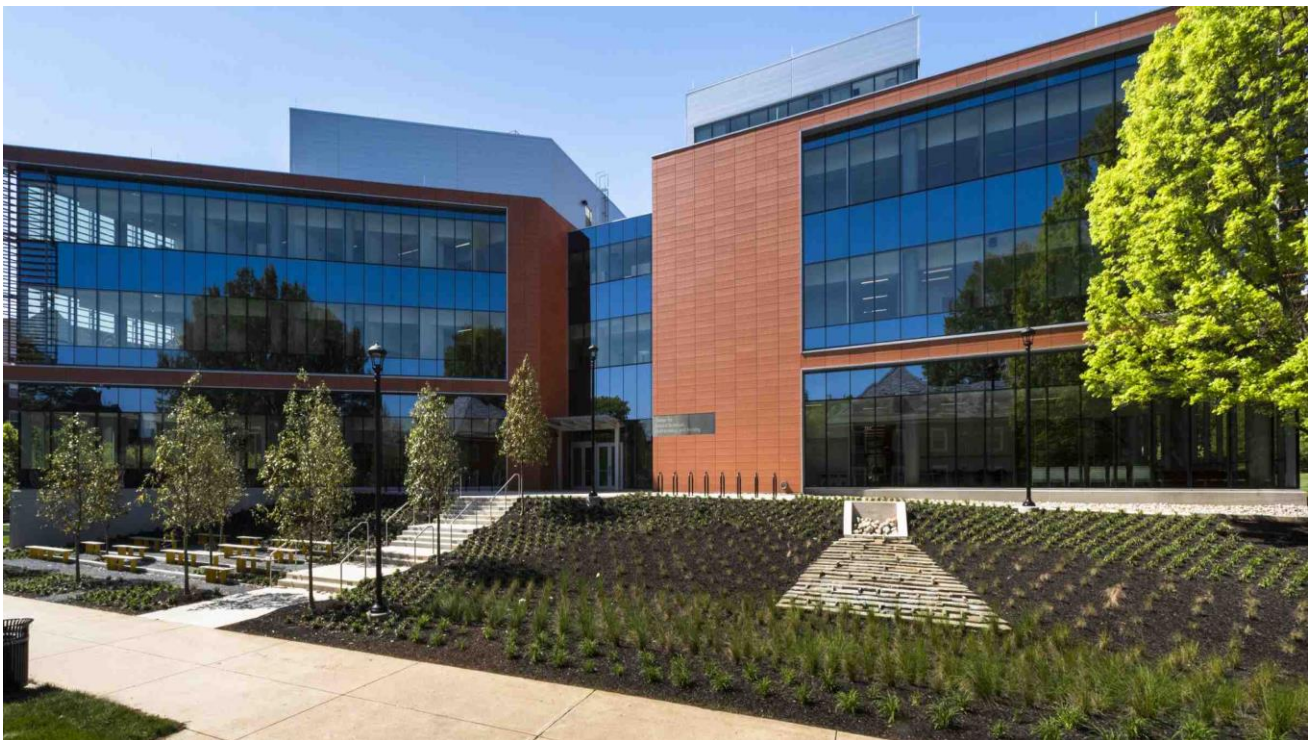


BOWIE STATE UNIVERSITY
CLIMATE ACTION PLAN

ADDENDUM

DECEMBER 2017



Back entrance of Center for Natural Sciences, Mathematics and Nursing

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Revised December 2017

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EXECUTIVE SUMMARY

The current Bowie State University president, Dr. Aminta H. Breaux (July 2017 - Present) has committed to continuing the University's mission in decreasing the carbon footprint of Bowie State University and the surrounding community. As outlined in the Bowie State University Institutional Goals and Presidential Objectives, FY 2018, Dr. Breaux specifies as one of her Presidential objectives, to '*Continue to reduce the carbon footprint and develop sustainability initiatives that create significant reduction in Greenhouse Gases*'.

As President, Dr. Breaux intends to further the two pledges and commitments that former President Dr. Mickey L. Burnim committed the University in 2015. Dr. Burnim in 2015 signed the new Climate Commitment (an integration and rebranding of the ACUPCC) as a Charter Signatory. The Climate Commitment, a signature program of Boston-based nonprofit Second Nature, will require Bowie State University to set climate targets, report on progress publicly, and collaborate with the surrounding community, all while integrating sustainability across the curriculum. The Climate Commitment is one of three commitments from Second Nature. These are known jointly as the Climate Leadership Commitments, and include a Carbon Commitment (focused on reducing greenhouse gas emissions), a Resilience Commitment (focused on climate adaptation and building community capacity), and a Climate Commitment that integrates both. The Carbon Commitment, formerly known as the American College & University Presidents' Climate Commitment (or ACUPCC) has been used as a model for higher education climate action internationally. The Climate Commitment seeks to expand on that success and integrate resilience into the framework.

On November 19th, 2015, the White House launched *American Campuses Act on Climate*

(ACAC) initiative to amplify the voice of the higher-ed community in support of a strong international climate agreement in the United Nations COP21 climate negotiations in Paris. Dr. Burnim also signed this agreement, whose pledge reads:

“As institutions of higher education, we applaud the progress already made to promote clean energy and climate action as we seek a comprehensive, ambitious agreement at the upcoming United Nations Climate Negotiations in Paris. We recognize the urgent need to act now to avoid irreversible costs to our global community’s economic prosperity and public health and are optimistic that world leaders will reach an agreement to secure a transition to a low carbon future. Today our school pledges to accelerate the transition to low-carbon energy while enhancing sustainable and resilient practices across our campus.”

