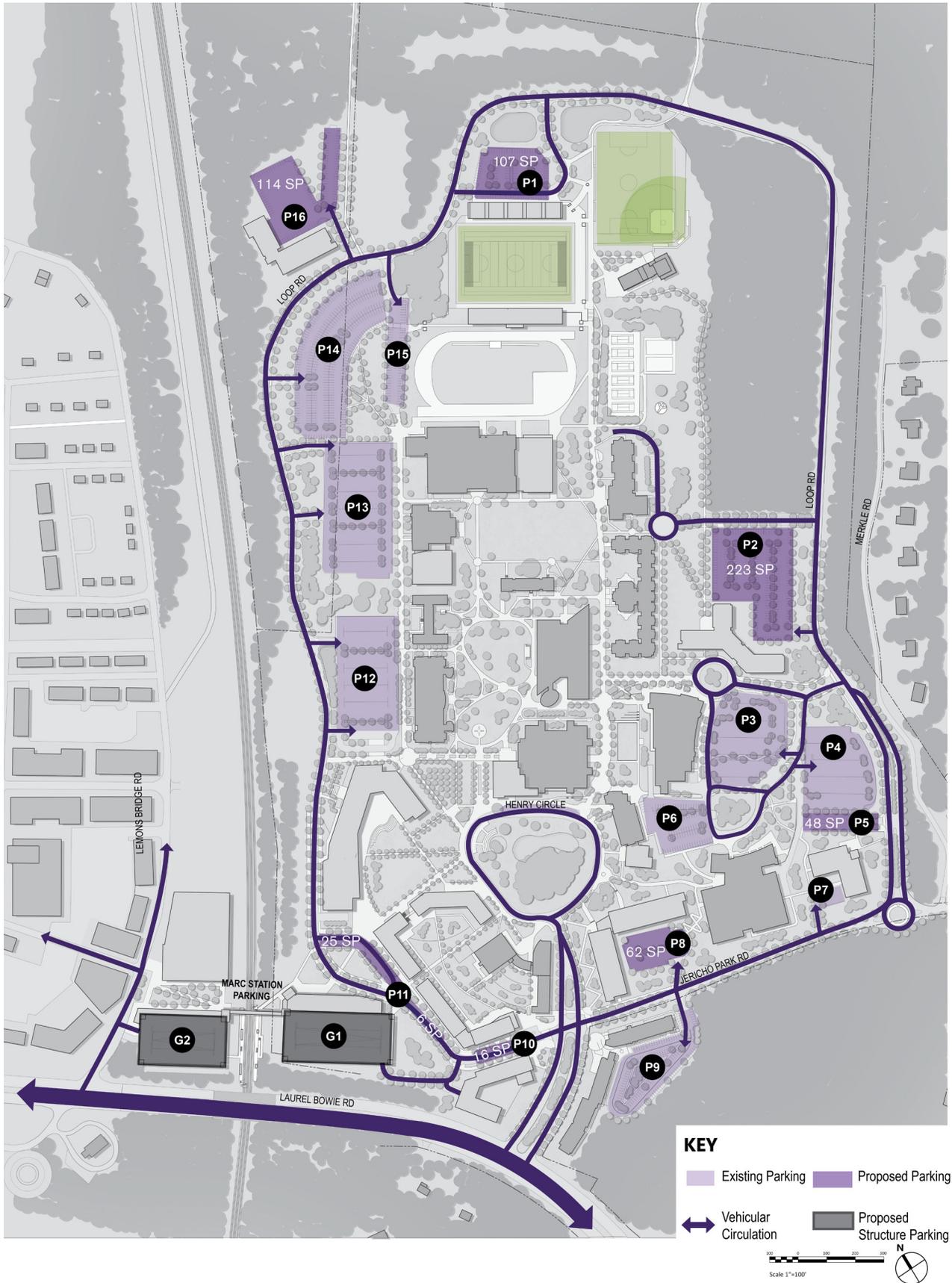
PROPOSED PEDESTRIAN NETWORK



VEHICULAR CIRCULATION AND PARKING

- Campus growth has and will expand south of Jericho Park Road. This expansion enhances the sense of arrival and visibility from Route 197; however, this adds more pedestrians crossing Jericho Park Road and the Loop Road. The design of the intersection of Jericho Park Road and the entrance drive connecting to Henry Circle is critical and needs to be detailed to promote pedestrian safety and convenience. Design features should include signalized traffic and pedestrian controls with extended crossing time for pedestrians, highly visible crosswalks and safe and accessible refuge space in the median and at the intersection.
- Bowie State University should acquire the MARC station parking lot in order to provide structure parking conveniently located adjacent to the Innovation Village and Humanities Building. The parking garage replaces parking capacity reduced with the demolition of Parking lots F,E, D, C, B and A. The Loop Road segment between Jericho Park Road and the Humanities building separates the campus buildings from the parking garage. The streetscape along the Loop Road is intended to be more pedestrian in nature, with street trees, wide sidewalks and where possible on-street parking. Wide and crosswalks with pedestrian crossing signals shall be placed where pedestrian crossings are most desirable and visible.
- A service lane loop south of the Humanities Building provides convenient short-term and accessible parking as well as drop-offs. The open space between Loop Road and service lane provides an opportunity to integrate stormwater management as a focal landscape feature enhancing the arrival to the Innovation Village, Humanities Building and MARC Station.
- On the east side of the campus, a new drop-off circle will terminate the arrival sequence from the Loop Road to the Student Center. This experience provides a strong functional and visible gateway.
- A new parking bay will be introduced to Lot L and provides a convenient exit onto the Loop Road.
- Parking Lot P will be relocated east of the new residential hall to provide amenity space for residents.
- A new parking lot will be located north of the relocated Bulldog Football Stadium, providing convenient and accessible parking for sporting events. The parking lot will provide bus drop off space.
- New tree planting is recommended within both new and existing parking lots. Where possible, parking lot islands should be utilized for bio-retention as well as tree planting.
- In summary, the new 967 parking spaces on the campus supplies new parking as well as replaces the 818 parking spaces lost for construction of new facilities and to improve the campus landscape. The new MARC commuter garage west of the station provides 850 parking spaces for commuters and overflow for Convocation Center and campus events. Parking improvements can be phased and coordinated with future building projects.

PROPOSED VEHICULAR & PARKING PLAN



WAYFINDING

- Visitor and accessible parking should be Identified and located conveniently within vicinity of destinations such as Student Center and proposed Welcome Center (Library addition). The expanded Henry Circle will provide additional accessible and visitor parking as well as transit bus access. Update campus maps and identify visitor and accessible parking on these maps.
- A common language of site furniture, lights and landscape forms should continue to be used to reinforce the identity of the campus or sub-regions of the campus.
- The extensions of East and West Promenades should continue to use existing material palette and pattern to provide a strong visual link between the Athletics area with the campus core.
- New pedestrian thoroughfares between Henry Circle and MARC Station, Performing Arts Center and Jericho Park Road should use designed using common material palette of pavers along with landscape and site features.
- Current wayfinding signage standards and family of signs should be incorporated with new campus facilities and open spaces.

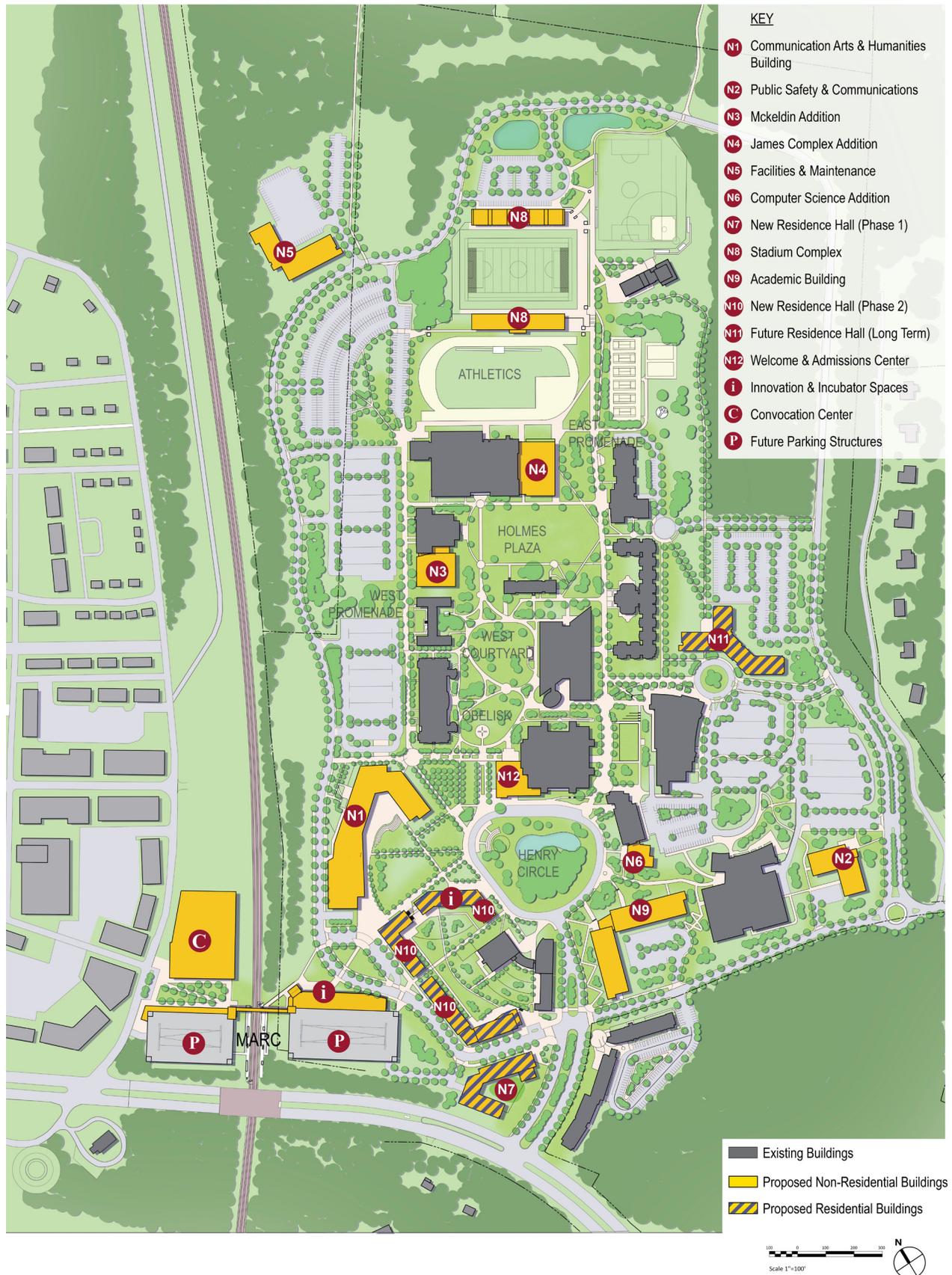
The existing campus plan and proposed campus development plan are on the following pages.

EXISTING CAMPUS



- 1 Center for Business and Graduate Studies
- 2 Martin Luther King Jr. Communication Arts Center
- 3 Williams E Henry Administration Building
- 4 James E Proctor Jr. Building
- 5 Harriet Tubman Residence Hall
- 6 Theodore McKeldin Gymnasium
- 7 Leonidas S James Physical Education Complex
- 8 Track and Field
- 9 Softball Field
- 10 "Bulldog" Football Stadium
- 11 Field House
- 12 Tennis and Basketball Courts
- 13 Alex Haley Residence Hall
- 14 Towers Residence Hall
- 15 Dwight Holmes Residence Hall
- 16 Christa McAuliffe Residential Community
- 17 Lucretia Kennard Residence Hall
- 18 Center for Natural Sciences, Mathematics and Nursing
- 19 Thurgood Marshall Library
- 20 Student Center
- 21 Computer Science Building
- 22 Charlotte Robinson Hall
- 23 Fine & Performing Arts Center
- 24 Goodloe Apartments
- 25 Facilities Management Building
- 26 Central Steam Plant
- 27 Goodloe House
- 28 Entrepreneurship Living Learning Community
- A Parking

PROPOSED CAMPUS DEVELOPMENT PLAN



AERIAL VIEW: PROPOSED CAMPUS DEVELOPMENT PLAN



5 APPENDIX



Post-Pandemic Scenario Planning Study

December, 2020



hord | coplan | macht

Table of Contents

1. Introduction

- Purpose of the Study
- Process
- HCM and BSU Team

2. Overview: The Pandemic Landscape

- The Coronavirus
- Education Institutions and Systems
 - Colleges and Universities
 - The University System of Maryland
 - Bowie State University

3. Drivers

- External
- Internal

4. Scenarios

5. Considerations

- Enrollment
- Academic Programs
- Maryland Dept of Labor Occupational Projections
- Student Affairs
- Technology
- Athletics and Recreation Programs
- Physical Plant

6. Recommended Strategies

- Proactive Recommendations
- Scenario 1
- Scenario 2
- Scenario 3
- Opportunities
- Risks

7. Summary

INTRODUCTION

PURPOSE OF THE STUDY

In November, 2020, BSU engaged Hord Coplan Macht to undertake a scenario planning study to explore the impact of the COVID-19 pandemic on the University, particularly regarding BSU's ability to make short term plans including the Spring 2021 semester and for the next three-to-five years afterwards. The study develops planning scenarios examining how the University may emerge through and out of the pandemic. Study findings lay out discrete options which can be applied in different forms to each scenario. The University will be able to use this report as a tool as it evaluates its options and paths forward.

This study is presented as both a stand-alone document and as appended to the BSU 2020 Facilities Master Plan. While the FMP is a long range (10-year+) plan and makes long term recommendations, this report looks at a much shorter planning horizon, and is conceived to supplement the findings of the FMP.

THE PLANNING PROCESS

Throughout November 2020, the HCM team conducted research into the following:

- The pandemic landscape
- Pandemic resources available to and pandemic responses by:
 - Other colleges and universities
 - The University System of Maryland, and
 - Bowie State University

Interviews were conducted with the following BSU staff:

- Gayle Fink – Institutional Effectiveness, Institutional Research
- Dr. Carl Goodman – Academic Affairs
- Dr. Brian Clemmons – Enrollment Management
- Clyde Doughty – Athletics and Recreation
- Marivic Weiss – Information Technology
- Dr. Demetrius Johnson – Student Affairs
- Jacqueline Jackson Palmer – Facilities, John Hammond – Planning, and Seamus Corcoran – HVAC / Johnson Controls

HCM developed three scenarios and strategies to be considered for each.

The HCM team conducted six internal workshops and workshops with the consultants contributing to the process, including Dr. George Funaro – academic programming and delivery, Mike Purtell – mechanical and HVAC systems and controls, and Jeff Cohen – technology systems. In the workshops, the scenarios and strategies were identified, discussed, debated, and developed.

HCM met with and presented to Anthony Savia (Finance and Administration), Darryl Williford (Facilities), and John Hammond (Facilities Planning) the products of the team's research, interviews, and development of scenarios and strategic responses.

The study report was composed and presented to the University in draft form at the end of December, 2020.

THE HORD COPLAN MACHT AND BOWIE STATE UNIVERSITY TEAM

For Hord Coplan Macht, our team was led by:

- Paul Lund, Principal-in-Charge
- Bruce Manger, Project Manager
- Jenine Kotob, Project Architect and education institutions pandemic specialist

Consultants to the HCM team included:

- Dr. George Funaro, former Provost, University of Maryland College Park and former Maryland Higher Education Commission Deputy Secretary
- Michael Purtell, Principal, Gipe Associates, Inc.
- Jeffrey Cohen, Principal, speXsys, Inc.

In addition, HCM invited two individuals from other venues to review our scenario development, which was integrated by way of two online workshops:

- Glen Steinbach, Advisor to Johns Hopkins University Senior VP for Finance & Administration
- Nancy Sturm, Principal Consultant, NV5 Global, Inc.

