



MORGAN STATE UNIVERSITY

Legislative Testimony

FY 2020 Operating Budget

Presented to: Senate Subcommittee on Education, Business & Administration

and

House Subcommittee on Education & Economic Development

February 2019

Dr. David Wilson, President

MORGAN STATE UNIVERSITY

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TestimonyFiscal Year 2020 Operating Budget Morgan State University

David Wilson, President February 2019

Chair and members of the Committee, I thank you for the opportunity to testify on the Governor's fiscal year 2020 budget allowance for Morgan State University (MSU) and to provide you with an update on the University since last session.

First, I thank Governor Hogan for his support of higher education. I also extend my thanks to the members of the General Assembly, particularly

this Committee, for your strong and continued support of Morgan State University. Our analyst, Mr. Ian Klein, has done an excellent job of analyzing our budget and, as part of my testimony, I will address the comments and recommendation he has identified.

VISION STATEMENT

Morgan State University is the Preeminent Public Urban Research University in Maryland, known for its excellence in teaching, intensive research, effective public service and community engagement. Morgan prepares diverse and competitive graduates for success in a global, interdependent society.



Morgan students in residence at Google

MISSION STATEMENT

Morgan State University serves the community, region, state, nation, and world as an intellectual and creative resource by supporting, empowering and preparing high-quality, diverse graduates to lead the world. The University offers innovative, inclusive, and distinctive educational experiences to a broad cross section of the population in a comprehensive range of disciplines at the baccalaureate, master's, doctoral, and professional degree levels. Through collaborative pursuits, scholarly research, creative endeavors, and dedicated public service, the University gives significant priority to addressing societal problems, particularly those prevalent in urban communities.



STRATEGIC PRIORITIES

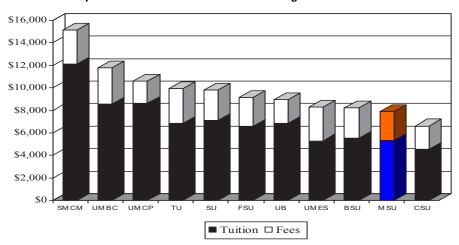
Building upon the University's existing 10-year Strategic Plan, I unveiled a new set of goals last December that expands upon Morgan's mission as a premier research university, positioning it for continued growth through 2023 and for success in the years to follow. The new goals strategically target several areas, which are summarized below.

STRATEGIC GOAL	NEXT FIVE-YEAR TARGETS: 2019–2023
GOAL 1	Enhancing Student Success and Experiences Targets: improve student housing, increase retention rate and graduation rate (to 50 percent by 2025), increase student activities and amenities, add more study abroad opportunities, grow online degrees and online programs, increase number of international students, enhance campus diversity, and advance athletics (by improving academic progress rate in all 13 sports and attainment of MEAC championships).
GOAL 2	Enhancing Morgan's Status as a Doctoral Research University Targets: increase contracts and grant amounts, strengthen Computer Science Department, expand School of Engineering – adding new research centers and labs, create two to five start-up companies, and strengthen Tech Transfer operation.
GOAL 3	Improving and Sustaining Morgan's Infrastructure and Operational Processes Targets: secure funding for capital improvements and additions, open a branch campus, and address deferred maintenance.
GOAL 4	Growing Morgan's Resources Targets: increase State of Maryland support and alumni giving percentage (from 17 percent to 21 percent). It should be noted that Morgan successfully completed its \$250-million Sesquicentennial Anniversary Campaign.
GOAL 5	Engaging with the Community Targets: develop/expand strategic partnerships and new companies, and further the collaboration along/surrounding Hillen Road corridor.

Consistent with its strategic priorities, the University continues to elevate its reputation as a premier research university. As we continue to experience stable enrollment, we are mindful of the rising cost of a college education and the growing difficulty and stress it places on students and their families. It should be noted that our undergraduate tuition is the second lowest in the State, which provides access to those students in the lower socioeconomic status group. Last fall, Morgan experienced an 11% increase in new freshmen and a 7% increase in total new undergraduates over 2017 (the highest new freshman enrollment and total new undergraduate enrollment since 2008 and 2010, respectively). The University also realized its

Maryland Four-Year Public Institutions Undergraduate Rates - FY '19





eighth year of having a retention rate over 70%, and our persistence rates are on an upward trajectory. As of December 2018, Morgan had a six-year graduation rate of 42%, our highest in 12 years.