When the federal government decided to withdraw from the Paris Agreement under direction of President Donald Trump, a new movement called ‘We Are Still In’ was created. Bowie State University along with over 1200 other colleges and universities, governors, mayors, business and investors sent a message to the international community that in lieu of US federal support, we will continue the U.S. commitment to address climate change and continue to support the U.S. in remaining to be a viable global leader in reducing carbon emissions.

Chapter 1. Administrative Guidelines [updated]

Team Membership

Listed below are the members who serve on the Climate Commitment Coordinating Committee (C4), as of December 2017:

Dr. Karl Brockenbrough, Chair, Vice President for Administration and Finance

Jabari Walker, Staff, Administration and Finance

Dr. Alan Anderson, Department Chair of Natural Sciences

Dr. Darsana Joysula, Faculty, Computer Science Department

Darryl Williford, Director of Facilities Management

Dr. Jacqueline Jackson-Palmer, Staff, Facilities Management

Dr. Regina Tawah, Faculty, Accounting, Finance and Economics Department

Patricia Hughes, Faculty, Computer Science Department

Dr. Steve Sheffield, Faculty, Natural Science Department

Dr. William Lawrence, Faculty, Natural Science Department

Dr. Felicia Valdez, Faculty, Technology, Learning and Professional Development

Curtis Carr, Staff, Auxiliary Services

April Stevens, Staff, Residence Life

Jerry L. Isaac, Staff, Continuing Education

Jatina Cooke, Staff, Auxiliary Services

Nichole Isaacs, Staff, Facilities Management

SGA Representatives

GSA Representatives

Student Green Ambassadors

Within Four-Nine Years (2013-2018)

- Establish a student led green ambassador program affiliated with C4 with a strong focus on student awareness and activities
- Establish student green fund to help provide funding for student led green initiatives and projects
- Establish a sustainability website that includes a link for students and campus community to give ideas and feedback on sustainable projects on campus
- Establish social media presence for Sustainability/C4
- Create an infrastructure on campus that utilizes an alternative energy source or alternative energy sources (i.e. solar power) that will help achieve a minimum of 10% reduction of conventional power resources and will help reduce carbon footprint
- Increase sustainability awareness through unique student events such as Earth week activities
- Work with campus community to achieve minimum LEED Gold certification on newly built or designed buildings
- Implement an electronic/paperless system of campus-wide approval procedures (i.e. HR hiring process; Conference Services requests and reservations, student tuition payments)

- Increase number of fuel efficient vehicles on fleet and on campus
- Increase student and staff participation, recognition, and professional development opportunities in relevant institutional sustainability associations and organizations (i.e. AASHE)
- Increase and enhance Recycling program efforts on campus (i.e. purchase of recycle bins, fun activities to encourage recycling, and enhance Recyclemania program)
- Create campus informational video on sustainability as means of awareness; increase visibility on BSU campus and surrounding community of environmental protection and preservation actions of C4 and sustainability program
- Establish community collaboration efforts and participation in community green activities
- Establish campus garden and Garden committee
- Assist in efforts of creating a permanent student led program to assist in continuous campus beautification and clean up efforts
- Create a Hazard/Disaster Mitigation Coalition; Draft a hazard mitigation plan to satisfy the requirements of the Resilience Commitment component of the new Climate Leadership Commitment

Within Ten-Fourteen Years (2019-2023)

- Establish an annual student work study job or annual paid internship (called ‘Green Student Intern’)
- Create a composting program

- Establish a campus garden and Garden Club/committee to ensure the maintenance and successful sustainability of the garden
- Install several electric charging stations around campus for electric passenger vehicles
- Continue to increase alternative energy source means on campus to help provide electricity and reduce reliability on conventional methods
- Increase strategies on campus to drastically reduce usage of paper; increase digitalized methods of record keeping and storage
- Greatly reduce or eliminate usage of plastic bottle on campus (re-examine vendor methods for cutting the use of plastic bottles)

Chapter 2. Energy Conservation and Power Sources [updated]

The operations section contains eleven sub-sections covering a wide range of activities.

The long term vision is that BSU will conduct all aspects of campus operations in a fashion that is ecologically sound, socially just, and economically viable. The sub-sections and associated goals are:

Electrical Energy Management and Conservation: Become an institutional role model for electricity conservation through the rigorous implementation of emerging technology to increase efficiency, and the application of policy-based conservation practices to reduce waste. Our goal is to 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.

Storm Water Management: Reduce the amount of total suspended solids coming off the campus by 40% before 2022 (from 2006 baseline).

Facilities Planning, Renovations and Construction: Utilize energy efficient and sustainable design standards on all new construction and applicable renovation projects undertaken after 2012. As of that deadline, all construction and renovations projects shall seek to meet or exceed LEED “Silver” level of sustainability pending capital funds availability, but with a preference of LEED “Gold”.

Purchasing: Develop and follow sustainability-focused purchasing policies in more than 50% of spending for campus materials and equipment by 2022 by instituting a shared supply system.

Water Conservation: Utilize Energy Performance Contract to have low flow water faucets and low flow toilets in most campus buildings. Retrofit water fountains to reduce waste of plastic water

bottles as well as limit wasteful use of water from fountains. *See also solid waste management in that retrofit fountains should reduce usage of plastic water bottles across campus.