Bowie State University's participation was led by:

- John Hammond, University Architect and Project Coordinator
- Anthony Savia, Vice President for Finance and Administration
- Darryl Williford, Director of Facilities Management

OVERVIEW: THE PANDEMIC LANDSCAPE

THE CORONAVIRUS



Figure 1 Bulldog Mascot with Mask, Brian Krista/Baltimore Sun Media Group

At the end of 2019, a novel coronavirus referred to as SARS-CoV-2 or COVID-19 first appeared in China, then rapidly spread, creating a global pandemic that would dramatically transform our world. COVID-19 arrived in the United States in March 2020, starting at a senior living facility in Washington State, then moving across state lines within a matter of days. With little known knowledge of the virus, such as who was at most at risk and how it spread, public health organizations such as the Center for Disease Control (CDC) and the World Health Organization (WHO), recommended that individuals stay in their homes and isolate from one another to mitigate ongoing spread. Separation of individuals from one another became known as Social Distancing, and was aggressively

enforced in countries around the world. This measure brought global industry to a screeching halt, shut down schools, cancelled weddings and gatherings, rendered office buildings, hotels, and various facilities as useless. Nine months later, at the time this study is being written, Johns Hopkins University reports that there are 80.9 M+ global cases-to-date, 19.2 M+ US cases-to-date, and 333,000+ US deaths-to-date.¹ To put these numbers into context, the WHO estimates that 1 billion people worldwide get influenza every year, with 300,000-500,000 deaths annually.²

Quick Facts about COVID-19³

1. Coronavirus causes respiratory disease, which presents a wide range of illness from completely asymptomatic or mild symptoms through to severe disease and death.
2. The mean incubation period is 5-6 days and can range between 2-14 days. 14 days was the recommended minimum for quarantine, subsequently reduced to 10 days.
3. Asymptomatic people may present 30-60% of total infections and is assumed to be one major reason why rapid and widespread transmission can occur.
4. Transmission is predominately by respiratory droplets, but aerosolization can also spread the virus by speaking or singing, especially indoors and for prolonged exposure.
 - a. CDC defines prolonged exposure as cumulative 15 minutes over 24 hours, less than 6-feet apart.
5. Super-spreaders are those individuals who spread the virus to many others at once, most likely because of increased aerosols while speaking loudly, singing, increased movement, etc.
6. Mass gatherings, especially indoors or in small spaces with poor ventilation, appear to amplify transmission.

¹ <https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6>

² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3278149/>

³ https://www.hopkinsguides.com/hopkins/view/Johns_Hopkins_ABX_Guide/540143/all/Coronavirus#3.0

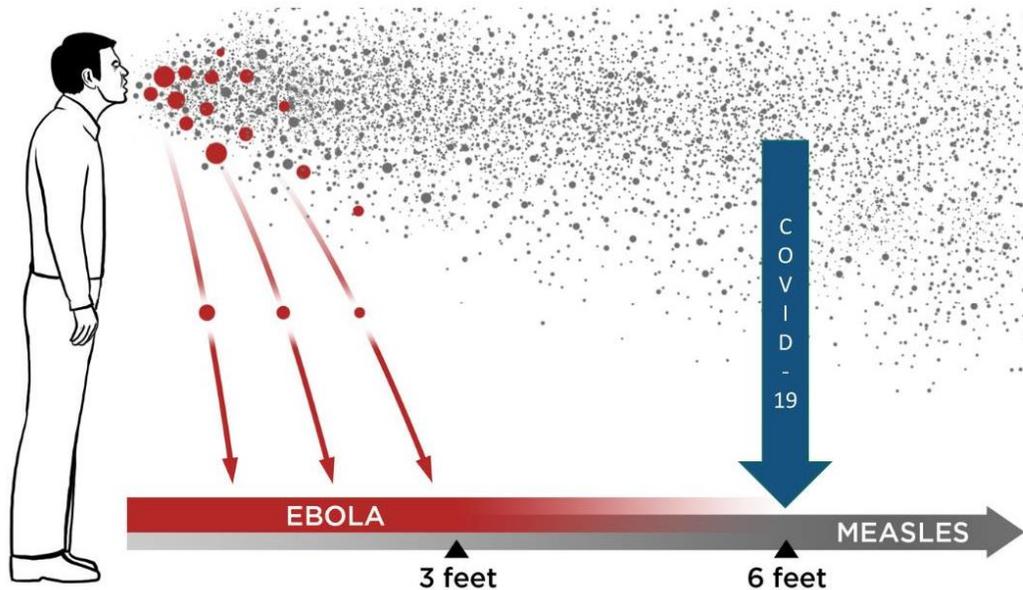


Figure 2 Coronavirus Respiratory Droplets Distance

Tools for Mitigation of Transmission⁴

1. Social Distancing, heretofore referred to as Spatial Distancing, at a minimum 6-foot distance has been implemented to date as one of the most effective methods for preventing transmission.
2. Personal protection equipment (PPE), specifically masks, is one of the primary tools recommended to mitigate transmission and is typically enforced at state and local levels for all individuals in public spaces.
3. Limiting gatherings over ten people has been encouraged and enforced in many but not all states.
4. Essential facilities, i.e. grocery stores, are open for use but are recommended to limit occupancy, require PPE of patrons, and many have implemented changes to the physical environment, such as, hand sanitizer stations, sneeze guards, and distancing signage.
5. Regular handwashing and limited touching of shared surfaces are recommended to prevent transmission from surfaces, to hands, to eyes and mouth.
6. Testing is recommended to assist in ongoing monitoring and confirmation of sick individuals. Those individuals who are positively identified should be quarantined for the recommended period to prevent transmission.

Populations at Risk⁵

1. Elderly, especially 65 years and older; 80% of the US deaths are age 65 or older.
2. People with comorbidities. CDC reports 94% of COVID-19 related deaths have at least one comorbidity present.
3. Blacks, Native Americans, and Latinx populations appear to be hospitalized at rates greater than expected on a population basis.
4. Adults 20-44 account for 20% of hospitalizations and 12% of ICU admissions.

⁴ Ibid

⁵ Ibid

A Framework for Institutions and Pandemic Planning

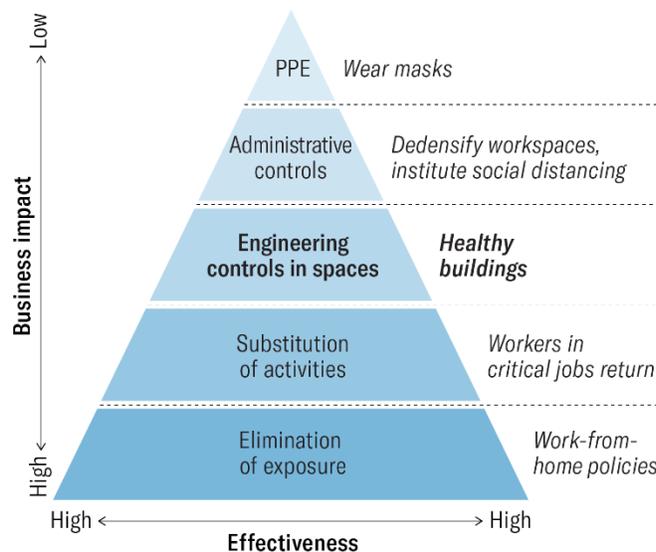


Figure 3 CDC's Hierarchy of Controls

Greater alignment between health and business/institutional operations will be required moving forward. This encompasses everything from physical health to mental health. We have seen that our world was woefully unprepared for a global pandemic, despite many leading experts predicting that a pandemic of this scale was inevitable. It is likely that this will not be the last pandemic we see, and institutions will need to integrate public health tools in their operations permanently to become more resilient for the future.

At an operational level, the CDC's Hierarchy of Control for Risk Mitigation should be implemented as a preventative tool in the case of future emergencies, pandemic or otherwise. By employing this risk management tool, institutions ensure that they maintain continuity of operations and can limit financial blows with lasting effects. Additionally, this

tool takes a holistic approach by addressing various levels of application, including but not limited to facilities, administrative, and PPE controls.

Where are we today and what's next?

By the end of November 2020, a vaccine by Pfizer was announced as having successfully been approved by the Food and Drug Administration. This was followed in December by approval of the Moderna vaccine. Soon shortly after, several other vaccines are expected to be approved globally and are starting to be implemented. Initial clinical trials for the vaccine were for groups where individuals were between the ages of 18 and 55. Additional trials are required to study other populations, i.e., those over 55, youth, pregnant women, etc. The deployment of these vaccines will take considerable time and will be distributed through state and local systems. As such, the virus will not be eradicated overnight and perhaps may never be eliminated. Scientists and public health experts are unsure of the future and what our world will look like with COVID-19.

Over the next few years, it is important that institutions continue to follow recommendations by the CDC, WHO, ASHRAE, and OSHA, in conjunction with local and state regulatory bodies. Wearing PPE, spatial distancing, elbow bumping, and other new norms may stick around for a while, resulting in significant changes to our cultures and society.

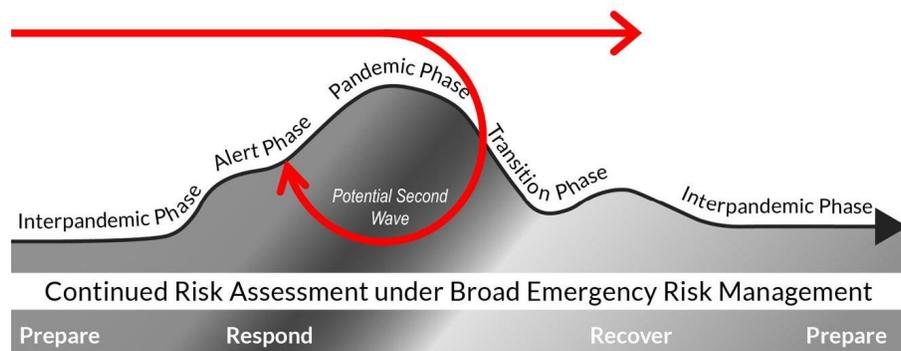


Figure 4 Pandemic Risk Management Phases

COLLEGES AND UNIVERSITIES

The college and university financial and enrollment landscape has been rapidly evolving over the last 15 years. There is a growing realization that the business model of higher ed is not sustainable and the demographic of the typical college student is rapidly changing. The emerging student profile is rapidly evolving and the demographics are showing the future students coming from the south and southwest and from an economic background that will need financial assistance with college tuition. This poses a challenge to the majority of the colleges that are located in the mid-Atlantic and Northeast. Higher ed leadership is reevaluating the financial model, funding sources and the degree offerings. The pandemic is accelerating this thinking and challenging leadership to look to long term viability.

Over the past year, colleges and universities have also had to quickly adjust to the Coronavirus pandemic. Throughout the nation, colleges and universities have pivoted to virtual and hybrid educational delivery. Unlike the 1918 pandemic, technology existed today to facilitate this quick transition. All institutions are not the same and this has been more difficult for those that did not have a significant virtual degree program. BSU falls into the latter category, but has been remarkably nimble in establishing online courses over the last 8 months.

Across all institutions, expenditures have increased to incorporate pandemic protocols to allow the universities to operate virtually and make accommodations for the return of students. This has further strained the finances of each institution, and coupled with the longer term financial concerns, has made institutions and state systems begin to think of a future model of higher education that is more sustainable.

THE UNIVERSITY SYSTEM OF MARYLAND

In addition to BSU's own initiatives since the pandemic began its rapid spread in early March, 2020, the University System of Maryland offered guidance and coordinated efforts throughout institutions within the USM to put in place protocols for managing the virus within each institution's community, especially for those individuals who were on campus. The following article by Jay Perman, USM chancellor, frames those efforts. The article was published by The Baltimore Sun on December 20, 2020.

Lessons from an on-campus semester



Jaheen Williams works on his laptop with classmates spaced out behind him, during an oral communication class in a lecture hall in the Martin Luther King Jr. Communications Art Center at Bowie State University on September 9th. BRIAN KRISTA/BALTIMORE SUN MEDIA

By Jay Perman

As the University System of Maryland (USM) concludes its fall semester and looks to the spring, it's instructive to examine our approach to on-campus education thus far, particularly given the extraordinary amount of work and cost this approach entailed.

Some believe that students should never have been on campus in the first place, that all universities should have done what many — most, in fact — did: abandon plans for in-person instruction, deliver courses remotely and keep campuses closed. But there are lessons to be learned from those of us who stayed the course, successfully completing an on-campus semester.

First, clarification on what “on-campus” means: Over the summer, a narrative formed around “online” versus “on-campus,” positioning the two approaches as mutually exclusive, when, of course, they're not. Less than half of the USM's total student population was on campus this semester. The majority of classes weren't taught in a traditional face-to-face format. Some were remote, and some were hybrid, with face-to-face sessions supplementing online work. This de-densifying of our campuses — together with a regimen of COVID testing, symptom monitoring and disease prevention protocols — was central to our ability to control virus spread.

Still, we knew from the outset that our campuses wouldn't be COVID-free — and they weren't. Throughout the semester, USM universities adjusted their approaches to in-person learning based on fluctuating conditions on their campuses and in their communities. A few of our universities pivoted to online-only instruction ahead of the Thanksgiving break amid a spike in cases statewide.

Yet, through it all, we got campus positivity rates under control and well under the rates of the counties in which the universities sit. Regular reporting kept students, faculty, staff and neighbors apprised of disease prevalence and risk. Students who wanted an on-campus experience, by and large, followed our rules for having one. And state and local health departments were our constant collaborators and guides.

None of this was easy, and none of it was perfect. We've compiled hundreds of lessons that will refine our approach to the spring semester. But knowing back in August what I know now, I'd do it again. Because higher education — public higher education — is an essential business. And for many of the students we serve, our “business” must remain open.

Some learning requires in-person interaction or demonstration, in-person performance or observation. To become a nurse, an engineer, a dancer, a cellist, a speech-language pathologist, there must be some in-person work. Lab courses, studio courses, clinical rotations, practicums, experiential learning of all kinds — they require some face-to-face hours.

Then, too, some of our students need the intensive supports that a campus provides: students with nowhere else to go — homeless students, international students; students who are unsafe or stressed financially; students without access to technology or connectivity or even a quiet place to study. On-campus supports are especially critical to those hit hardest by the COVID crisis: low-income students, first-generation students, students of color. Right now, higher education is hemorrhaging our most vulnerable students, and we might never get them back.

It's true we can accomplish our educational mission while we're apart. We've spent months innovating instructional design, modifying courses for distance delivery and helping faculty strengthen their online teaching skills. Still, we serve our students better when we can adapt our strategies and services to their needs, when we can be there — in person — for the students who need us to be.

I doubt any university now finishing up an on-campus semester would claim victory. This isn't my “mission accomplished” moment. Far from it. As we look ahead to the spring, hopeful that a vaccine might help us prevent

infection, we know that we're nevertheless up against a powerful virus whose trend line is spiking. We know that our best efforts in this fight against COVID might not be enough.

But I'm glad we've stuck our necks out — not just for our students, but for the many universities opening up in spring that will learn from our experience this fall. I'm glad that we've tried hard to help the students who most need our support, and that we put our faith in them, knowing they want in-person learning enough not to risk losing it. I'm glad, too, for the trust our students have placed in us. They remind us every day why we took on this work in the first place.

Dr. Jay Perman (chancellor@usmd.edu) is chancellor of the University System of Maryland.

BOWIE STATE UNIVERSITY

A visit to Bowie State University during the Fall 2020 semester would have revealed a campus completely transformed from previous years. Numerous measures were deployed by the University, implementing protocols both physical and operational, to manage and mitigate effects of the Coronavirus. Beginning with the Spring 2020 semester and led by the President and other University leadership, BSU made several difficult decisions in the face of exploding transmissions in Prince Georges County and beyond, including cancelling all face-to-face classes in favor of online instruction, and shifting staff to working remotely. Meanwhile, the University leadership met regularly to devise strategies as it made plans for the Fall 2020 and Spring 2021 semesters.



Several procedures and protocols were instituted through the summer of 2020 in preparation for and into the Fall semester, including:

- Pivoting to online or hybrid instruction for all courses
- Limiting the number of students in classrooms where face-to-face learning occurs to maintain spatial distancing
- Limiting the number of students in residence halls and room, giving preference to freshmen and other new students
- Requiring all persons entering the campus to be screened at entry gates before proceeding
- Requiring wearing masks while on campus
- Disinfecting and sanitizing surfaces and furnishings in occupied spaces
- Implementing occupancy and circulation directions and protocols such as one-way-in and one-way-out building exterior and interior doors
- Requiring regular testing for the coronavirus and in circumstances where there may have been exposure
- Designating one building as an isolation unit for any residential students testing positive

- Closing certain buildings on campus
- Erecting temporary structures on campus such as tents for use during moderate weather days
- Providing (loaning) laptops, phones and hot spots, webcams, and headsets to students otherwise unable to have them
- Providing computers to faculty and staff to facilitate online working and instruction
- Facilitating access to counseling and tutorial services; also reaching out including early interventions
- Checking in with and tracking students requesting and/or in need of counseling services; encouraging students to take advantage of those services
- Cancelling athletics team practices and events; conducting certain recreation activities online

Protocols were issued by way of regular updates on BSU's website, including the following from December 9, 2020:



Maintaining Pandemic Safety Protocols

While a low number of staff and students remain on campus until the end of the fall semester, the university maintains full adherence to all of the COVID-19 protocols that have helped keep the campus safe thus far. The health and safety of every member of the campus community remains our highest priority, along with our commitment to transparency and open communications throughout these challenging times.

BSU has several mechanisms in place to share current, factual information regarding the pandemic. We encourage everyone to consult the COVID-19 Updates web section, weekly email updates to the campus community, monthly recorded town hall meetings and the covid19@bowiestate.edu email account for any question or concern related to the university's response to the pandemic. During these uncertain times, this simple step will help guard against the threat of misinformation that can quickly derail effective operations.

Expanded Safety Measures

Implementation of additional safety measures is underway in preparation for the return to work after winter break. All classrooms will be equipped with Plexiglas at professor stations and student seating spaced six feet apart. Faculty requests for any additional classroom modifications must be submitted by Monday, Dec. 14, so that there will be enough time to get everything set up for your first day of class. Please contact Darryl Williford (dwilliford@bowiestate.edu) with your requests.

Faculty Technology Requests

Faculty requests for technology enhancements to support hybrid or online instruction should be submitted to the Provost by emailing provost@bowiestate.edu by Dec. 14. A limited number of loaner laptops, cell phones with hotspot capability and printers for home use are available.

Mark Your Calendar – Important Dates

- Virtual Commencement – Dec. 18, 10 a.m.
- Nutrition Lounge Open – through Dec. 23; resumes Jan. 4 (Monday – Friday 10 a.m. – 2 p.m.)

- University Reopens, Winter Session begins – Jan. 4 (teleworking encouraged; [COVID-19 testing resumes](#))
- In-person staffing resumes – Jan. 11
- Housing move-in begins – Jan. 15
- Spring classes begin – Jan 25

Thank you for your continued support of each other across the BSU campus community and the creative ways you are meeting the challenges presented by this pandemic. Please direct any questions or concerns to email at covid19@bowiestate.edu and visit the website at [COVID19Updates](#) for the most up-to-date information.

Strategic Alignment

As higher education continues to evolve and respond to the changing demographics of the nation, strategic alignments are forming to assure the long-term resiliency of each institution. This could involve industry partners such as Virginia Tech and Amazon, or partnerships with local community colleges. As BSU is part of the larger University System of Maryland (USM), a strategic relationship already exists. In the midst of the pandemic, the alignments and partnerships are often questioned and either strengthened or diminished. The logical question that arises for BSU in the pandemic is how are the existing alignments benefiting or disadvantaging BSU? Can they be modified to be mutually beneficial to all parties?

One area of focus should be the virtual and hybrid education delivery. Within the University System of Maryland, University of Maryland Global Campus (UMGC) is an existing strategic relationship which can bring an enormous virtual learning resource to BSU. UMGC is an international leader in online and virtual education and has the ability to support BSU's courses and brand within a robust and proven infrastructure. Even in the years beyond the pandemic, these partnerships should be evaluated, modified and strengthened to contribute to the resiliency of the University. Whether development of the above models becomes a reality or not, BSU should investigate creating a robust online degree program: for example, beginning with conversion of core on-campus academic programs to the core of virtual degree programs.

Community Cohesion

One of the most difficult aspects of the current pandemic is that the shift in education delivery has resulted in a loss of community cohesion. This is on many levels: student-to-student, student-to-faculty, faculty-to-faculty and the university-to-the greater community. Conversations with several deans of students and enrollment management professionals suggest that the number one reason a student drops out of an institution is the lack of feeling part of a larger academic community.

During a pandemic, building community connectivity becomes even more important and difficult due to the inability to interact in random and in personal ways. Recent reports have shown this lack of community cohesion has increased anxiety and depression in university students. Drop-out rates are not fully understood as we are still in the midst of the pandemic and having completed the second affected semester. BSU actually increased its Fall 2020 undergraduate enrollment in this difficult time, which is extremely rare across the country and points to the wisdom and efforts of the university administration.

It is anticipated that most of the Fall 2020 semester protocols will be continued in the Spring 2021 semester.

DRIVERS

As institutional resiliency and sustainability – the ultimate goal of the path forward for Bowie State University – are influenced by many factors and considerations, the *primary* drivers break down into external – those which are beyond and beyond the control of Bowie State University, and internal – those which are under the direct purview of the University and over which the BSU has control. All are critical and must be considered and dealt with on the way to resiliency and sustainability. The external and internal drivers can each be organized into five categories, different for each, as follows:

External:

- The Market
- The Pandemic
- The Tools
- Academic Programs
- The Landscape

Internal:

- Facilities
- Enrollment
- Leadership
- The Market
- Faculty Needing Technology Training

DRIVERS: EXTERNAL

The Market

Over the last year, the pandemic has taken a large toll on universities, enrollment, and their financial stability. As the pandemic's grip tightened and businesses closed, many college-aged students found themselves struggling with keeping a job and being able to afford tuition. Furthermore, switching to a completely virtual and online system has left many students wanting more out of their university experience, and ultimately, has challenged tuition and boarding costs. Income streams that are common from an in-person presence have also diminished, i.e., parking, etc. Additionally, as travel came to a complete halt, universities all over had a difficult time maintain offerings to international students.

At BSU there has been an increase in Latinx and non-traditional students, but a decrease in international students. Additionally, less middle-class students have been enrolling at BSU who would typically be able to afford tuition rates, creating demands for increased financial aid. The long-term impacts of these changes are still yet unknown, and as such, it will be important for universities to consider broadening market research, catchment areas for student populations, and academic offerings.

The Pandemic

Across the country, communities of color have been hit particularly hard as a result of the pandemic.¹ There are a milieu of reasons for why this is, ranging from socio-economic level, occupation, community density, higher comorbidities, etc. The high numbers of death in Black and Latinx communities due to COVID-19 tend to be in the middle-aged group and older. For many college students, this means their families, parents, and grandparents are suffering at alarming numbers. The stress that many of these students are facing is very real.

At a local level, Prince George's County has the highest number of cases across the state of Maryland, putting additional stress on students at BSU. But studies have shown that HBCU campuses have been able to provide students and staff with a safe haven and are reporting lower cases of the virus than their non-HBCU counterparts.² This communal strength, due in part to Black culture and comradery, will play a critical role in BSU's progression towards resiliency. BSU has shown that it is committed to an in-person university experience, which will ultimately ensure that students receive the support they need, including those who are most vulnerable.

Additionally, institutions have had to become experts on this public health crisis overnight and learn how to implement and manage risk mitigation protocols. Emphasis was placed on screening for the virus, providing PPE, isolation of the ill, and dissemination of the latest public health announcements. These efforts will need to continue moving forward, especially as vaccines become more widely available and students and staff may have questions about taking the vaccine.

The Tools

Digital technology and virtual tools for engagement have proven to be highly effective for ensuring operational continuity. Universities have been able to maintain communication and provide greater support to off-campus students, which may have been more difficult in the past. Teachers learned overnight how to deliver courses online, but ongoing training will be necessary. Additionally, IT staff, digital security, and infrastructure will need to be enhanced to provide ongoing support for years to come. Finally, institutions will need to keep a pulse on the digital market as new software and technologies become available.

Academic Programs

The COVID-10 pandemic has resulted in massive impacts to businesses and markets. Industries such as the hotel business and office leasing have seen a significant decline. While other industries such as computer science, technology, and online shopping / deliveries have seen a sharp increase in success as all of society moved to total virtual operations. These immediate shifts may have long-term impacts that are yet unknown and should be monitored for changing opportunities and shifting paths for students.

Already, we've seen 4-year colleges begin to customize their offerings and paths for students. And at 2-year colleges, degree offerings are being expanded across the country. These types of changes make obtaining a higher education more accessible for students at all levels of society, especially, in the face of emergencies like the pandemic. Additionally, flexibility in academic programming and delivery will ensure continuity of education, reduction in absenteeism, and maintaining of enrollment levels.

¹ <https://www.brookings.edu/blog/up-front/2020/06/16/race-gaps-in-covid-19-deaths-are-even-bigger-than-they-appear/>

² <https://www.insidehighered.com/news/2020/09/24/hbcus-experiencing-better-student-compliance-pandemic-restrictions-other>

The Landscape

Beyond the devastating loss of human life, the COVID-19 pandemic is a human, economic and social crisis. Communities of color and vulnerable social groups have been the most affected by the pandemic. Socio-economic disparities that existed before the pandemic have worsened, resulting in widened financial and educational gaps between various groups. Unemployment rates have skyrocketed, famine and hunger have increased, a generation of students have lost a year of education, homelessness has risen, and many suffer from extreme isolation, depression, and stress.

Where we see this overwhelming suffering, we also see ingenuity, perseverance, and human resiliency. Overnight, many businesses and institutions transitioned to virtual operations utilizing tools such as, Zoom and Microsoft Teams for communications. Leaning into these tools have allowed our communities to maintain some semblance of life and continuity. Neighbors, friends, and colleagues also stepped up to support one another, especially, those who were most vulnerable by mobilizing homemade mask-making, food deliveries, drive-by birthdays, and virtual celebrations. Teachers-turned-counselors went the extra-mile to check in on students at home and institutions increase their emphasis on social-emotional care and well-being for their communities. In conjunction with the pandemic, a social and human rights movement has encouraged our citizens to acknowledge a longstanding history of systemic racism towards Black people and has thrust us as a society on a journey towards betterment and healing.

While many of these changes are temporary, some may stick around for some while. For example, many businesses and institutions have discovered that work from home is an acceptable model and does not compromise operations. In the future, employees and students may prefer some combination of remote work and in-person, allowing for better work-life-balance and greater emphasis on the nuclear family.

DRIVERS: INTERNAL

Facilities

While new facilities, beneficial to BSU's mission, have been completed in recent years – e.g. Center for Performing Arts, Student Center, and the Center for Natural Sciences, Mathematics and Nursing, all since 2010, several old facilities exist and are in need of replacement or major upgrade. Rooms and circulation spaces are small, HVAC and control systems are archaic and/or not centralized, there is insufficient fresh air, and separation from other students is not easy to make happen. This is especially true of older residence halls including Tubman, Towers, Kennard, and Holmes. Newer residence halls are in better condition, but even they are in need of improvement.

Many classrooms and computer classrooms are small, not facilitating flexibility and not permitting appropriate spatial distancing. Newer buildings and, generally, the spaces within them, are more able to accommodate students and with systems more able to be upgraded, such as HVAC systems.

The most prominent need of all is technology systems, including networks, equipment, software, servers and hubs, and training for all users. While the University has made helpful improvements over the past two+ years, significant upgrades are needed, requiring a focused commitment to development and implementation, beginning immediately.

There is inadequate space within buildings for safe gathering, recreation, and wellness. This can be improved by adding temporary space or preferably by temporary re-purposing existing spaces.

Enrollment

Especially for BSU, an institution that relies on tuition revenue, enrollment is the lifeblood of its fiscal health. Propitiously, the Fall 2020 enrollment increased significantly – 23% - over the previous year. Enrollment for the 2021 Spring semester is still a work in progress, so it is a big unknown at the time of this writing.

Leadership

Beginning in 2017 with the direction set by Dr. Aminta Breaux, then the newly appointed BSU president, the University's leadership has taken strong and appropriate steps in confronting the virus, regarding closing, re-opening, program delivery, limiting students' face-to-face contact on campus, and several other measures described elsewhere in this report. The leadership decisions have been well-considered and effective.

The Market

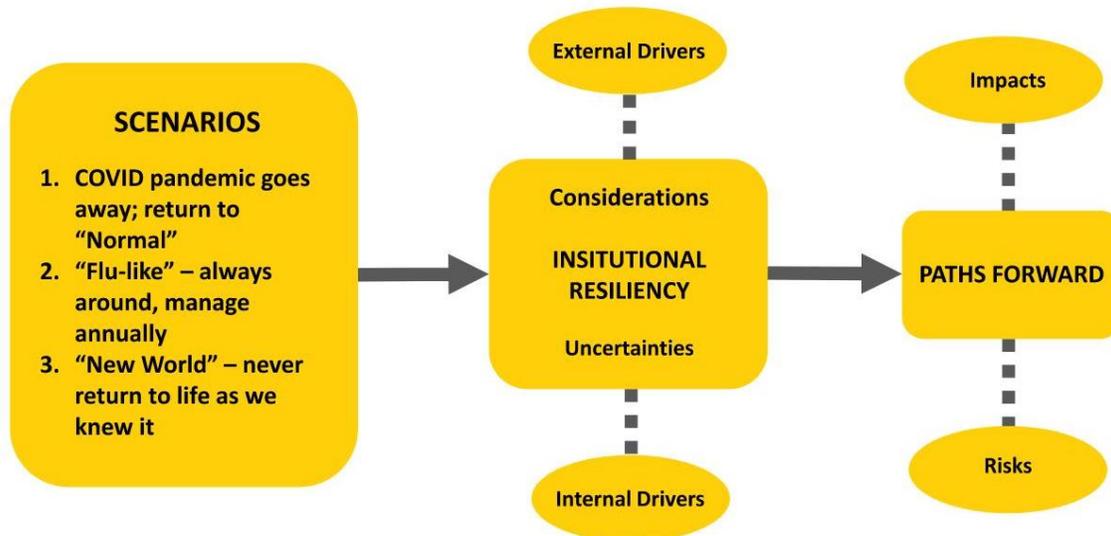
Many considerations for BSU's place in the market for students are addressed in the Facilities Master Plan. For this study, one has particular relevancy and promise, and that is expanding the catchment area for recruitment. BSU Enrollment Management has initiated tapping into certain targeted geographic markets – in southern Maryland and in neighboring states, not broadcast but focused on pockets from which some growth may be expected. This is especially critical through the next three semesters up through Spring 2022.

Faculty Needing Technology Training

For too long, faculty have not kept up with the training required for today's learning systems. In addition to expansion and introduction of new technology systems, it is imperative that faculty (and staff) be offered and be required to adapt to being conversant with those new technology tools and programs.

SCENARIOS

As an initial step of this study and throughout the first workshops, the HCM team identified several scenarios that could be pursued, ultimately settling on three, covering a wide spectrum of possible developments. Each scenario will result in a different set of considerations and paths forward. For the purpose of this report, scenarios are not necessarily tied to a time frame and, due to many outside factors, can occur at any given time and in any order.



1. COVID-19 pandemic goes away; return to “normal”

Scenario 1 assumes that life as we knew it prior to March 2020 will return to what we remember. There will inevitably be lessons learned and experiences lived that will transform certain behaviors, social norms, and institutional operations. All in all, we will return to our baseline, the pandemic will become a thing of the past, but we will be prepared in the case of future pandemics.

2. COVID-19 will always be around and we will manage it annually; similar to the flu

Scenario 2 will require ongoing management of COVID-19 forever. Institutions will need to permanently incorporate public health protocols for risk mitigation and management. This scenario assumes that the COVID-19 vaccine will need to be taken annually but that we will not be able to rely on the vaccine solely for control of the virus.