Solid Waste Management: Reduce production of municipal solid waste by 30% from 2006 levels by 2022 by working in conjunction with Facilities Management and Food Services to enhance solid waste and recycle programs. Increase recycle bins in common areas of academic buildings. Expand recycle efforts to include all recyclables including cardboard. Expand recycling incentives such as Recyclemania to include all buildings on campus and participate in nationwide competitions. Install a series of solar trash compactors which: save space by compacting solid waste automatically when reaching full, utilizes 100% solar energy, and limits trips to empty bins which can save gas as well as manpower.

Greenhouse Gas Inventory and Reporting: Reduce greenhouse gas emissions campus wide. The most recent, up to date summary is included in appendix IV.

Food Services: Minimize the environmental and social impacts of operations including indirect impacts of suppliers while continuously providing a variety of nutritious and sustainably-grown foods by possibly establishing campus community garden. Create a team/committee to explore the feasibility of composting by 2019.

Grounds/Maintenance: Increase biodiversity and usable green space of the campus while reducing dependence on fossil fuels, other extracted minerals, chemical fertilizers and pesticides. Increase student participation in keeping campus clean and green throughout the school year. Create proposal for a functioning long-term garden primarily run by students.

Chapter 3. Transportation [updated]

Transportation to and from Bowie State University (BSU) is a significant contributor to the campus' carbon footprint as well as the region. As shown in the below table, BSU issued 3,189 parking permits for FY 2017. BSU also operates a fleet of vehicles for Public Safety, Maintenance, Athletics, and staff transportation.

Parking Permits issued for Bowie State University Fall 2016

Type of Permit Issued	Classification	Number Issued
1	Fall Semester, Only – students	300
C	Commuter Students (full-time)	1800
R	Resident Students	300
F	Faculty	308
RES	Reserve Faculty/Staff	93
S	Staff	388
TOTAL		3,189

Faculty, staff and students commuters utilize various methods to commute to campus. Currently approximately 96% of staff and 61% of faculty drive their personal vehicles to campus. Of the approximate 6,100 students enrolled at BSU, about 2,400 are currently authorized to drive and/or park a vehicle on campus. The committee estimated these numbers based on parking permit data from the Department of Campus Safety. The University has not yet seriously encouraged the use of public transportation, but should explore new avenues and methods to encourage diverse options that will assist employees and students to lower their carbon footprint. The parking demand has significantly increased over the past 4-12 months.

MAGLEV/MARC

The MARC train still proves to be a viable option for travel for employees and students from the Baltimore or DC areas to campus. The proposed MAGLEV (magnetic levitation) may allow for even faster travel from Baltimore to Washington DC with a proposed stop at BWI Airport, which could allow another option for transportation. The “Baltimore-Washington Superconducting Maglev Project” is now in the stages of preparing an EIS (Environmental Impact Study) to evaluate the potential impacts of constructing and operating a high-speed superconducting magnetic levitation system in the metro area.

Impacts from energy efficient vehicles

Due to steady enrollment growth, stable gas prices, and campus remote location, it does not seem likely that the number of actual vehicles will decline significantly in the coming years, however it is likely that the type of vehicles on campus can be altered to be more environmentally friendly. The University currently allows personal vehicles that meet the Energy Efficient Qualifying Vehicle Information according to the American Council for Energy-Efficient Economy (ACEEE) website (www.greenercars.org) to receive a 20% discount in the cost of permit if the vehicle scores a 40 or higher. The University website is: <https://www.bowiestate.edu/files/resources/fy-2015-16-parking-information-2.pdf>. This information should be advertised with the assistance of Campus Safety (Division of Student Affairs) and promoted on a wide scale across campus so that vehicle owners are aware of the incentive, and with hopes that this incentive will encourage others to consider these types of vehicles when purchasing their next vehicle.

BSU has been exceptional with the number of electric and hybrid vehicles in it's fleet. The

Transportation Department currently has two electric carts, one flex fuel sedan and one flex fuel 7-passenger van. The carts are charged using the electric charging station and vehicles are fueled by using the on-site gas tank. The Facilities Management Department has three electric vehicles. The Athletics Department has ownership of a Toyota Rav4, which is a hybrid vehicle through contract with the CIAA. While the number of electric and hybrid vehicles are commendable, there are still plenty of cars on fleet that still utilize old fuel-efficient methods, such as Facilities. Alternative fueled vehicles should be considered for all new vehicles purchases from the contract. There should be a plan put in place to replace these vehicles within 5-7 years.

Infrastructure Strategies to help lower carbon footprint

One way to decrease the number of cars on campus and traveling to campus is to make more options that are residential available on campus. The University administration is currently in the beginning phase of planning a new residence hall that will help reduce the number of students who are forced to stay off campus and drive. Another way to decrease the carbon footprint is to reduce the time spent of multiple vehicles spending several minutes searching for available parking spaces on campus. This constant circling creates a loss of class and/or work time, but also causes more harmful gases to be emitted into the atmosphere. Therefore, the University is also currently in the preliminary stages for planning the constructing of a 400 space parking lot to accommodate and greatly alleviate the massive influx of cars on campus.

Impacts from alternative modes of transportation

The emergence of programs like ZipCar are beneficial to the University in that it provides the campus community with alternative means to commute locally and even encourages students to carpool at minimal cost. Zip cars are hybrid vehicles which overall use less gas. Zip Car, Inc also

uses an electronic based system for their business transactions with customers. There are four zip cars currently in use on campus parked in front of the Student Center. This number should be increased in the coming years to be included at other buildings, especially as the enrollment grows.