3. COVID-19 will remain as a high-level threat to public health and wellness; this “new world” will remain

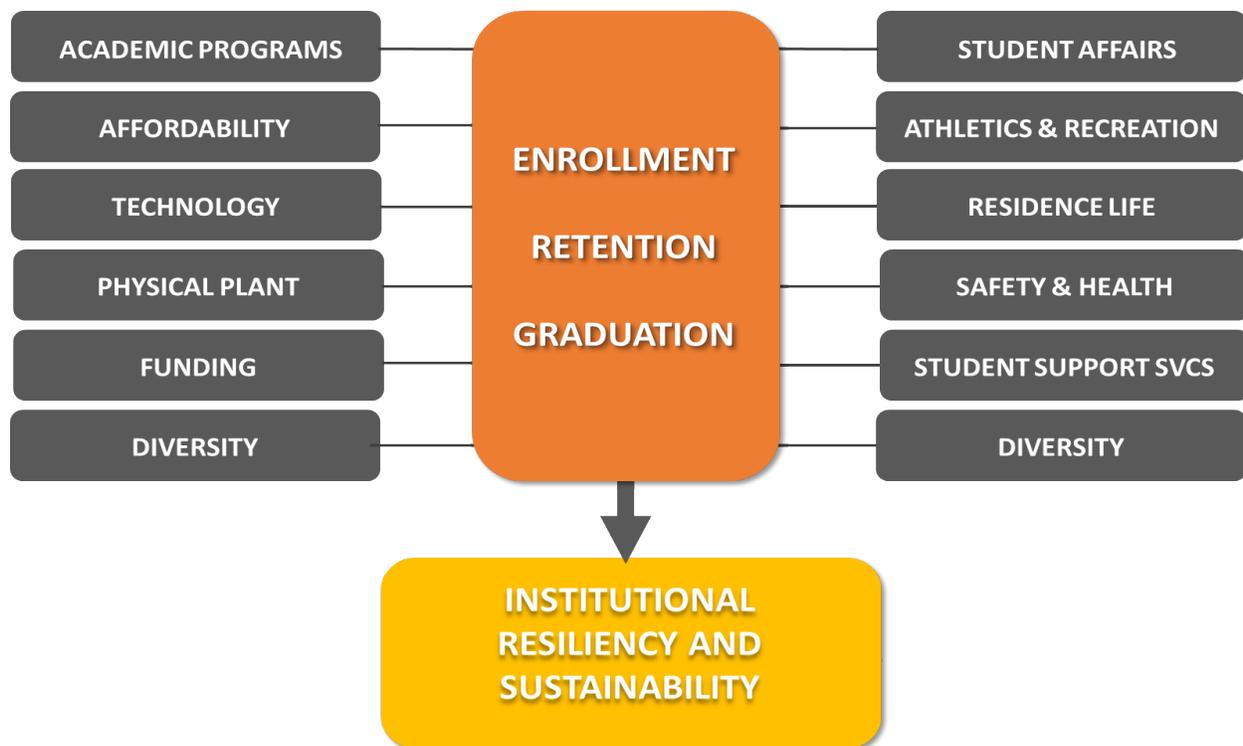
Scenario 3 will fundamentally transform every aspect of our world and is the least predictable of the three scenarios. Institutions will need to become nimble, flexible and responsive to ongoing changes and fluctuations. Public health and the mitigation of risk will remain at the center of how we function in business and higher education.

The following sections of the report look at these three scenarios and identify factors for BSU to consider. Certain other strategies are described and should be considered as best practices going forward, regardless of the scenario.

CONSIDERATIONS

INSTITUTIONAL RESILIENCY AND SUSTAINABILITY

The Coronavirus pandemic has tested our institutions' individual and collective abilities to remain whole, viable, and, if and as possible, to get through the pandemic stronger than before the virus came to our campuses. We then consider the larger goal beyond the pandemic – BSU's resiliency and sustainability. As an institution of higher learning, many elements that define the University must be managed well in order to, first, survive, and at the same time, succeed and hopefully thrive on the way to achieving that sustainability. Enrollment, retention, and graduation are central to Bowie State's mission and its central business of post-secondary education. In turn, all elements that make up and support BSU's reason for being are essential to its success, and management of those elements, shown in the below graphic, is critical during the trials of the pandemic. It has been incumbent upon the University's leadership to manage and coordinate the implementation of those elements during the past year and to continue its management as it comes through the pandemic. So far, it has by and large been innovative and successful.



Continuing the University's success is certainly not guaranteed, and it will not be easy, particularly in consideration of the regularly changing science, knowledge, and experiences of and with the virus and its impacts. The following elements are directly affected by the coronavirus and are critical to BSU's ability to manage its operations during and after the pandemic:

- Enrollment
- Academic Programs
- Student Affairs
- Information Technology
- Athletics & Recreation
- Physical Plant

These are examined more closely in the following paragraphs and pages.

ENROLLMENT

Of all metrics relevant to the academic, fiscal, and operational health of an Institution of Higher Education (IHE), enrollment is one of the most critical measures of the performance of the institution. BSU's trend since 2015 is positive, increasing 15% to 2020 (undergraduate + graduate). Even during 2020, the year of the pandemic, enrollment increased by 1.4% from Fall 2019 to Fall 2020, a remarkable achievement in contrast with national enrollments trending down in the same period. Undergraduate numbers carried the weight of the increases, while graduate levels were down, both in the six-year period from 2015 and from Fall 2019 to Fall 2020.

Prior to 2020, the University had already been proactive in identifying challenges and pursuing strategies to grow its enrollment and increase retention and graduation rates. Recognizing a growing need to meet prospective students' and BSU students' needs, BSU accelerated its admissions process, improved orientation and financial aid processes, put in place tools to better track and respond to students in need, and strengthened its academic programs and its brand. All of these initiatives continued throughout 2020, the year of special need. And BSU began to take note of rising SATs and higher income levels of incoming students and their families.

Historically, recruitment has been relatively local. Recently, BSU has been broadening its focus, both in-state (Charles, Howard, Montgomery Counties) and in other states (New Jersey, New York, Connecticut, Pennsylvania, Washington DC, and Northern Virginia). International student matriculation hit a road block in 2019-2020 by virtue of tightened Federal Government restrictions which both prevented and discouraged students to begin or return to classes. Challenges, especially until the pandemic is brought under control, include bridging the financial gap, improving the brand, growing the graduate level enrollment, and better managing registrar processes.

Undergraduate Enrollment by Program								
Fall								
HEGIS code	Major	College	2015	2016	2017	2018	2019	2020
040100	Biology, General	CAS	306	347	410	378	377	411
049905	Bioinformatics	CAS	7	8	4	7	12	12
050601	Business Administration	COB	705	816	914	986	989	991
060500	Communications Media	CAS	364	419	398	401	351	327
060501	Visual Comm & Digital Media	CAS	136	157	203	226	237	242
070100	Computer Science	CAS	115	130	157	162	189	193
079903	Computer Technology	CAS	180	207	261	322	340	350
080200	Elementary Education	COE	100	101	112	106	125	174
082300	Early Childhood Education	COE	123	104	103	108	109	128
083400	Science Education	CAS	12	8	10	7	8	6
083504	Sport Management	COE	115	138	149	168	195	211
100100	Fine Arts	CAS	113	98	109	103	84	91
100700	Theater Arts	CAS	34	31	29	27	44	49
120300	Nursing	CPS	530	546	610	610	488	536
150100	English	CAS	63	61	75	63	56	51
170100	Mathematics	CAS	45	48	39	25	17	30
190500	Chemistry	CAS		0	0	0	0	6
200101	Psychology	CPS	321	308	342	356	359	410
210400	Social Work	CPS	212	219	215	195	159	140
210500	Criminal Justice	CPS	376	411	473	491	509	475
220500	History & Government	CAS	82	83	87	83	78	83
220802	Sociology	CPS	104	120	104	108	102	83
229940	Technology	---	4	3	0	0	0	0
499900	Child & Adolescent Studies	CPS	97	99	93	118	119	98
909901	Undeclared*	---	171	249	291	258	280	257
	Total		4,315	4,711	5,188	5,308	5,227	5,354
Undergraduate Enrollment By College								
Fall								
College			2015	2016	2017	2018	2019	2020
Arts & Sciences	CAS		1,457	1,597	1,782	1,804	1,793	1,851
Business	COB		705	816	914	986	989	991
Education	COE		338	343	364	382	429	513
Professional Studies	CPS		1,640	1,703	1,837	1,878	1,736	1,742
Source: EIS								
*Includes dual enrollment high school students.								

Graduate Enrollment by Program								
Master's Programs								
Fall								
HEGIS code	Major	College	2015	2016	2017	2018	2019	2020
050601	Business Administration	COB	34	33	26	34	46	45
069902	Organizational Communications	CAS	102	74	61	51	55	54
070100	Computer Science	CAS	52	39	32	31	30	25
070200	Management Information Systems	COB	133	106	117	83	64	46
080200	Elementary Education	COE	2	4	7	7	3	2
080301	Secondary Education	COE	6	6	4	6	5	5
080312	Teaching (MAT)	COE	15	14	16	14	6	31
080800	Special Education	COE	10	11	20	21	27	21
082201	School Psychology	COE	13	11	17	18	18	21
082601	School Counseling	COE	49	51	44	59	58	63
082700	Elem. & Secondary School Admin.	COE	38	16	15	13	11	19
083000	Reading Education	COE	14	18	12	21	26	26
120300	Nursing	CPS	88	57	59	76	63	44
150100	English	CAS	22	22	23	15	13	11
170301	Applied & Comp. Mathematics	CAS	15	13	7	6	7	5
200401	Counseling Psychology	COE	124	103	90	98	94	112
200402	Mental Health Counseling	COE	70	70	80	87	89	83
200403	Human Resource Development	CPS	97	96	109	138	101	75
210200	Public Administration	COB	112	101	99	92	88	73
909901	Undeclared	---	21	19	15	17	13	12
Total Master's Enrollment			1,017	864	853	887	817	773
Post-Baccalaureate Certificates (PBC)/Certificates of Advanced Study (CAS) Programs								
Total PBC/CAS Enrollment			15	13	16	18	21	15
Doctoral Programs								
Fall								
HEGIS code	Major	College	2015	2016	2017	2018	2019	2020
070100	Computer Science	CAS	35	33	33	40	47	52
082701	Ed Leadership/Executive Fellows	COE	48	48	58	67	59	56
Total Doctoral Enrollment			83	81	91	107	106	108
Total Graduate Enrollment			1,115	958	960	1,012	944	896
Graduate Enrollment By College*								
College	College	2015	2016	2017	2018	2019	2020	
Arts & Sciences	CAS	226	181	156	143	152	147	
Business	COB	279	240	242	209	198	164	
Education	COE	389	352	363	411	396	439	
Professional Studies	CPS	185	153	168	214	164	119	
* Excludes undeclared and certificates								
Source: EIS								

ACADEMIC PROGRAMS

1. PURPOSE

The purpose of the Academic Review is to provide an analysis of Bowie State University's academic programs and related operations and to offer recommendations that may assist in the implementation of its Strategic Plan - "Racing to Excellence FY19-FY24" over the next 3-5 years and somewhat beyond. Indeed, the Strategic Plan establishes a conceptual framework for the entire Academic Review. Equally important, these analyses and recommendations are also intended to provide guidance in the implementation of the University's Facility Master Plan as well.

2. RESEARCH SOURCES

The Review is predicated on the essential core of BSU's academic program as it has evolved to the present, and more immediately, how it may likely be affected by the COVID pandemic. All conclusions and recommendations are based on data obtained by the BSU Office of the Provost, University System of Maryland data base, Maryland Department of Labor, the Georgetown University Center on Education on Education and the Workforce, and the U.S. Bureau of Labor and Statistics. These data have also been supplemented by a wide variety of reports from national higher education agencies and associations and a range of national business publications. The COVID clinical impact has been addressed within the context of U.S. Center for Disease Control analyses and recommendations.

3. THE COVID-19 CHALLENGE

A. Leadership. The analyses and recommendations that follow are embedded within the chaos and turmoil of the pandemic now confronting all IHEs. Generally, there are relatively few truths, if any, that can be derived from this context of uncertainty, except there is no certainty. University presidents, governing boards, faculty, staff and students can only be guided by their unique situations. The most promising solutions tend to be individually and locally derived, guided perhaps by the success and failures of others who confront similar challenges in similarly unique settings.

At the moment, and likely to continue in the near future, Presidents and Provosts, etc., will be bombarded and, at times, overwhelmed by contradictory data and advice. They must learn to separate what's meaningful and what is not. They must set up a filtering system within their sphere of concern to better focus on responses that are most likely to achieve some measure of success. Most important — no matter how promising workable solutions may appear, they will not occur overnight. It is far more prudent to effect gradual change than to rush to implement those ideas that sound good but may actually retard progress toward strategic objectives. The temptation and the pressure will be to act now. A wise administrator will resist acting on impulse and continue focusing on the long-term informed by a judicious review of the data. This is the leadership challenge of COVID era.

B. HBCUs and the unique challenges and opportunities of COVID. HBCUs have a distinctive advantage in that they were founded with an essential dedication to respond to the unique needs of their students. In turn, their students have related to their institutions with a particular commitment and loyalty. An HBCU like Bowie State University offers a cultural sensitivity and a nurturing and supportive environment providing a pathway to rewarding professions and quality of life far more difficult to attain without a meaningful postsecondary education. These are students who believe that "This is *my* University," and faculty and campus leaders who believe that these are "*our* students." Moreover, BSU is committed to the community it serves and as a vital aspect of Prince George's County services, there is a level of trust and loyalty that ensures a stable future, regardless of challenges confronting both.

One of these challenges, however, is the pandemic that has been particularly devastating to Black Americans with an infection rate more than twice that of White Americans; they are five times more likely to be hospitalized and twice as likely to die of the disease [CDC].

“For HBCU leaders, the fact that many of their students come from homes headed by people who are at high-risk for the virus or who are likely to be unemployed made reopening their campuses this fall critical, said Harry Williams, the president of the Thurgood Marshall College Fund, which represents 47 public HBCUs and predominantly Black institutions. More than 90% of Williams’ member colleges have in-person or hybrid learning this term, he said. ‘Campuses are a place of refuge and a place of safety,’ Williams said. Students have been itching to get back to campus, to a place that creates a sense of normalcy for them.” [Kelly Field, “Why HBCUs are taking an active role in COVID-19 testing and vaccine efforts,” Education Dive, Nov. 2, 2020.]

The COVID impact among colleges and universities in Maryland reflects that national scene. On Dec. 1, 2020, the New York Times reported 3131 cases at 20 Maryland 4-year public and private IHEs. BSU reported 75 cases¹ followed by UMES 40, MSU 17, and CSU 8. [“Tracking the Corona Virus at U.S. Colleges and Universities,” New York Times, Dec. 1, 2020.]²

<<https://www.nytimes.com/interactive/2020/us/covid-college-cases-tracker.html?referringSource=articleShare>>

It is imperative, therefore, that BSU has an expansive and clear picture of the status of its current and projected academic programming so that it might better prepare for an uncertain COVID future while maintaining the best of what it has and developing the most promising initiatives in the short-term and beyond.

4. AN ABBREVIATED ENVIRONMENTAL SCAN OF NATIONAL AND STATE JOB PROJECTIONS AND RELATED HIGHER EDUCATION ACADEMIC PROGRAMMING

A. Projected occupational expansion. Overall, there is remarkable consistency between occupational projections conducted by national, regional, State and local organizations, including the U.S. Bureau of Labor Statistics, the Maryland Department of Labor, the Georgetown Center on Education and the Workforce, and a number of educational and business research organizations. The voluminous data produced by these agencies generally conform to the shared perceptions of higher education policy makers, university administrators and planners.