The increase of manufactured electric vehicles should indicate the need of the University to purchase electric charging stations. BSU is currently working with the Maryland Department of Transportation (MDOT) through the assistance of the Volkswagen Group of America to bring electric vehicle charging stations to campus. The goal of the collaboration is to invest in electric vehicle (EV) charging infrastructure and increase availability of chargers, particularly in highly dense metropolitan areas. There are currently four sites (Lot A, Lot D, Lot E, Lot J) proposed (assuming two stations per lot) on the Bowie State campus. Tied with the Muirkirk MARC Station, Bowie State has the highest number of proposed outlets. See table below from the ZEV Investment Funding Proposal submitted by MDOT in June, 2017.

Table 1: Location Details on Maryland's Priority EV Stations Located in and Near the Washington, D.C. MSA

Site #	Location	City	Proposed Outlets	Near Restaurants or Retail	Near EV Corridor	Near Metro Area
1	Appalachian Lab	Frostburg	2		✓	
2	Campus Police Building Parking Lot	Frostburg	4	✓	✓	
3	Cumberland FSO parking lot	Cumberland	6		✓	✓
4	Hagerstown FSO parking lot	Hagerstown	6	✓	✓	✓
5	Frederick FSO parking lot	Frederick	6		✓	✓
6	Gaithersburg FSO parking lot	Gaithersburg	6	✓	✓	✓
7	Traville Gateway Garage	Rockville	6		✓	✓
8	Conference Center/Hotel Buildings	Adelphi	4	✓	✓	✓
9	Regents Drive Parking Garage	College Park	6	✓	✓	✓
10	Beltsville FSO parking lot	Beltsville	6		✓	✓
11	Muirkirk Station MARC-Camden Line	Beltsville	8		✓	✓
12	PG Co South VEIP Parking Lot	Clinton	4		✓	✓
13	PG Co North VEIP Parking Lot	Glenarden	4		✓	✓
14	Academic Center at Largo	Largo	4		✓	✓
15	Largo FSO parking lot	Upper Marlboro	6		✓	✓
16	Bowie State University Campus	Bowie	8			✓
17	Annapolis FSO parking lot	Annapolis	6		✓	✓
18	DNR Headquarters	Annapolis	4	✓	✓	✓
19	Bay Bridge - Stop in Center	Annapolis	6		✓	✓

Bicycle/Pedestrian methods

Bicycles are another growing trend in the Washington DC metropolitan area, a means that some campus residents may utilize. All residence halls now contain bicycle racks, as well as most academic buildings including 10 in front of the Center for Natural Sciences, Mathematics, and Nursing (CNSMN). The BSU Bicycle club was created in 2015, but membership is low since most students in the club do not own bikes. The Bicycle Club could serve as a catalyst to begin a small bike share program on campus, particularly beneficial to those who reside within a 5 mile radius of campus. C4 could assist with helping to provide and secure funding as well as visibility to the program.

Bowie State recognizes the benefit of pedestrianism as it pertains to one's personal health as well as the elimination of harmful carbon gases. The University should collaborate with local municipalities to help local residents to use pedestrian paths through our campus. The current Trail

Easement Agreement between Bowie State and the Maryland-National Capital Park and Planning Commission (M-NCPPC) will result in the extension of the existing Washington, Baltimore and Annapolis (WB&A) Trail, which is currently used by the public for pedestrian access, biking, and other trail related activities.

Chapter 4. Education, Training and Research [updated]

The long-term vision is to continue to link the university's formal teaching mission and informal teaching opportunities to develop understanding, attitudes and habits that promote sustainability. This section of the plan suggests a variety of ways that BSU can improve the way that it teaches sustainability, both inside the classroom and outside of it. The sub-sections and associated goals are:

Curriculum: While Sustainability is still not considered to be a mandatory guideline or requirement by the Maryland Higher Education Committee (MHEC), several BSU instructors have opted to include environmental, health related, and other forms of sustainability into their curriculums. C4 (in particularly C4 Faculty members) should continue to push Sustainability as a requirement to be met for at minimum the General Education required courses. Students should have extensive and diverse opportunities to study sustainability in their coursework. Professional Development opportunities should be frequently sought after and commissioned for BSU faculty to better enhance their knowledge of sustainability methods and how to teach or introduce them in the classroom.

New Academic Buildings:

The classroom building in its design and function should be a main catalyst for student engagement and learning. The environment should be conducive, convenient and comfortable to not only learn more about climate change or sustainable practices, but to be able to practice such by utilizing modern technology void of paper and writing devices, and by the latest technology in science, nursing and business practices. The building itself should utilize energy saving methods to greatly reduce the campus carbon footprint and to

avoid wasteful energy and costs. The CNSMN contains retrofitted water fountains, recycle/trash receptacles throughout the building, a rooftop greenhouse, dynamic glazing, active chilled beam systems, computerized building controls, storm water management and multi-parameter demand control ventilation.

All future building on the Bowie State Campus should meet or exceed the functions and features of the CNSMN.

Campus Events: Continue to encourage active participation in annual Earth Day celebrations, Recyclemania competition, Shred Day, and institute a campus-wide mandate for all active BSU student organizations in keeping the campus clean and beautiful and trash free, and also serve as a source of community service.