Generally, the broad areas of academic programming that have the greatest potential for growth and expansion include —

- STEM Disciplines (Science, Technology, Engineering, and Mathematics)
- Health Sciences and Support Specialities
- Social and Human Services

The projected growth in Maryland (MD Dept. of Labor) from 2018-2028 in these fields of study requiring a BA+ include —

- STEM disciplines and selected related occupations:

-Computer and Math Occupations —	14.84%
-Information Security Analysts — (CyberSecurity Specialists)	39.14%
-Software Development Applications —	26.44%
-Mathematics Science Occupations —	26.22%
-Operations Research Analysts —	28.47%
-Statisticians —	26.12%

¹ As of mid-Nov. 2020, 47 cases had been reported by BSU.

²The New York Times has been tracking more than 1700 colleges and universities. Of these, more than 50 have reported at least 1000 cases and more than 400 have reported at least 100. —Nov. 8, 2020.

- Health Sciences (including mental health) and selected related occupations:

-Overall —	20.09%
-Physician Assistants —	39.54%
-Registered Nurses —	21.77%
-Nurse Practitioners —	34.25%
-Clinical Laboratory Technologists —	21.66%
-Dietitians and Nutritionists —	21.11%
-Home Health Aides (Possible Cert. area)—	44.25%

- Social and Human Services and selected related occupations:

-Overall—	20.09%
-Counselors, Social Workers, Community Social Service Specialists —	20.53%
-Marriage and Family Therapists —	24.85%
-Rehabilitations Counselors —	19.85%
-Substance Abuse, Behavioral Disorder and Mental Health Counselors —	32.49%
-Social Workers —	10.78%

Over the same period (2018-2028), significant growth (10.99%) is also projected in Business, Finance and Management fields of study and related occupations, including accountants, auditors, marketing managers, and management analysts.

A similar observation is made for the disciplines of Education, Training, and Library Science with an overall growth rate of 16.19%. The demand for teachers in Maryland at all levels, elementary, middle and high school, is expected to grow at a rate of 14.64%³. [Note: the national projection for teachers at all levels is approximately 3% and for Special Education teachers between 3% and 8%. Obviously, these projections were made prior to the pandemic; the impact of COVID is very likely to increase the need of teachers at all levels significantly.]

It should also be noted that while recent job postings in many of the fields noted above may have declined somewhat, the occupational projection data available still paints an accurate picture for future demand. [See Appendix A -Maryland Occupational Projections 2018-28— +10%; between 5% and 10%; 5% and less.]

B. National student enrollment⁴ and the pandemic. There is little doubt that the COVID environment has had and will have have an impact on university programming, instructional practice and enrollments. According to the National Clearinghouse Research Center Report (Oct. 15, 2020), undergraduate enrollments is down 4% from last year. Graduate enrollment is up 2.7%. Overall, postsecondary enrollment is down 3% from last year. Freshmen students have the greatest decline (16.1% nationally), and a drop of 22.7% for freshmen at community colleges. [it is interesting to note that for-profit 4-year colleges are running 3% higher than last fall.]

³ Maryland Dept of Labor

⁴ As of this date, Fall 2020 enrollment data in Maryland was not available.

In terms of race and sex, declines were noted in the following groups:

Undergraduates⁵:

-American Indian and Native Alaskan students —	-10.7%
-Black students —	- 7.9%
-White students —	- 7.6%
-Hispanic students —	- 6.1%
-Asian students—	- 4.0%
-International —	- 13.7%
-Male —	- 6.4%
-Female —	- 2.2%

Graduates:

-Graduate Hispanic students —	+ 14.2%
-Graduate Black students —	+ 9.3%

The significance of these enrollment data will depend on the length and severity of the pandemic and the efficacy of vaccines, therapeutics, and the use of personal mitigation measures to counter it. Many observers predict that disruptions to higher education will be apparent for at least half of a decade or more. Should that be the case, it is clear that IHEs will substantively rely on online programming and delivery and/or some hybrid variations. On the other hand, the best case scenario might suggest a moderate pace of recovery in the 2021-22 academic year and near back-to-normal scenario (largely face-to-face instruction with an expanded online aspect) in 2022-23. This more optimistic view may also reflect the wish of many faculty, administrators, and students to return to the pre-COVID campus and all its valued traditions and resources. In either case, there is a strong likelihood that undergraduate programming will retain its liberal arts and sciences core content. At the same time, however, the need for a greater emphasis on workforce-oriented programming will also become increasingly evident. While all these challenges may appear overwhelming, they also present an opportunity for BSU to become a unique resource and leader in postsecondary education in Maryland and beyond.

5. BOWIE STATE UNIVERSITY ENROLLMENT TRENDS Bowie State University Enrollment Trends 2010-2019⁶.

A. First-time Freshman Cohort. Generally, BSU has had a rather healthy enrollment growth during this period— In Fall 2010, it was 608 and in 2019, first-time freshmen numbered 801, an increase of 32%. As a base for comparison, all University System of Maryland campuses, averaged together, had an 11% growth rate (12,475 to 13,861).

⁵HBCUs track closely with the national trends for undergraduates overall.

⁶ USM Institutional Research Information Systems

TABLE 1

BSU Total Headcount Student Level and Attendance - Fall 2010-2019

LEVEL	FULL-TIME		PART-TIME		TOTAL	
	2010	2019	2010	2019	2010	2019
Undergraduate	3709	4329	692	898	4401	5227
Graduate	409	476	768	468	1177	944
Total	4418	4805	1460	1366	5578	6171

In parallel with the growth of first-time freshmen, the total undergraduate headcount (above) has increased at a strong pace. A concern remains for part-time graduate students, however, over the pre-pandemic 9-year period — a 39% drop. The impact of COVID in Fall 2020 and beyond *may* promote an increase in part-time graduate students who need to meet more demanding requirements for employment and/or promotion. This will be particularly evident in the STEM, Health Services and Social & Human Service fields, as well as Business and Education and Training professions.

TABLE 2

DEGREES AWARDED 2010-2019

DEGREE/AWARD	2010	2019	Percent Change	Peak Year(s)
Bachelors	606	826	36%	2016: 832 students
Masters	273	252	-8%	2016: 337 students
Post-Bachelor Certif. Cert.Adv.Grad.Study	6	7		2013: 10 students 2016: 10 students
TOTAL	885	1085	23%	

TABLE 2 further illustrates the decline of the number of degrees awarded at the Masters level. Again, COVID may provide an opportunity for the development of program alternatives for Post-Baccalaureate and Advanced Graduate Study Certificates

TABLE 3**BSU RESIDENCY BY COUNTY (Including Out-of-State and Foreign)⁷
All Students - Fall 2014 and 2018**

COUNTY	2014	2018
Prince George's	3087	3315
Baltimore County	325	406
Baltimore City	245	337
Anne Arundel	288	331
Charles	211	300
<u>Out-of-State</u>	<u>534</u>	<u>515</u>
<u>Foreign</u>	<u>240</u>	<u>308</u>

Over the years, BSU has drawn the largest number of its students from the counties list in TABLE 3. The educational needs of these students and the occupations that offer the greatest opportunities for employment strongly correspond to the data from the Maryland Department of Labor for the Central Maryland area. The Washington D.C. area job projections present a similar outlook. Once again, however, COVID presents a particular challenge for those students who come from outside the Central Maryland and the greater D.C. area. They may be more likely to turn to educational institutions closer to home or to more accessible and appropriate online courses and programs. However, this presents BSU an excellent opportunity for the further development of its online programming particularly in those occupation areas noted in this report.

More recent data indicate a more pronounced COVID negative effect on foreign student enrollment. The Institute of International Education reports that international education fell 16% this fall at more than 700 schools it surveyed. For new international students, the decline was 43% from the previous year. However, this decline should be dramatically reversed when the pandemic ends.⁸

⁷ Bowie State University Data Base [Counties selected by largest number of enrollments]

⁸ "Fall 2020 International Student Snapshot, Nov. 2020.

B. Bowie State University Undergraduate retention and graduation considerations. By far, the five counties noted in Table 3 above provide the largest share of students enrolled in BSU. This fact presents a particular challenge to BSU when the county high school remediation rates are examined more closely in Table 4:

TABLE 4

Remediation Rates of High School Graduates at Maryland Public Institutions by Place of Residence — 2017-2018⁹

County	Remediation Needed		Total # of Recent Public High School Graduates Enrolled
Prince George's	1349	55.1%	2447
Baltimore County	1389	42.8%	3243
Baltimore City	721	56.0%	1287
Anne Arundel	808	44.4%	1820
Charles	342	47.2%	724
TOTAL	4609	49.1%	9521
<u>TOTAL ALL MARYLAND JURISDICTIONS</u>	9862	41.5%	23,740

Remediation needed by high school students in BSU's service area (49.1%) exceeds that of the State (41.5%). Many of these students will enroll at BSU. It is apparent that the University recognizes the needs of these students and has a track record for programs and support systems to meet them. TABLE 5 summarizes the status of these efforts related to retention and graduation rates.

⁹ Maryland Higher Education Commission, Enrollment Information System, 2020 Data Book

TABLE 5

**Retention and Graduation Rates
BSU Compared to MD HBCUs and All MD Public 4-yr IHEs¹⁰**

	All Students		African Amer. Students		Pell Grant Recipients	
	Retention	Graduation	Retention	Graduation	(Year of Entry) Retention	Graduation
Bowie State University	67.6%	47.6%	66.9%	45.1%	63.0%	40.5%
Coppin State	62.7%	24.0%	61.3%	22.0%	64.4%	19.4%
UMES	62.3%	45.7%	62.8%	45.0%	60.6%	41.0%
Morgan State	71.7%	41.9%	71.9%	42.3%	69.6%	38.5%
Statewide Average	83.2%	68.8%	75.5%	51.3%	75.8%	54.5%

It should be noted that Bowie State University leads all Maryland Historically Black Universities in graduation rates and is second only to Morgan State in retention rates. Nevertheless, compared to all public 4-year institutions in Maryland, improvement in retention and graduation rates should continue to receive special emphasis in its Strategic Plan, "Racing to Excellence".

C. Bowie State University: Analysis of Enrollment Trends Related to Occupation Projections.

- **Undergraduate Programs.** With relatively few exceptions, program enrollment tends to reflect the current and projected occupations in demand now and forecasted of the next 5 to 10 years [See Attachment B - BSU Undergraduate Enrollment by Program and College - Fall 2014-2018]. This is particularly evident in the STEM fields, health sciences and professions, social work, social and human services, and to a somewhat lesser extent, education¹¹ and business.
- Although not quite reflecting the strong occupational projections noted in the fields above, despite the current healthy enrollments, are the majors in Communications Media, Visual Communication & Digital, and Criminal Justice. These areas are projected to grow about 4% —the average for all occupations.¹²
- Two other undergraduate programs warrant attention. Sports Management is expected to grow about 7% from 2019-2029 (BLS). In addition and despite its small enrollment (approx. 7), the overall outlook for Bioinformatics is excellent given that demand exceeds supply, especially in the COVID era and beyond.

¹⁰ Note: Retention rates give % of Fall 2017 first-time, full-time undergraduate cohort that returned for second year. Graduation Rates are 6-yr rates for Fall 2012 cohort. MHEC Data Book 2020.

¹¹ In a recent survey, the NEA reports 29% of its members are considering leaving teaching and/or taking early retirement as a result of the COVID impact.

¹² This is 4% growth more than the average employee turnover. Bureau of Labor Statistics and MD Dept. of Labor

- **Graduate Programs.** [See Attachment C - BSU Graduate Enrollment by Program and College, Fall 2014-Fall 2018]: With the exception of Applied and Computational Mathematics and Computer Science, most STEM programs are not offered. Without a considerable investment of human and financial resources, the potential to build new graduate programs in the STEM areas would be extremely difficult. The Biology undergraduate program has a strong enrollment base and could be considered in any initiative for graduate STEM development. [Note: Bioinformatics has a small base in the undergraduate program but might also have the potential for interdisciplinary post-baccalaureate programming.]
- Outside the STEM disciplines, the potential for graduate training is outstanding in the areas of Health and Human Services, e.g., nursing, social work, counseling (all fields), special education, criminal justice, etc. Given the reality of limited resources, any graduate program expansion should build on existing programming.

D. Impact of COVID on Bowie State's Enrollment and Short- and Long-Range Programming—

As previously stated in the observations pertaining to national trends, a similar analysis applies to Bowie State University—

“The significance of these enrollment data will depend on the length and severity of the pandemic and the efficacy of vaccines, therapeutics, and the use of personal mitigation measures to counter it. Many observers predict that disruptions to higher education will be apparent for at least half of a decade or more. Should that be the case, it is clear that IHEs will substantively rely on on-line programming and delivery and/or some hybrid variations. On the other hand, the best case scenario might suggest a moderate pace of recovery in the 2021-22 academic year and near back-to-normal scenario in 2022-23. The more optimistic view may reflect the many faculty, administrators and students who have a pent-up desire to return to the pre-COVID campus and all its unique valued traditions and resources. In either case, there is a strong likelihood that the undergraduate experience will retain a liberal arts and sciences core content.¹³ At the same time, however, the need for a greater emphasis on workforce-oriented programming will also become increasingly evident. While all these challenges may appear overwhelming, they also present an opportunity for BSU to become a unique resource and leader in postsecondary education in Maryland and beyond.”

6. “RACING TO EXCELLENCE — FY19-FY24 STRATEGIC PLAN”

Bowie State University is at the center of these dynamic and uncertain pandemic forces. How it confronts these challenges is dependent on its recognition of its unique historical development and its pre-pandemic and continuing strategic planning. Much of this context is apparent in “Racing to Excellence — FY19-FY24 Strategic Plan.” “Racing to Excellence” is eminently visionary and implementable. Its objectives are clearly outlined and accessible by BSU constituents, its policymakers, its leaders, faculty, students and the larger communities it serves. It provides a framework to assess the achievement of its goals and objectives within the context of the COVID environment. It is within this framework that the following recommendations are made. The applicability of the recommendations is entirely dependent on the analysis, judgments, and actions of the University leadership, its faculty, staff, and students. It is only then that their merit and efficacy can be determined.

¹³ A liberal Arts & Sciences degree “. . . indicates that you can assimilate and organize complicated bodies of information, analyze that information to create outcomes that have value to others, and convey that analysis with purpose and clarity.” [Carlo Rotella, Wash.Post,10.25.20]. These are skills essential to employment in any professional field.

7. RECOMMENDATIONS

The Strategic Plan is predicated on aspiration, as one would expect. *Its ultimate effectiveness depends on a systematic review and updating process.* There are elements of some of the Plan's goals and objectives that are evident and in place, but there is much yet to be achieved. There are also opportunities for new initiatives that should be considered to take full advantage of demographic trends, the need to stabilize enrollments, and to plan for a promising but challenging future. Within each of the following recommendations is the *need for comprehensive partnering with a wide variety of public and private organizations*¹⁴. The tasks that need to be accomplished are far too difficult to achieve in isolation. *"Together"* makes the impossible possible¹⁵.

- A. **STEM Disciplines.** BSU should continue its emphasis on STEM program and coursework development while simultaneously reaffirming its commitment to academic core programs in arts and humanities and the behavioral and social sciences.
- B. **Arts & Sciences Disciplines and Programming for the Workforce**¹⁶: While maintaining the academic core academic leaders and faculty should seek opportunities to develop unique curricula and teaching connections between the undergraduate General Education program and the various STEM disciplines as well as the needs of the current and projected workforce in Health Sciences and Services, Social Work, Human Services, Business & Management, and Education and Training. The General Education requirements would remain intact, but open to modification as faculty, administration, and students determine when revisions are appropriate and warranted. Doing so can increase the career relevance of majors in the arts, humanities, and the social sciences. The inclusion of appropriate representatives from the professional, business, social and governmental communities, in an advisory capacity, is essential to the effective and productive implementation of any of these initiatives. These recommendations are also consistent with and supportive of BSU's pioneering entrepreneurial initiatives, e.g., The Entrepreneurship Living Learning Community. All these initiatives also provide excellent opportunities for developing meaningful internship programming—an important advantage for entering an increasingly competitive workforce.
- C. **Online Programming.** The Strategic Plan clearly identified the importance of strengthening and expanding online instruction:

"Objective 3.2 - Academic programming through alternative formats—Offer targeted programs through alternative modalities, online delivery, regional higher education centers, and other community locations, in order to meet the needs of all prospective students and of the state, national, and global workforce."¹⁷

The pandemic has only served to add significance and immediacy to this objective. Online education is no longer an "alternative format." It now has become an essential and foundational component of all institutions of higher education. Should the impact of COVID be relatively short-term, it is very likely that face-to-face, in-person instruction, will continue to be the central modality for program delivery. Again, as noted earlier in this report —

". . . the best case scenario might suggest a moderate pace of recovery in the 2021-22 academic year and near back-to-normal scenario (largely face-to-face instruction with an expanded online aspect) in 2022-23. This more optimistic view may also reflect the wish of many faculty,

¹⁴ "Racing to Excellence," Objective 1.4

¹⁵ "Racing to Excellence," Objective 5.4

¹⁶ "Racing to Excellence," Objective 1.1

¹⁷ Racing to Excellence, FY19-FY24 Strategic Plan, p.4.

administrators and students to return to the pre-COVID campus and all its valued traditions and resources.” p. 4.