Internships, Service Learning and Volunteering:

The Green Ambassador Program was created as part of C4 in 2013 to help train and recruit student volunteers to be ambassadors among the student body in sustainability practices. A future goal should be to explore the feasibility of funding one or two student interns annually called ‘Green Student Interns’ to help create, coordinate, promote, participate in, manage, and spread awareness of environmental conscious practices across campus. These student interns could even play a role in the development and functionality of future infrastructure on campus.

Chapter 5. Funding the Plan [updated]

In addition to the existing Student Green Fund which is derived from undergraduate and graduate fees, discussions could also be undertaken with the Division of Institutional Advancement and Office of Research and Sponsored Programs to find additional funding for projects on campus and to assist in establishing and maintaining a permanent, paid ‘Green Student Intern’ position on an annual basis.

Chapter 6. Goals and Recommendations [updated]

The Campus Sustainability Plan is comprehensive and ambitious, and includes many recommendations for initial consideration, within a nine year period, and future consideration. While all of the recommendations would help make BSU more sustainable, some are critical, especially as we begin the process of implementation. Below is a list of those crucial tasks.

- 1) Perform Energy Audit and Implement Recommendations
- 2) Encourage the Infusion of Sustainability Teaching into BSU core curriculum
- 3) Increase awareness on Sustainability, Residence Hall Programs on Sustainability
- 4) Develop Community Garden and Composting Site
- 5) Adopt LEED Gold standards for new construction and minimum LEED Silver standards for renovation projects (as funds allow) with goal of achieving one LEED Platinum building
- 6) Perform annual action plan progress review

Chapter 7. Resilience [*new*]

Significant climate change impacts are projected and impacts over the next few decades are virtually certain and Universities are part of the “front line” for dealing with climate change. Bowie State University recognizes that mitigation and adaptation are complementary strategies for reducing the likelihood of unmanageable change, managing the risks and taking advantage of new opportunities created by our changing climate.

In 2006, the ACUPCC was signed by former President Mickey Burnim a milestone signature accomplishment of Bowie State University in its long term commitment to climate change reduction. In October 2015, the presidents on the Climate Leadership Steering Committee worked with Second Nature (a nonprofit membership oriented organization that works with colleges and universities to expand efforts on environmental sustainability) to rebrand the ACUPCC. The new re-branding consisted of a Resilience component.

Climate resilience has been described as the “ability to survive disruption and to anticipate, adapt, and flourish in the face of change”. In 2016, former President Mickey Burnim signed the new agreement called the Climate Leadership Commitment. [Appendix II] Campuses such as Bowie State University that address the climate challenge by reducing greenhouse gas emissions and by integrating resilience into their curriculum, research, and campus operations will better serve our students. Carbon neutrality and resilience are extremely high priority areas of action for all institutions.

Building resilience to climate change impact is a relatively contemporary endeavor, compared to the ongoing mitigation efforts globally. Such efforts have been underway to reduce the impact of human activity on the climate. These efforts were primarily centered around

mitigation strategies with a focus on reducing and preventing emission of greenhouse gases. Mitigation efforts however are focused on long term reduction of GHGs which might take decades to have an observable impact. The primary goal of the resilience commitment is to develop an action plan to increase resilience. This chapter will focus on two primary areas to address resilience: the Bowie State University Environmental Resilience Plan, which includes hazard mitigation and Community collaboration/partnership.

Proposed Action Plan set forth by Second Nature:

Resilience Commitment:

- 1) Develop a Climate Action Plan to increase resilience
 - a. Within two months of signing this document, create internal institutional structures to guide the development and implementation of the Plan
 - b. Within one year of the implementation start date, actively support a joint campus--- community task force (or equivalent) to ensure alignment of the Plan with community goals and to facilitate joint action, and submit the first annual evaluation of progress
 - c. Within two years of the implementation start date, lead and complete an initial campus---community resilience assessment including initial indicators and current vulnerability
 - d. Within three years of the implementation start date complete the Plan, (also reflecting joint community---campus components), which will include:
 - A target date by which defined thresholds of resilience will be met

- Interim target dates for meeting milestones that will lead to increasing resilience**
 - Mechanisms and indicators for tracking progress (including those that cut across campus---community boundaries)
 - Actions to make resilience a part of the curriculum and other educational experiences for all students
 - Actions to expand research in resilience
- e. Review, revise if necessary, and resubmit the climate action plan not less frequently than every five years
- 2) Submit an annual evaluation of progress
- a. Within one year of the implementation start, and every year thereafter, complete an annual evaluation of progress
 - b. Make the action plan and annual evaluation of progress publicly available by submitting them to the Second Nature Reporting System for posting and dissemination

Bowie State Environmental Resilience Plan (BSU-ERP)

The process to develop the BSU-ERP will initiate once a committee is set up, which is scheduled to begin in the early part of 2018 with a goal of completion by the end of the 2017-2018 academic/fiscal year. The primary stakeholders at Bowie State University in the planning process would consist of Facilities Management and Grounds, and Capital Projects. Campus Safety will also have a secondary role. The BSU-ERP will have cross sections of two local existing plans (City of Bowie and Prince George's County).

Bowie State University is located in Bowie, Prince George's County, Maryland. Two

plans that will be reviewed and analyzed f will be: 1) the City of Bowie Emergency Operations Plan (2016), and 2) the Prince George's County and City of Laurel Hazard Mitigation Plan (2010).