Even so, curriculum modification, instructional practice, and staff development related to online programming will become a priority for Bowie no matter what the short-term effects of the pandemic may be. In any scenario that lies ahead, online instruction must be considered a “given” along side the face-to-face core. Ultimately, it should become a totally integrated part of the teaching-learning process.

Financial, technical, and space resources are necessary to accomplish this recommendation. While continuing to develop budget requests to support this effort, BSU should examine whatever resources that can be reallocated internally. Grant support may also be available from State, federal, and private foundations. Additionally, other campuses within the System may be able to provide assistance. The University of Maryland Global Campus may be helpful in this regard. Minimally, UMGC may be able to provide initial support given its the historical online program experience and technical expertise. Developing partnerships with other public IHE’s in Maryland in course exchanges and technical cooperation should also be explored.¹⁸ It is also possible that expertise may be tapped in the community beyond the campus, including business, industry, social, and governmental organizations. Many campuses have established contractual arrangements with commercial organizations whose essential purpose is to provide educational institutions with a wide range of services to deliver online programs. These commercial entities are generally known as Online Program Management organizations (OPMs), e.g., 2U, Pearson Embanet, Noodle Partners, et al. [See Appendix D]

D. Recruitment, Retention, and Graduation.

Recruitment Considerations.¹⁹ The COVID era has severely limited interpersonal contact between the student and the University. Therefore, it is even more imperative that institutions of higher education seek as many ways as possible to promote and enhance interpersonal relationships with its students. The first point of contact, Enrollment Management²⁰ and Admissions, assumes a special responsibility to establish and maintain a communication link with each prospective student. Digital publications descriptive the institution, its offerings, and its efforts to make each student a vital member of the community should be sent to each prospective student on a regular basis. BSU is to be commended for its excellent website; it is an effective recruitment tool. If not already in effect, the University might also consider any effort to establish a personal (virtual) connection between and individual student and one or more key people on campus (faculty, staff, other enrolled students, a counselor, etc.)

Retention and Graduation Considerations. BSU’s Strategic Plan “Race to Excellence” highlights the importance of this issue in Objective 2.5:

“Student retention and progression strategy—Develop and implement a comprehensive undergraduate and graduate retention and progression strategy by encouraging innovation and collaboration between academic and non-academic units in efforts to support student success.” p.3

BSU has made a good effort to strengthen its recruitment and retention policies and support operations as evidenced by retention and graduation rates in comparison to other HBCU’s in the State. This effort must be reinforced and expanded. It is recommended that initial emphasis be given to improving the 6-year graduation rates as a primary goal in establishing institutional effectiveness and reputation. This demands a closely monitored program to support freshman to sophomore progression and a very structured individualized “mapping” enabling the student to complete General Education requirements as well as the

¹⁸ One Example: Creative 2+2 arrangements with PG Community College.

¹⁹ Nationally, public 4-yr institutions had an 11% drop in application volume compared to 2019, while HBCUs had a 2.4% increase.

²⁰ “Racing to Excellence,” Objective 2.1

coursework outlined in the student's major. To accomplish these goals, trained staff should be assigned as "coaches" for students who require more structured guidance and contact.

Learning Outcomes Assessment. Concomitant with retention and graduation strategies, BSU should give added emphasis to the development of clear student learning outcomes for learning. Outcomes should drive curricula, teaching methodology, and assessment. There is no doubt, that this is a difficult undertaking requiring sustained effort by faculty, but with supportive leadership, it will markedly improve student learning and retention and graduation rates.

On-campus Residency. An associated factor is the positive relationship between program progression and on-campus residency. Research shows that students who live on campus have a much higher program completion rate. This raises the issue of the adequacy of on-campus housing and the need for maintenance of existing and/or the construction of new facilities.

Student Financial Aid. Perhaps the single most important consideration in any discussion of Recruitment, Retention, and Graduation is the need for increased targeted student financial aid. Even prior to the pandemic and certainly in the midst of COVID, there is a markedly fierce competition for increased enrollments among all IHEs, HBCU's and historically white institutions (HWCUs). This competition is targeted to the recruitment of minorities in particular. Financial aid budgets at HBCU's are lacking when compared those at majority IHE's. There is some hope on the horizon, however. President-Elect Biden has proposed tuition-free HBCU's if their families earn less than \$125,000 and significant additional program funding.

Student Support Services and Space Needs. Note comments on goal 2, object 2.6 and goal 5, obj 4.1 "**Race to Excellence.**"

8. EFFICIENCY AND RESPONSIVENESS: NOW AND BEYOND COVID - Other Considerations

- A. **BSU Regional Centers at Shady Grove, Laurel, and Southern Maryland.** These Centers are excellent mechanisms for directly responding to the educational needs of students beyond the main campus. These programs have great potential for building enrollments at the graduate level and should be closely monitored for possible replication elsewhere in the State.
- B. **Cybersecurity programming.** This field continues to be in high demand. BSU should examine the potential for merging the existing components across departments in the development of an integrated undergraduate/graduate degree.
- C. **The Importance of Branding:**

"Identity/branding—Broaden recognition of the distinctive experiences and programs that define BSU and its value for individuals and communities locally and globally.²¹

In its effort to stabilize and increase enrollment, it is important that the University develop a clear identity (or "brand") that can be communicated to all the communities it serves or plans to serve. Ultimately, an effective brand should immediately and descriptively resonate with anyone within the University and beyond.

²¹ "Race to Excellence," Objective 5.5.

D. Fast-cycle courses. Compressed time for course content, predicated on need-to-know knowledge and skill closely associated with professional certificate acquisition.

E. Carousel Courses. At their convenience, students will choose courses that are continuously available online/in-person.

F. Online Gap-Year Course Availability. Online courses available to students who choose to take a gap-year or gap-semester.

G. Long-range: Redefine the academic calendar away from the agrarian year format. From 45 -clock hour, 3 semester hour course credit, 15 semester hour semester, 120 semester hour degree to a knowledge/skill-based mastery program largely generated from the performance assessment of student learning. Ideally, such an approach would be available and accessible to any student any time.

Maryland Department of Labor Occupational Projections 2018-2028

Field: Post-Secondary Education

The following tables represent employment and career opportunities as forecasted by the Maryland Department of Labor. Three categories, all describing projected *growth* are shown, including 0-10% growth, 10-20% growth, and over 20% growth. The basis assumes a minimum of some post-secondary education, including one or more of the following levels:

1. Some college, no degree
2. Post-secondary non-degree program(s)
3. Associate's degree
4. Bachelor's degree
5. Master's degree
6. Doctoral or professional degree

Maryland Department of Labor Occupational Projections 2018-2028 Growth 0-10%

Occupation	2018	2028	Chan..	Pct Ch ange
Aerospace Engineering and Operations Technicians	344	374	30	8.72%
Aerospace Engineers	3,284	3,488	204	6.21%
Agents and Business Managers of Artists, Performers, and Athletes	255	277	22	8.63%
Air Traffic Controllers	94	101	7	7.45%
Airline Pilots, Copilots, and Flight Engineers	1,300	1,355	55	4.23%
Arbitrators, Mediators, and Conciliators	57	61	4	7.02%
Architects, Except Landscape and Naval	3,390	3,698	308	9.03%
Architectural and Civil Drafters	1,545	1,559	14	0.91%
Architectural and Engineering Managers	5,898	6,223	325	5.51%
Art Directors	1,472	1,482	10	0.68%
Astronomers	274	288	14	5.11%
Biochemists and Biophysicists	1,116	1,178	62	5.58%
Biological Scientists, All Other	4,509	4,765	256	5.68%
Biological Technicians	2,379	2,590	211	8.87%
Biomedical Engineers	822	862	40	4.87%
Bookkeeping, Accounting, and Auditing Clerks	25,802	25,807	5	0.02%
Broadcast Technicians	547	558	11	2.01%
Budget Analysts	2,380	2,555	195	8.26%
Business Operations Specialists, All Other	27,308	29,173	2,485	9.03%
Camera Operators, Television, Video, and Motion Picture	481	491	30	6.51%
Chemical Engineers	939	951	22	2.34%
Chemical Technicians	474	508	32	6.75%
Chemists	3,441	3,591	150	4.36%
Civil Engineering Technicians	1,411	1,522	111	7.87%
Civil Engineers	8,104	8,670	566	6.98%
Commercial and Industrial Designers	296	314	18	6.08%
Compensation and Benefits Managers	398	423	25	6.28%
Compliance Officers	8,814	9,458	842	9.77%
Computer Occupations, All Other	14,550	15,457	907	6.23%
Computer, Automated Teller, and Office Machine Repairers	2,548	2,579	31	1.22%
Conservation Scientists	441	478	37	8.39%
Construction Managers	11,589	12,452	863	7.45%
Cooks, Private Household	215	228	13	6.05%
Cost Estimators	4,634	4,907	273	5.89%
Credit Analysts	1,548	1,617	69	4.46%
Dentists, All Other Specialists	92	95	3	3.26%
Designers, All Other	329	351	22	6.80%
Directors, Religious Activities and Education	546	587	41	7.51%
Drafters, All Other	351	388	17	4.84%
Economists	850	912	62	7.20%
Electrical Engineers	6,113	6,722	609	9.96%
Electrical and Electronics Drafters	559	591	32	5.72%
Electrical and Electronics Engineering Technicians	4,030	4,256	226	5.61%
Electrical and Electronics Installers and Repairers, Transportation Equipment	555	592	37	6.67%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	731	757	26	3.56%
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	417	435	18	4.32%
Electro-Mechanical Technicians	676	725	49	7.25%
Electronics Engineers, Except Computer	4,323	4,501	178	4.12%
Engineering Technicians, Except Drafters, All Other	2,029	2,857	28	1.07%
Engineers, All Other	5,868	6,040	372	6.56%
Environmental Engineers	1,025	1,740	121	7.45%
Fashion Designers	237	240	3	1.27%
Financial Analysts	6,958	7,598	640	9.20%
Financial Specialists, All Other	5,674	6,232	558	9.83%
Fine Artists, Including Painters, Sculptors, and Illustrators	624	644	20	3.21%
First-Line Supervisors of Fire Fighting and Prevention Workers	1,778	1,954	176	9.90%
Food Scientists and Technologists	439	457	18	4.10%
Funeral Service Managers	291	311	20	6.87%
Geographers	225	237	12	5.33%
Geoscientists, Except Hydrologists and Geographers	500	547	47	9.40%
Graphic Designers	4,869	4,918	249	5.33%
Hairdressers, Hairstylists, and Cosmetologists	19,139	20,944	1,805	9.43%
Health Diagnosing and Treating Practitioners, All Other	7,857	8,372	715	9.34%
Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	770	831	61	7.92%
Historians	95	102	7	7.37%
Human Resources Assistants, Except Payroll and Timekeeping	3,928	4,002	76	1.94%
Industrial Production Managers	2,016	2,102	86	4.27%
Interior Designers	1,703	1,798	95	5.58%
Landscape Architects	728	781	53	7.28%
Lawyers	19,070	20,425	1,355	7.11%
Legal Support Workers, All Other	2,188	2,339	151	6.90%
Legislators	624	624	0	0.00%
Library Technicians	2,084	2,229	145	6.96%
Life Scientists, All Other	377	410	33	8.75%

Growth 0-10% Continued

Occupation	‡	2018	2028	Chan..	Pct Ch ange
Logisticians		6,065	6,582	517	8.52%
Managers, All Other		45,840	49,966	4,126	9.00%
Marketing Managers		5,499	5,997	498	9.06%
Materials Engineers		959	1,001	42	4.38%
Mechanical Engineering Technicians		667	698	31	4.65%
Mechanical Engineers		6,667	7,095	428	6.42%
Medical Scientists, Except Epidemiologists		6,283	6,839	556	8.85%
Microbiologists		2,187	2,312	125	5.72%
Motorcycle Mechanics		285	306	21	7.37%
Multimedia Artists and Animators		1,042	1,095	53	5.09%
Museum Technicians and Conservators		484	515	31	6.40%
Music Directors and Composers		234	253	19	8.12%
Natural Sciences Managers		4,126	4,369	243	5.89%
Nuclear Engineers		646	677	31	4.80%
Pharmacists		5,924	6,380	456	7.70%
Physical Scientists, All Other		2,252	2,407	155	6.88%
Producers and Directors		2,251	2,349	98	4.35%
Proofreaders and Copy Markers		129	131	2	1.55%
Public Relations Specialists		4,832	5,280	428	8.86%
Purchasing Managers		2,010	2,155	145	7.21%
Radio, Cellular, and Tower Equipment Installers and Repairers		165	178	13	7.88%
Religious Workers, All Other		550	584	34	6.18%
Sales Engineers		1,235	1,344	109	8.83%
Sales Managers		7,870	8,424	554	7.04%
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific..		7,525	7,969	444	5.90%
Securities, Commodities, and Financial Services Sales Agents		6,518	6,543	25	0.38%
Set and Exhibit Designers		235	247	12	5.11%
Social Scientists and Related Workers, All Other		2,109	2,256	147	6.97%
Sound Engineering Technicians		434	443	9	2.07%
Survey Researchers		844	877	33	3.91%
Surveyors		1,243	1,312	69	5.55%
Tax Examiners and Collectors, and Revenue Agents		585	619	34	5.81%
Writers and Authors		3,236	3,303	67	2.07%
Zoologists and Wildlife Biologists		395	432	37	9.37%

Maryland Department of Labor Occupational Projections 2018-2028 Growth 10-20%

Occupation	2018	2028	Chan..	Pct Ch ange
Administrative Services Managers	5,014	5,620	606	12.09%
Audio-Visual and Multimedia Collections Specialists	243	277	34	13.99%
Captains, Mates, and Pilots of Water Vessels	661	757	96	14.52%
Career/Technical Education Teachers, Secondary School	1,504	1,714	210	13.98%
Compensation, Benefits, and Job Analysis Specialists	2,156	2,375	219	10.16%
Computer Network Architects	4,629	5,281	652	14.09%
Computer and Information Systems Managers	13,644	15,444	1,800	13.19%
Education Administrators, All Other	1,858	2,095	237	12.76%
Education Administrators, Elementary and Secondary School	6,021	6,897	876	14.55%
Education Administrators, Postsecondary	5,067	5,952	885	17.47%
Education Administrators, Preschool and Childcare Center/Program	1,288	1,501	215	16.72%
Education Teachers, Postsecondary	2,036	2,399	363	17.83%
Financial Managers	14,894	17,312	2,418	16.23%
General and Operations Managers	54,872	60,537	5,665	10.32%
Health Specialties Teachers, Postsecondary	6,409	7,557	1,148	17.91%
Human Resources Managers	3,177	3,523	346	10.89%
Instructional Coordinators	4,745	5,447	702	14.79%
Judges, Magistrate Judges, and Magistrates	569	633	64	11.25%
Law Teachers, Postsecondary	687	818	122	17.50%
Management Analysts	29,263	34,562	5,299	18.11%
Nursing Instructors and Teachers, Postsecondary	1,764	2,075	311	17.63%
Public Relations and Fundraising Managers	1,785	1,988	203	11.37%
Social and Community Service Managers	4,599	5,409	810	17.61%
Technical Writers	2,923	3,341	418	14.30%
Training and Development Managers	1,650	1,824	174	10.55%
Training and Development Specialists	8,810	10,150	1,340	15.21%
Vocational Education Teachers, Postsecondary	3,094	3,627	533	17.23%

Maryland Department of Labor Occupational Projections 2018-2028 Growth > 20%

Occupation	2018	2028	Change	Pct Change
Athletic Trainers	746	921	175	23.46%
Clinical Laboratory Technologists and Technicians	7,566	9,205	1,639	21.66%
Dietitians and Nutritionists	1,525	1,847	322	21.11%
Interpreters and Translators	1,670	2,082	412	24.67%
Market Research Analysts and Marketing Specialists	13,685	16,660	2,975	21.74%
Medical and Health Services Managers	12,982	15,858	2,876	22.15%
Operations Research Analysts	4,377	5,623	1,246	28.47%
Registered Nurses	60,796	74,031	13,235	21.77%
Software Developers, Applications	9,311	11,773	2,462	26.44%
Substance Abuse, Behavioral Disorder, and Mental Health Counselors	5,343	7,079	1,736	32.49%
Therapists, All Other	2,003	2,515	512	25.56%

STUDENT AFFAIRS

Determination, innovation, focus on student success, and working with available resources may mark the defining elements of BSU's management of student affairs during the pandemic. The University identified the areas where it needed to invest, developed smart protocols, and implemented strategies to contain and manage the virus to limit its impact on the University community.