1. **City of Bowie:** The City of Bowie does not have a separate Hazard Mitigation Plan. The hazard mitigation information section provided below is in its current EOP. However, the information is very limited. One consideration is to team up with the City of Bowie to assist each other in creating a more comprehensive plan. See below excerpt from plan taken from website link:

<http://www.cityofbowie.org/ArchiveCenter/ViewFile/Item/1732>

X. Hazard Mitigation

A. General

- The primary goal of mitigation is to reduce loss of life and property by lessening the impact of disasters. This is achieved through regulations, local ordinances, land use and building practices, and mitigation projects that reduce or eliminate long-term risk from hazards and their effects. Mitigation, by reducing the impacts of a disaster, will also lessen the demand for resources in the event of another disaster.
- In the event of a Federal Declaration of a major disaster for the State of Maryland, Prince George's County may be eligible to apply for Hazard Mitigation Assistance under the federal Hazard Mitigation Grant Program (HMGP).
- The HMGP provides grants to State and local governments to implement long-term hazard mitigation measures after a major disaster declaration.
- In addition, if Prince George's County is included in a Federal Major Disaster Declaration that includes public assistance, hazard mitigation funding may be available through the public assistance program under Section 406 of the Robert T. Stafford Act. Departments and agencies engaged in repair and restoration work should consider mitigation methods that will prevent or reduce damage in future incidents for potential funding as part of this program. This public assistance program is managed by MEMA.

- Eligible applicants include state agencies, local governments, and private nonprofit organizations which own or operate facilities providing essential government services.

City of Bowie Emergency Operations Plan Page 53

2. **PG County/City of Laurel:** The BSU-ERP plan will focus on each of the areas

outlined below in Table 4-1: Results of Hazard & Risk Analyses, located within the PGC/COL-HMP

Table 4-1: Results of Hazard & Risk Analyses

Hazard	County's Risk Level	State's Risk Level
Flooding (all sources)	High	3 – 4 – 5
Streambank Erosion	Medium-High	Not included*
Winter Storm	Medium-High	3 – 5
Wind	Medium-High	4
Severe Storm	Medium-High	3 – 4 – 5
Drought	Medium-High	4
Land Movement	Medium-High	1 – 4
Wildland Fire (brush & forest)	Medium	3
Dam Failure	Medium	4
Extreme Heat	Medium	4
Earthquake	Low	3

* The State considered only shoreline or coastal erosion.

3. **Bowie State University Emergency Management Plan (EMP) 2015-2016:**

https://www.bowiestate.edu/files/resources/emergmgtpplan-8_18_15.pdf

BSU currently has a committee and a recent plan put into place for the planning and management of campus-wide emergency events. The Department of Public Safety is primarily responsible for managing the plan and the University has significantly enhanced its EMP. The current EMP already lists ways in how to manage catastrophic natural disasters (pgs 27-31) including: tornado, hurricane, severe winter storm, earthquake, gas leak, and chemical or radiation spill. Portions of the EMP will be used to help form the BSU-ERP.

APPENDICES

Appendix 1



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PLEDGE:

As institutions of higher education, we applaud the progress already made to promote clean energy and climate action as we seek a comprehensive, ambitious agreement at the upcoming United Nations Climate Negotiations in Paris. Although we are optimistic that world leaders will reach an agreement to secure a transition to a low-carbon future, we recognize the urgent need to act now to avoid irreversible costs to our global community's economic prosperity and public health. Today our school pledges to accelerate the transition to low-carbon energy while enhancing sustainable and resilient practices across our campuses.

We put forth our pledges as follows:

UNIVERSITY/COLLEGE: Bowie State University

As a signatory in one of Second Nature's three Climate Leadership Commitments, Bowie State University is part of a robust network of over 600 college and university presidents and chancellors who have committed their institutions to take bold and catalytic climate actions. These Climate Leadership Commitments are a key driving force for transformative change on our campus. As part of our Commitment we will:

- Achieve carbon neutrality by 2019 and create thresholds for increasing climate resilience
- Make carbon neutrality and climate resilience a part of the curriculum and other educational experiences for all students
- Expand research in carbon neutrality and climate resilience
- Investigate the feasibility of installing solar photovoltaic panels on campus to reduce electricity usage and thereby reducing the carbon footprint.
- University students will collaborate with federal, state and local agencies to enhance sustainability awareness on campus and in the surrounding community.

Signature

President, Bowie State University
Title, School

November 12, 2015
Date

Appendix 2



Climate Leadership Statement

We, the undersigned presidents and chancellors of colleges and universities, believe firmly in the power, potential, and imperative of higher education's key role in shaping a sustainable society. Not only are we deeply concerned about the increasing pace and intensity of global climate change and the potential for unprecedented detrimental impacts, but we also understand that technology, infrastructure, global interconnectedness, and our greatest asset – engaged, committed, smart students – allow us to explore bold and innovative solutions and to lead in climate action and sustainable solutions.

We have begun to experience the effects of climate change in our communities and we understand that these effects are projected to become more severe and damaging. We recognize that mitigation and adaptation are complementary strategies for reducing the likelihood of unmanageable change, managing the risks, and taking advantage of new opportunities created by our changing climate.

We believe colleges and universities must exercise leadership in their communities and throughout society by providing the knowledge, research, practice, and informed graduates to create a positive and sustainable future. Along with other aspects of sustainability, campuses that address the climate challenge by reducing greenhouse gas emissions and by integrating resilience into their curriculum, research, and campus operations will better serve their students and meet their social mandate to help create a vital, ethical, and prosperous civil society.

We further believe that exerting leadership in addressing climate change will reduce our long-term energy costs and the costs of climate disturbance, increase our quality of life, attract excellent students and faculty, and build the support of alumni and local communities.

We have resolved to take action in one of the following Climate Leadership Commitments. We believe carbon neutrality and resilience are extremely high priority areas of action for all institutions and we aim to lead the nation in these efforts. We urge others to join us in transforming society towards a sustainable, healthy, and more prosperous future.

18 Tremont Street, STE 930, Boston, MA 02108 | 617.722.0036 | commitments@secondnature.org





Climate Commitment:

An integrated climate commitment including carbon neutrality and resilience

1) Develop a comprehensive Climate Action Plan *

- a. Within two months of signing this document, create internal institutional structures to guide the development and implementation of the Plan
- b. Within one year of the implementation start date, actively support a joint campus-community task force (or equivalent) to ensure alignment of the Plan with community goals and to facilitate joint action, and complete a greenhouse gas emissions inventory, also identifying near term opportunities for greenhouse gas reduction. Report these in the first annual evaluation of progress
- c. Within two years of the implementation start date, lead and complete an initial campus-community resilience assessment including initial indicators and current vulnerability
- d. Within three years of the implementation start date complete the Plan, (also reflecting joint community-campus components), which will include:
 - A target date for achieving carbon neutrality as soon as possible
 - A target date by which defined thresholds of resilience will be met
 - Interim target dates for meeting milestones that will lead to carbon neutrality and increasing resilience**
 - Mechanisms and indicators for tracking progress (including those that cut across campus-community boundaries)
 - Actions to make carbon neutrality and resilience a part of the curriculum and other educational experiences for all students
 - Actions to expand research in carbon neutrality and resilience
- e. Review, revise if necessary, and resubmit the climate action plan not less frequently than every five years

2) Submit an annual evaluation of progress

- a. Within one year of the implementation start date, and every year thereafter, complete an annual evaluation of progress
- b. Make the action plan, annual evaluation of progress (including greenhouse gas inventory, resilience assessment etc.), publicly available by submitting them to Second Nature's reporting system for posting and dissemination

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* The plan may be designed to augment an existing sustainability plan, written as part of a new sustainability plan, or as a standalone plan. An [online guide](#) is available that provides information on successful institutional structures, helpful templates on climate action plans, useful indicators of progress, guidance for reporting and much more.

** Assistance for developing interim milestones and a number of example tangible actions are available online and are regularly updated.

Signed,



President/Chancellor Signature

Dr. Mickey L. Burnim

President/Chancellor Name

Bowie State University

College or University Name

1/21/2016

Date

Please send the signed commitment document to:

Second Nature,
18 Tremont St., Suite 930
Boston, MA 02108

Or scan & email to:
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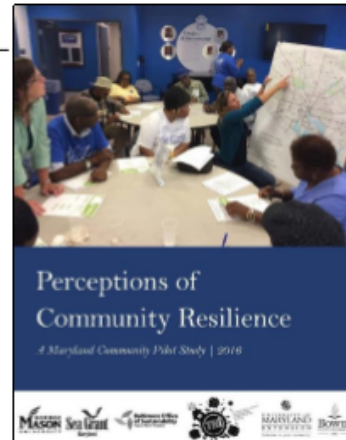
Appendix 3

Perceptions of Community Resilience

Report Key Findings

This study represents a partnership with many individuals and organizations—including the City of Baltimore’s Office of Sustainability and Prince George’s County Transforming Neighborhoods Initiative—to increase engagement with residents on building resilience in predominantly African American neighborhoods in two areas of the state that are at high risk from climate-related environmental changes and have historically been underserved. The research was conducted as a door-to-door survey in spring 2016 in four neighborhoods of the state—Oliver-Broadway East, Sandtown-Winchester, and Westport in Baltimore, and Glassmanor-Oxon Hill in Prince George’s County. Comparison data is taken from a spring 2016 representative mail survey of Maryland residents.

See the full report at climatechangecommunication.org.



Baltimore and Prince George’s community residents point to climate change risks. They are more likely to report experiencing health and environmental harms than Marylanders as a whole.

- The four Baltimore and Prince George’s County communities have the same levels of risk perception for climate change—and related effects such as sea level rise, extreme heat, storms, and flooding—as do the residents of the rest of the state.
- The majority of survey respondents in the Baltimore (57%) and Prince George’s County (61%) neighborhoods identify climate change as likely to cause significant harm in their communities in the next several years.
- Baltimore and Prince George’s County neighborhood residents are more likely than Marylanders generally to say they have experienced water damage caused by heavy rains or flooding (38% Baltimore vs. 15% state) and sewage overflows after rains or storms (22% Baltimore/19% Glassmanor-Oxon Hill vs. 6% state). They are also more likely to say they have experienced health harms from storms and flooding than the state at large.
- Glassmanor-Oxon Hill respondents are more likely to say that their health has suffered from pollen than those in Baltimore and Maryland as a whole.
- Chronic medical conditions are more pervasive in the three neighborhoods of Baltimore than they are in the state, particularly for asthma (23% vs. 12%).

Residents report lower levels of social capital—including community communication—available to address problems. They want information on energy and climate, and governments to take action, including creation of local “resilience hubs.”