Recognizing the need to provide support where support was needed, BSU reached out to its students on campus and remotely, disseminating Coronavirus information, staying in touch and tracking those with critical needs, implementing virtual counseling and bookings, and enabling students to schedule from their phones or other devices. "Starfish" was used to track attendance, facilitating outreach to students in need of further support. Students availed themselves of counseling services, and issues of anxiety and depression were found to be consistent with other years. Early, intense intervention proved helpful, and students reported feeling "protected" in the campus "bubble", which may have been different from their experience at home.

Special attention was given to simplify and support the move-in process for students living on campus. One residence hall was designated for occupancy, which was kept at 50%. Freshmen and new students were given priority. Delivery of services was framed as student-centric and was designed to be adaptable and flexible.

There is some anxiety about "what's lurking under the surface" with regard to the virus, transmission, efficacy of vaccines, and the possibility of economic impacts as or even more severe than those encountered so far in 2020.

INFORMATION TECHNOLOGY

When re-looking at the technology requirements described in the 2020 Facilities Master Plan in light of the Covid-19 Pandemic, the HCM team focused on (3) main issues, namely 1) What are the existing data network systems and equipment installed at BSU and will they support the new requirements, 2) What part does technology play in dealing with specific issues particular to the coronavirus, and 3) Have the recommendations from the Facilities Master Plan changed, and if so, how?

Will the Current Technology Systems and Services Support the New Requirements?

Like most, if not all higher learning institutions, in March 2020, BSU implemented a 100% teleworking system. Classes would continue, but all would be virtual. BSU's IT Department had to ensure that network bandwidth would support this drastic change. To support this new totally virtual teaching and learning reality, BSU had implemented Blackboard as their learning management platform for distance teaching/learning. They then worked with their vendors to virtualize critical software packages (i.e. Adobe) and integrate them into the Blackboard platform. Finally, they needed to bridge the digital divide and ensure that all students had access to equipment and the internet. So, BSU IT created a loaner program that loaned laptops to students by using an application process (purchased approximately 500 laptops). Priorities were given to freshmen and other new students. To ensure that all had access to the internet, BSU bought hot spots (225), as well as a small number of headsets and webcams for distribution. To ensure that all faculty and staff also had what was needed for them to appropriately operate, BSU extended the loaner program, purchasing loaner laptops for the entire staff. A process was then established to either come to campus and pick up devices or have them shipped out. This process worked well, and BSU was able to support their needs for the rest of the Spring 2020 semester.

For the Fall 2020 semester, it was decided that new freshmen and transfer students would be able to live on campus (approximately 600 students) and that learning would utilize a hybrid model, where some classes would be held in person, while others would be virtual. No classes utilized both in-class instruction and virtual learning at the same time. They used a variety of meeting platforms, including Microsoft Teams and Zoom (they felt the latter was better), and each instructor managed all of the invitations for a particular “event.”. Also, In November 2020, BSU IT upgraded their core network equipment, as the equipment at the time was old and end-of-life. This upgrade was implemented and provided the newest technology at the core of their network, helping to ensure that the campus network equipment would be able to support increased volume, bandwidth, etc.

To ensure that everyone had what they needed when they needed it, BSU IT developed an on-line help desk where users could e-mail issues to designated e-mail addresses (COVID-19, and COVID-19 Academic) where a trouble ticket was created. These mailboxes were monitored by the Offices of the President and Provost. Responses were typically generated immediately by BSU staff. This change was unique to circumstances created by the pandemic, and there were very few complaints.

For the upcoming Spring 2021 semester, BSU decided to continue with what they implemented for the Fall 2020 semester.

As part of this new reality, some technology items that were procured and managed by other departments on campus (i.e. Academic Affairs) were now brought under the BSU IT umbrella, giving them more control of resources. Additional funding also became available to help with network upgrades, IP phones, the loaner program, centralization of procurement, etc. Although some of the components are still managed by others (i.e. Blackboard is managed by Academic Affairs; classroom upgrades are by Media Operations), the BSU IT group feels that they have more control over the network and their ability to deliver quality services has increased.

Has the Coronavirus Changed the Technology Systems Requirements?

The technology systems requirements detailed in the Facility Master Plan are mainly infrastructure and network-based. They include updating the fiber backbone, implementing redundancy in the backbone, creating a secondary data node (Natural Science building), upgrading the existing network components, creating detailed documentation of the network architecture, etc. While these were and are all still important requirements for BSU, the immediate and paramount needs created by the coronavirus were providing equipment and services to students, faculty, and staff that are no longer on campus, and then delivering a variety of services to these remote users that would allow them to continue to teach, learn, and support BSU when students, faculty, and staff were no longer on campus. So, while the technology systems requirements in the Facility Master Plan are still highly important, the coronavirus may have re-prioritized them. ***BSU IT still needs to follow through with upgrading their network (planned for 2021), building a more robust fiber backbone throughout campus, and creating thorough documentation of their network and infrastructure. This is essential.***

Have Facilities Master Plan Recommendations Changed Due to the Pandemic?

In the Facilities Master Plan, it was recommended that a thorough IT Master Plan and creation of specific Technology Systems Standards be a priority for creating an overall Technology strategy for the University. While other recommendations should now be added to those in the Facilities Master Plan due to the pandemic (i.e. develop strategies that will allow for continued support of on-line teaching and learning), the pandemic experience has reinforced this recommendation. In order for BSU to be able to provide myriad technology services with the ability to quickly adapt to how technology is delivered, used, etc., the University must thoroughly understand what is currently installed on campus. Therefore, understanding the technology systems infrastructure on campus (ductbanks,

telecommunications rooms, backbone network, etc.) and where deficiencies exist will be critical to BSU being able to provide a robust and reliable data network that can support the ability to quickly adapt to an everchanging environment. Once BSU DIT thoroughly understands what is currently installed, they can quickly identify where upgrades in their systems are required, especially as it relates to the campus fiber backbone and data network components. Also, funding appears to be available for several new initiatives, including “new seats” for remote users, centralization of procurement, and utilization of more laptop computers (in lieu of desktop computers) for faculty and staff.

ATHLETICS AND RECREATION PROGRAMS

By and large, traditional athletics and recreation activities have proved to be anathema to the protocols necessitated by the coronavirus. Beginning in the Spring 2020 semester and through Fall 2020, following athletic conference (CIAA / Central Intercollegiate Athletic Association) mandates, University System of Maryland guidelines, and BSU pandemic policy, gatherings, sports competition events, and group practices and recreation were curtailed, then subsequently cancelled. Already challenged with insufficient space in the James Physical Education Center, Field House and James Gymnasium, the need for even more space to allow some spatially distanced activities to occur became ultimately unfeasible. Support spaces such as locker and shower rooms and space for visiting teams and officials were similarly even more inadequate. In addition, considerations such as travel to events off-campus became untenable due to limitations of the types and numbers of available vehicles, not to mention regular sanitation.

While the HVAC system in the James building was upgraded in 2018, it was limited in scope, leaving some spaces unimproved; additionally, the HVAC system does not provide the air changes recommended by ASHRAE in relation to the coronavirus. Similarly, the McKeldin Gym underwent some renovations in 2020 but, without a central HVAC system, the building was not able to be used except for continued partial use by BSU Public Safety. In addition, the student headcount rose modestly in the Fall 2020 semester, and the number of athletes was relatively the same as previous recent years – i.e. no drops due to the pandemic. At a time when recreation outlets for students were particularly needed, on-campus students in search of recreation space during 2020 found opportunities for indoor activities very limited. Off-site alternatives such as private gyms, public schools or community centers were either closed or already fully subscribed and so not available. The historically valued on-campus residential experience was not as attractive as in previous years due to limitations of the facilities.

While some sports were cancelled, e.g. football, volleyball, outdoor track and basketball, were cancelled, the Athletics Department did initiate some creative programming for all students, with live classes offered on BSU's YouTube channel including yoga, pilates, boxing, and spin sessions. Athletics and Recreation staff are also considering decentralizing fitness for the near and long term, such as carving out space in residence halls.

While the campus has been perceived as a safe haven during the pandemic, some students nonetheless found themselves dealing with mental health challenges. University and Athletics staff recognized the importance of staying in touch with the students and offered support in-person and virtually. Coaches found themselves in an expanded role of counseling and responded by reaching out to the students to ensure they had access to BSU athletics, recreation and counseling staff.

Considerations of programming for future sports such as lacrosse, co-ed golf, soccer and baseball were put on hold until the long term impact of the virus is understood. Like academic programming, the landscape keeps changing.

PHYSICAL PLANT

As described in the Facilities Master Plan (FMP), the BSU campus is comprised of 23 buildings of varying age, condition, and suitability for occupancy both under pre-pandemic and pandemic circumstances. Seven totaling 400,000 square feet are residence halls, all of which have limited or no air circulation other than opening windows. The FMP recommends demolishing three (Towers, Holmes, and Goodloe Apartments). The 16 non-residential buildings total 1,135,000 square feet including academic and operational support facilities. They fall into roughly three categories generally defined by age: prior to 1970, 1970-1980, and after 1980. Those built prior to 1970 generally lack any effective central HVAC system. The four 1970's non-residential buildings, comprising about 450,000 square feet, are generally large, with central HVAC systems that are not ideal for even pre-pandemic conditions and which either: have had an HVAC upgrade (James), are scheduled or recommended for demolition (MLK, Henry), or are scheduled for renovation (Marshall Library). Newer buildings (Proctor, Computer Science, Center for Business and Graduate Studies, Fine & Performing Arts Center, Student Center, Center for Natural Sciences, Mathematics & Nursing) include HVAC systems that for the most part meet current ASHRAE standards. The latter three are the most amenable to HVAC upgrades approaching those ASHRAE standards recommended for occupancy during the pandemic. Refer to Mechanical considerations at the end of this section for more detailed analysis and recommendations.

BSU implemented some minor modifications to buildings to create safer environments for occupancy during 2020, addressing density, circulation, and access to technology and support. In addition, temporary structures (tents) were erected to provide additional instructional space for occupancy during moderate weather. Otherwise, no additional temporary spaces have been erected. One unused space, the old wrestling room in James, is being considered for re-purposing an academic enhancement center providing additional work space and computers for use by students.



Saxby's Café Brian Krista Baltimore Sun Media Group

Temperature Check Brian Krista Baltimore Sun Media Group

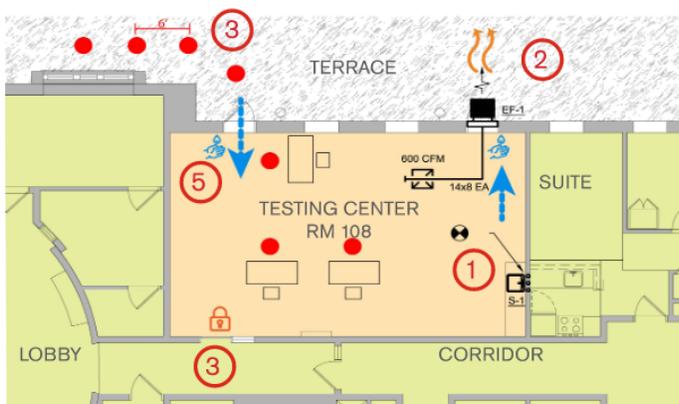
Learning From Other Campuses

BSU can draw on strategies considered by and/or implemented on other campuses to upgrade existing spaces and build new.

HCM developed recommendations for Catholic University in Washington DC designed specifically to address safer occupancy and isolation. One strategy included introducing additional fresh air and exhausting it by means of temporary fans, controls and ductwork mounted on the outside walls of a residence hall to be converted for occupancy by confirmed COVID-19 persons – see below photograph.



In another building, a lounge was proposed to be converted to a testing space. Strategies included directed pedestrian traffic flow, isolation of the space by means of a dedicated ventilation system ensuring negative pressure and exhausting air directly to the exterior, introducing a hand sink and accessories, and temporary toilet facilities adjacent to the suite outside the building. See below floor plan.



Johns Hopkins University recently erected a temporary fabric structure in a residential quad, providing a large multi-use space which can be used for various learning and limited assembly functions, supplementing other existing learning spaces on campus. At about 5,000 square feet, it is accessible by stairs and ramps, heated and cooled by portable package HVAC units, internally and externally illuminated, and ready for Spring 2020 semester occupancy.



BUILDING SYSTEMS - MECHANICAL

HVAC Considerations

Since the onset of the COVID-19 pandemic outbreak in the United States, there have been many articles, paper, webinars, and other publications making suggestions and recommendations to reduce the potential spread of airborne viruses. Two entities recognized as the leading experts in field of viruses and indoor air quality are the Center for Disease Control (CDC) and the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) respectively. While the CDC for the most part influences public policy and informs the science behind HVAC systems design to control the spread of airborne infectious disease, ASHRAE develops recommendations for HVAC design and their recommendations to reduce the spread of airborne viruses is the focus of the discussions herein.

ASHRAE Recommendation and Guidelines

Early in 2000, ASHRAE's Epidemic Task Force for Schools issued updates to their standard guidelines stating "Transmission of SARS-CoV-2 through the air is sufficiently likely that airborne exposure to the virus should be controlled. Changes to building operations, including the operation of heating, ventilating, and air-conditioning [HVAC] systems, can reduce airborne exposures." While these guidelines were developed for Primary K-12 Schools, the application is certainly relevant to other classroom types and occupancies where people assemble for instruction. Recommendations were updated April 15, 2020, and in October 2020.

As ASHRAE indicates, COVID-19 (caused by SARS-CoV-2) is thought to spread mainly from person-to-person through respiratory droplets. Transmission through the air is sufficiently likely that airborne exposure to the virus should be controlled. This suggests changes to building operations, including the operation of HVAC systems to reduce airborne exposures. "Ventilation and filtration provided by heating, ventilating, and air-conditioning systems can reduce the airborne concentration of SARS-CoV-2 and thus the risk of transmission through the air. Unconditioned spaces can cause thermal stress to people that may be directly life threatening and that may also lower resistance to infection. In general, disabling of heating, ventilating, and air-conditioning systems is not a recommended measure to reduce the transmission of the virus". [ASHRAE EPIDEMIC TASKFORCEHEALTHCARE, Updated4-15-2020].

While the intent is not to cite then entire guideline verbatim, recommendations related to HVAC systems generally fall into the following main categories:

- Ventilation, filtration, and air cleaning.
- Air Distribution
- HVAC Controls

However, ASHRAE points out that HVAC is only one layer of an effective control strategy and other non-HVAC strategies should be employed such as source mitigation (testing, contact tracing, etc.), administrative controls (behavior rules and recommendations), and personal protection equipment (PPE, masks which can also be a source control).