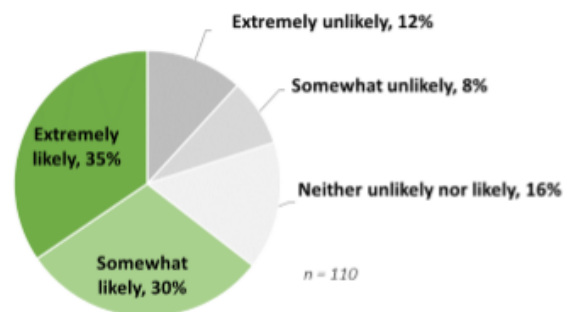
- Both the Baltimore and Prince George’s County neighborhoods rank their communities as lower in social capital in terms of both their ability to obtain resources and communicate internally.

- Approximately two-thirds of the Baltimore (65%) and Glassmanor-Oxon Hill (67%) neighborhoods say they support local and state governments taking action to protect their communities from climate change.
- Almost two-thirds of Baltimore respondents (65%) say that they would be somewhat or extremely likely to use a community building that provides shelter, food, water, and other resources during emergency events. The same percentage in Glassmanor-Oxon Hill (65%) say that they would be somewhat or extremely likely to use a centrally located services hub in their community.
- Baltimore and Prince George's County neighborhood residents are more likely to ask for information on six energy and climate protection topics than people in the state as a whole. Almost a third of Baltimore and Prince George's County respondents requested information on energy bill assistance (31%)—the topic most requested.

Recommendations include:

- Residents of all four neighborhoods called for more community centers as one of the most important issues. Projects like the resiliency hub pilot in Baltimore and social services hub in Glassmanor-Oxon Hill meet that call, and could potentially bolster both the physical resources and social fabric of the neighborhoods.
- The four neighborhoods are not ambivalent about the role of climate change in their communities, nor the role of government in tackling the problem—they are concerned and supportive of action. This message should be conveyed to their elected local, state, and federal representatives.
- Some highly salient community issues, like trash, tie directly to climate preparedness efforts; others may relate more peripherally. Solutions should thus address not only some of the most critical problems, but simultaneous interests in building resilience to climate impacts and general community development. For example, trash clogs storm drain systems, resulting in flooding during heavy precipitation events, but it also affects community pride and has health implications.
- The neighborhoods described here—especially Baltimore—are already suffering disproportionately from environmental and health risks, and recognize these risks at the same rates as other Marylanders. Additional risk information may be counter-productive.

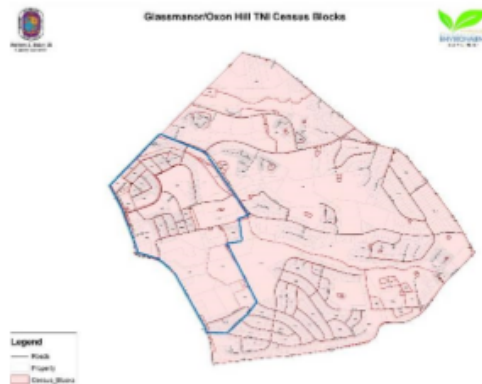
Most in Glassmanor-Oxon Hill say they would use the services provided by a service hub. (The county is considering locating a Transforming Neighborhoods "hub" within Glassmanor-Oxon Hill to provide easy access to multiple types of services ... How likely would you be to use such a resource?)



Sample sizes for comparison groups: # people=907, state; # people=228, Baltimore neighborhoods (Oliver-Broadway East, 73; Sandtown-Winchester, 71; Westport, 84); # people=111, Glassmanor-Oxon Hill, Prince George's County. The error margin for the combined Baltimore sample is +/- 6 pct. points and for Glassmanor-Oxon Hill is +/- 9 pct. points.

Specific Survey Findings for Glassmanor-Oxon Hill

The area surveyed extends within the blue boundary zone:
Southern Ave. SE to Birchwood Dr. and Dunwoody Ave.;
Livingston Rd. to Owens Rd.



- The most important community issues include policing (both more visibility and harassment), crime, gun violence, trash, security, cleanliness, and the need for more recreation and playgrounds.
- Polluted drinking water (62%) and obesity (51%) are both considered to be a major personal health risk by half or more of respondents.
- Six in 10 (61%) say climate change is likely to cause significant harm to their community in the next several years.
- More than a third—36%—of residents say they have experienced a storm-related power outage in the last 12 months. A quarter (24%) have experienced impassable roads due to flooding or storm damage.
- Three in 10 say that they have insufficient financial resources to cover bills if they are unable to work for 1-2 weeks.
- Glassmanor-Oxon Hill respondents report more deleterious effects on their health from pollen than those in Baltimore neighborhoods. More than half say that their health has been moderately or severely harmed by pollen in the last 12 months.
- More than 1 in 10 report chronic medical conditions such as asthma (17%), hypertension (17%), arthritis (14%), and diabetes (12%).
- Roughly half disagree that the community has the resources to take care of problems (51%), that people trust public officials (49%; 33% neither agree nor disagree), or that they get information from their community to help with home and work life (51%).
- Seven in 10 (65%) say they would be likely to use a local services hub provided by the county's Transforming Neighborhoods Initiative.
- A majority (66%) support local and state government actions to protect their community from the effects of climate.

Glassmanor-Oxon Hill experiences threats from heavy storms and rains. (In the last 12 months, have you experienced one or more of the following?)