The following summarizes ASHRAE's initial guidance which assumes adherence to public health authority recommendations including use of masks, distancing, avoiding large gatherings, and practicing safe hygiene:

1. Maximize outdoor air and minimize recirculation.
2. Disable demand control ventilation.
3. Operate systems 24/7 at maximum achievable outdoor air.
4. Shutoff energy recovery wheels.
5. Upgrade filters to MERV 13.
6. Use operable windows to induce more ventilation air where feasible.
7. Add air cleaners with demonstrated safety and effectiveness such as UVC light.
8. Control humidity to 40%-60% RH.

In an October 22 Webinar COVID update, ASHRAE indicated that there have been several recent industry changes that affect the overall guidance which include:

- Confirmation of the original approach to HVAC systems noting that more super-spreader events occur at lower ventilation rates.
- Use of risk analysis of airborne infections using Wells-Riley modeling. While this science is quite involved and gets into medical terminology and theory, the risk analysis equations basically relate probability of infection to activity level, exposure time, flow of clean air, and the number of infectors. The equations can be used to determine the decrease in the probability of infection based on ventilation and filtration rate. These equations are used to form the basis for the "Equivalent Outdoor Air Approach" which combines air cleaning with ventilation and indicates increased filtration reduces risk of infections due to airborne viruses.
- Use of the "Equivalent Outdoor Air Approach" to help assess ventilation and filtration. Because some spaces do not have sophisticated HVAC systems or the ability to increase ventilation or filtration efficiency, many locations out of necessity require the use of portable air cleaners. To assist in making informed decisions regarding use of portable air cleaners, Harvard and the University of Colorado Boulder partnered to develop the Portable Air Cleaner Calculator for Schools, based on the use of probability theory and the "Equivalent Outdoor Air Approach".
https://docs.google.com/spreadsheets/d/1NEhk1IEdbEi_b3wa6gl_zNs8uBJjISS-86d4b7bW098/edit#gid=1882881703
This tool can be used to evaluate specific air cleaners and combined the effect of ventilation air from a central system with the effectiveness of the portable filtration unit to determine an "Equivalent Outdoor Air" rate which is recommended to be 5 air changes minimum.
- More consideration for economic and operational factors prioritizing controls. Increasing ventilation rates can be challenging and expensive to operate. In addition, increasing outdoor air decreases the amount of air recirculated through filters, which have been shown to be most effective at reducing the spread of airborne viruses. ASHRAE has concluded that not all energy wheels pose re-entry risk and the need to operate systems 24/7 is questionable given that the clearance time is relatively short (i.e. 3 air changes = 95% clearance). According to ASHRAE, the evidence indicates that enhanced filtration is as effective as

increased ventilation and is lower in cost. Environmental study (Azimi and Stephens, Building and Environment 70, 2013, pg. 150-160) correlates the relative influenza risk reduction and filters vs. ventilation cost. The testing shows that the mean relative risk reduction essentially plateaus with use of MERV 13/14 filters and there is not much benefit to increasing the filter efficiency beyond that.

In summary, current ASHRAE Core recommendations to reduce the risk of infection from airborne viruses condense down to the following:

1. Follow Public Health Guidance for masks, distancing, hygiene, etc.
2. Assess HVAC Systems and verify the original design intent and capability.
3. Ventilation, Filtration, Air Cleaning
 - Ensure HVAC systems have the minimum code ventilation air per ASHRAE 62.1.
 - Increase air filtration to MERV 13 or higher.
 - Use stand-alone air cleaners with HEPA, UV-C, or other proven technology.
 - Use the equivalent outdoor air approach to exceed outdoor air and filtration combination requirements.
4. Air distribution, enhancing mixing to assist in effectively removing contaminated air from spaces while avoiding strong air currents that could spread airborne droplets.
5. HVAC Systems Operation
 - Maintain temperature and relative humidity set points (40-60% RH recommended)
 - Maintain maximum design outside air when occupied (disable demand control ventilation, DCV)
 - Use occupied mode whenever people are present in the building/space
 - Flush building with 3 AC before occupancy
 - Evaluate energy recovery wheels to determine whether that equipment is safe or not
6. Evaluate the need for additional measures for at-risk populations.

ASHRAE notes that COVID research, the science, and guidance for reducing the spread of the COVID-19 virus continues to evolve and develop.

HVAC Systems Proactive Recommendations Based on ASHRAE Guidelines

Considering current ASHRAE recommendations and guidelines to reduce the transmission of airborne viruses, the following recommendations were developed as they relate to HVAC systems design and operation. These recommendations are general in nature and each situation, space, HVAC system, etc. should be evaluated in more detail with the assistance of a Professional Engineer. Where evidence and science are lacking, great care and judgment must be used.

1. Evaluate each HVAC system for required minimum outside air per ASHRAE 62.1. While the Campus has taken initiative to develop a Campus Outside Air Report which summarizes the outside air flow at air handlers for 12 buildings on campus, without further detailed engineering analysis it is unclear if the ventilation air flow rates indicated meet current ASHRAE standards. It is probable that newer buildings constructed in the last 5 years meet ASHRAE 62.1 ventilation air standards. It is unclear if the compiled data was based simply on design drawings or measured. Additionally, the remainder of buildings on campus should be evaluated.
2. Each air handler should be reviewed to confirm the filter efficiency. The ASHRAE recommended minimum filter efficiency is MERV-13. Air handlers which do not have MERV-13 filters should be evaluated for retrofit.
3. Building controls should be modified to include a pre-occupancy purge of 3 air-changes prior to occupancy. Evaluations should review air distribution and terminal unit controls, as well as the possibility of modifying central HVAC systems or controls.

4. HVAC systems should be evaluated to ensure humidity is controlled between 40%-60% and humidification added where needed.
5. Representative spaces in buildings should be evaluated to ensure that a minimum of 5 equivalent outdoor air changes are met. Spaces not meeting the 5 air changes should be evaluated for implementing use of portable air cleaners with HEPA filters, UV-C, or other technologies demonstrated to be effective and safe.
6. Systems utilizing energy recovery wheels should be evaluated to confirm safe operation.
7. Evaluate if additional measures are needed in areas where populations have higher risks, such as infirmaries and high activity spaces.

RECOMMENDED STRATEGIES

For all scenarios, a number of strategies should be taken into account to address the issues presented by each scenario. Some apply to all scenarios and should be considered for implementation regardless of which scenario becomes manifest (see Proactive Recommendations). Action recommendations are specific to each scenario (See Scenarios 1, 2, and 3). Categories are the same throughout.

PROACTIVE RECOMMENDATIONS

Several strategies can and should be undertaken for the short and long term benefit of the University, regardless of scenario. These strategies are directly related to the following aspects of BSU:

- A. Administrative and Operations
- B. Learning and Instruction
- C. Student Support and Success
- D. Facilities
- E. Larger Context
- F. Financial Strength

A. Administrative and Operations

- Regularly convene a pandemic response task force. Coordinate with Prince George's County and State of Maryland requirements. Adhere to CDC, WHO, ASHRAE and other applicable guidelines
- Institute emergency / rapid communication protocols
- Maintain on-going awareness campaign on vaccine, testing, and safety protocol implementation until the pandemic is controlled.

B. Learning and Instruction

- Develop innovative delivery models
- Implement hybrid learning
- Maintain and enhance robust faculty development and support

C. Student Support and Success

- Maintain increased support, monitoring and measure protocols of student well-being for on-campus and commuting students
- Facilitate connectivity among students and throughout the BSU community. This should be immediate, group-based by course and major, and at the University-wide level

D. Facilities and Infrastructure

- Continue to require and monitor spatial distancing, increased square-feet per student
- Prioritize technology enhancement and development for:
 - IT bandwidth
 - Partnering/outsource with UMGC or other distance learning provider
 - Providing devices to students
 - Upgrading classroom-level infrastructure and AV systems

- Improve HVAC and ventilation to meet ASHRAE recommendations
 - Conduct regular facility assessments related to the pandemic
- E. Larger Context**
- Promote BSU enrollment and tuition
 - Enhance broader community connections with health organizations and facility -sharing with schools, libraries, community centers, and other entities
- F. Financial Strength**
- Grow rainy day fund for pandemic-related costs
 - Develop alternative and diverse revenue sources

SCENARIOS

Three scenarios spanning the spectrum of COVID-19 management, from contained to continued, are set forth below. Action recommendations are described for each.

SCENARIO 1 – PANDEMIC GOES AWAY

However, individual pockets may persist or arise and are managed/contained without going back to a pandemic stage.

- A. Administrative and Operations**
- Pandemic task force disbands and creates on-call response team.
- B. Learning and Instruction**
- Continue in-person / virtual / hybrid course delivery.
- C. Student Support and Success**
- Continue successful support strategies practiced during the pandemic
- D. Facilities and Infrastructure**
- Plan for and implement incremental return to full occupancy.
- E. Larger Context**
- Initiate aggressive growth initiatives to begin immediate recovery.
- F. Financial Strength**
- Address short-term financial losses, if any.
- G. Implementation of the 2020 Facilities Master Plan**
- No major change; proceed

SCENARIO 2 – “Like the Flu”**A. Administrative and Operations**

- Pandemic task force continues to operate.
- Increase coronavirus monitoring, measuring and testing, e.g. building sanitary pipe systems.

B. Learning and Instruction

- Implement online and hybrid models.
- Consider flexible course delivery – e.g. micro-credentialing, full-online programs.

C. Student Support and Success

- Focus on students’ well-being and health protocols.

D. Facilities and Infrastructure

- Continue improving facilities with pandemic in mind.
- Develop a contingency plan for temporary classroom and housing accommodations.

E. Larger Context

- Expand partnerships with other institutions

F. Financial Strength

- Continue management of pandemic-related costs.

G. Implementation of the 2020 Facilities Master Plan

- Recognize and plan for likelihood of some impacts and/or delays to the plan.

SCENARIO 3 – “New World”**A. Administrative and Operations**

- Re-evaluate organizational structure of University in new paradigm.
- Pandemic task force becomes permanent.
- Make permanent coronavirus monitoring, measuring and testing.

B. Learning and Instruction

- Offer new, expanded hybrid and online programming.
- Re-structure academic schedule.
- Introduce new programs tailored to new market paradigm.

C. Student Support and Success

- Focus on students’ well-being and health protocols:
 - Physical health

- Mental health
- Financial advising
- Family support
- Adopt new cultural paradigm, e.g. modifying traditional greetings, Greek gatherings, requiring PPE.

D. Facilities and Infrastructure

- Monitor updated building codes and make modifications.
- Make permanent isolation rooms/suites.
- Adaptively re-use inflexible and/or confined spaces.
- Adapt facilities for increased space requirements for hybrid learning.

E. Larger Context

- Increase partnerships with other institutions and organizations.

F. Financial Strength

- Evaluate and implement alternative revenue models where tuition is not the main income source:
 - e.g. Research, facility rentals, summer camps, increased alumni and other gifts.

G. Implementation of the 2020 Facilities Master Plan

- Re-evaluate facilities and other master plans

OPPORTUNITIES AND RISKS

As the pandemic has forced every school, government agency, business, institution, and household to re-think how it conducts its (now) not-so-routine routines, so has Bowie State University needed to pivot from the way it operated in 2019 to the new world of 2020. As it has re-imagined its practices, it has also learned that “different”, while often challenging, brings opportunities along with risks. Undoubtedly, BSU will find that some of the new ways of conducting its business are improvements over previous procedures. And so we have opportunities and risks.

Opportunities are many and include among other examples:

- Enhancing the resilience and longevity of the University – e.g. endowment.
- Laying the foundations for healthier students, faculty and staff – e.g. less time commuting.
- Creating more flexible modes of operation – e.g. streamlined processes – admissions, scheduling classes.
- Increasing enrollment – perhaps as a function of establishing BSU as a leader in creating safe campuses.
- Introducing new modes of program delivery – e.g. varied options for scheduling classes and labs; micro-credentialing.
- Establishing new academic programs and degrees – e.g. professional graduate level schools.
- Accelerating culling or improvements to facilities – e.g. putting proposed demolition or renovation projects on faster tracks.
- Identifying new funding and revenue sources – e.g. via business and industry partnerships.

Risks are inevitable in any new venture and should be identified, evaluated and compared with alternatives early before commitments are irrevocable. Among other considerations, risks will involve varied levels of intervention; this also suggests the need for early evaluation. Among others, examples of risks may include:

. . . even if the level of intervention has been determined to be sufficient:

- Loss of some BSU community members – e.g. who may not accept the need to adapt to new procedures or technologies.
- Mis-directed resources – e.g. for strategies that don't work.
- Additional funding is found to be limited or unattainable – e.g. in pursuit of large grants.
- Increased stress for the BSU community – e.g. competitive pursuits requiring significant investments of time.

. . . if the level of intervention is found to be insufficient:

- Enrollment decreases.
- Revenue decreases.
- BSU progress slows.
- BSU community health may suffer.
- BSU brand suffers.
- Resulting increased stress for portions or all of the BSU community.

Certainly, the University will benefit from hindsight in any initiative. Hence the need for sufficient investigation before the launch.

SUMMARY

One of the most salient aspects of the Coronavirus is the constant state of flux of many conditions and impacts, including the virus itself, transmission, mutations, developing knowledge and science, behaviors, shifting priorities, pivoting policies, defenses, time-lines and expectations. At the time of writing this report, the world is experiencing its second or third spike in cases, depending on geography, manifest by nearly 20 million cases and over 330,000 deaths in the United States alone. Within the United States, the impact of the virus has varied widely by state and in different time periods. As we learn more, we also learn more of what we didn't know and how the planning we put in place was effective or ineffective.

The timing of the study has afforded us valuable perspectives and some (little) time to distill the events we have experienced during 2020 and expect to deal with going forward. Not just timing, the initiative of Bowie State University to undertake the study underscores the seriousness with which the University views the virus and its impacts on BSU. Hopefully, this report will serve as a framework for the University's leadership to consider the deep and broad implications of the virus and as a tool for policy development and implementation.

The time period premise for this study includes 2020, extending 3-5 years. We consider this to be short term, at least relative to the 10-year Facilities Master Plan (FMP). While the issues and recommendations in this study will inevitably affect the future of the University and by extension the FMP, it is expected that the long look and recommendations within the FMP are still significant and will be relevant throughout its planning horizon.

The process of developing the study involved several academic, planning and engineering professionals collaborating together to build the report construct, identify and describe the issues, and suggest ways forward. The process was iterative, affording opportunities to bring several perspectives together and to cut to the chase in deliberate ways.

The coronavirus has had major impacts on every college and university worldwide, and perhaps particularly in the United States, given the extent to which many persons pursue post-secondary education in the first place, and to which many foreign students elect to matriculate here. Given BSU's location outside the nation's capital and a diverse metropolitan area, still connected with but in relative geographic separation from local communities, and as an HBCU with a significant student housing component and primarily conducting classes face-to-face, the University found itself quickly affected by the virus and needing to develop responses the pandemic in short order.

Impacting the University were several drivers, both external and internal. The University had no control over the external drivers but did have to manage its responses. For internal drivers, BSU implicitly controlled each driver as well as its response.

The consultant team considered several scenarios, and it became clear that they could be boiled down to three:

1. The pandemic goes away; return to "normal"
2. It becomes like the "Flu", always around, needing to be managed annually
3. It creates a "New World"; we never return to life as we knew it.

After identifying and examining many considerations for all scenarios, all affecting the University's mission, structure, policies, physical plant, and operations, and all contributing ultimately to the resiliency and sustainability of the University, the HCM team developed:

- A baseline of steps BSU should take no matter which scenario unfolds,
- A menu of strategies and action recommendations related to each scenario, and
- Opportunities and risks potentially affecting all strategies.

Throughout the process, the team was guided by two queries:

- What are we doing to make our proposition student-centric? and
- How can the BSU product improve?

Without question, Bowie State University will continue to be confronted by continuing and new challenges as it moves forward through 2021 and beyond, even despite the vaccine development, distribution and administration. It will be important for the University to continue to be guided by its Mission and Strategic Plan, and ideally to be able to put strategies in place that are nimble and flexible.