Likewise, Morgan's faculty is actively involved in research activities and collaborations resulting in increased exposure and opportunities for our students and faculty. The establishment of the ASCEND Center for Bio-

medical Research at Morgan is an excellent example of such a mutually beneficial partnership. ASCEND is "A Student-Centered, Entrepreneurship Development (ASCEND) Training Model to Increase Diversity in the Biomedical Research Workforce." The purpose of the five-year, \$23.3-million cooperative agreement from the National Institutes of Health — the second largest competitive award in the University's history and the highest ever from a U.S. agency —



ASCEND Scholars in MSU Lab

is to strengthen Morgan's biomedical training and research infrastructure, with the ultimate goal of training undergraduate students to become outstanding biomedical researchers. Over the past four years, ASCEND has provided training to several hundred MSU students; provided seed funding for research by faculty members; purchased supplies and equipment for faculty research; provided grant-related training to faculty; provided faculty members with training about student-centered pedagogy; provided funds to redesign courses such that these courses are more student-centered and research-focused; provided funding for library resources; and renovated physical spaces within campus to establish a core laboratory, several active learning centers, as well as a Student Research Center.



We take pride in these achievements and in the momentum the University has gained, as our strategic priorities remain aligned with the state's goals for postsecondary education. These strides have resulted in Morgan's recent Carnegie elevation from R3 to R2, placing it in the same research category as UMBC.

FISCAL STATUS

In compliance with an annual mandatory examination of its fiscal health, the University successfully underwent its annual financial statement audit, which revealed no material weaknesses, no non-compliance of debt covenants, fraud or abnormalities detracting from the issuance of an unmodified opinion. SB & Company, a certified public accounting and business advisory firm, conducted the independent audit and reported its comprehensive findings to me and to the University's Board of Regents. Copies of the audit report also were distributed to the state and federal governments, creditors and bond rating agencies. Similarly, both Moody's and Standard & Poor's conducted a credit review of Morgan in early November 2018. Approximately 20 days later, both agencies announced Morgan State University's current ratings were affirmed and the outlook stable. The ratings are A1 and A+ as ascribed by Moody's and S&P, respectively.

In spite of all the progress achieved to date, however, Morgan, as well as other higher education institutions across the nation, continue to navigate through changing demographics, declining high school graduates, and fiscal constraints. This will require many institutions to become even more innovative while at the same time providing quality instruction and support services to their diverse student body. As Maryland's Preeminent Public Urban Research University, serving many students from low-income and minority backgrounds, particularly African Americans, we continue to maintain tuition rates as low as possible, while also providing significant financial aid support. With substantially less net tuition revenue available per student, Morgan is much more dependent on state support than most other Maryland institutions for its continued growth and development.

K-12 DEMOGRAPHICS AND THE CORRELATION TO COLLEGE ENROLLMENT

Maryland's racial and ethnic diversity is reflected in its K–12 public school enrollment. The representation of the major groups in the public schools has been changing steadily.

After rapid growth for the past several decades, the share of African-American K–12 enrollments has stabilized at about one-third of the public school total. The percentage of white students among enrollees has continued to drop and now is only slightly higher than that of black



students. Meanwhile, enrollments of Hispanics have continued to grow rapidly. The percentage of Hispanics among Maryland public school students enrolled has doubled

in the past 10 years. Enrollments of Asian Americans continue to grow slowly.

The changing nature of public school enrollments is reflected in significant changes in the racial and ethnic composition of public high school graduates within a pool of high school graduates that has stabilized in terms of its total numbers.

The most striking features of the changes in the composition of public high school graduates are a sharp decline in white students and a nearly

corresponding increase in Hispanic students. Another significant pattern is that the numbers of black and white graduates are now approaching one another. In brief, the pool of high school graduates is shifting away from whites toward blacks and

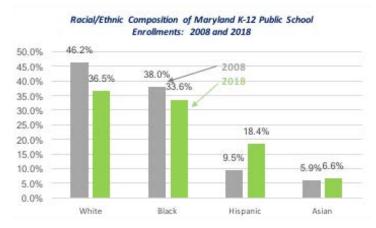
Hispanics, who tend to come from families with fewer financial resources and who are less prepared for college work based on traditional measures of college readiness. (Data for 2018 high school graduates are not yet available from the State Department of Education.)

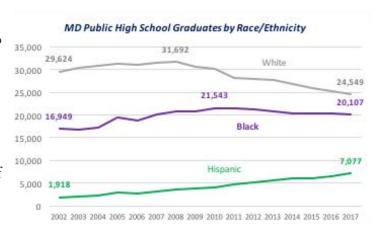
With the establishment of the Maryland Longitudinal Data System Center, it is now possible to follow Maryland K-12 students into the postsecondary arena. The chart below provides the pathways of the 2008 Maryland public high school graduates by ethnicity or race. Of the 58,000 graduates, 42,000

enrolled in college between 2008 and 2016. The chart indicates that there were large differences in the percentages of each racial/ethnic group enrolling in college (in-state or out-of-state). Sixty-seven percent of all black public high school graduates in 2008

enrolled in college by 2016; 60% of all Hispanic public high school graduates enrolled in college. In contrast, 85% of all Asian public high school graduates and 75% of all white public high school graduates enrolled in college.

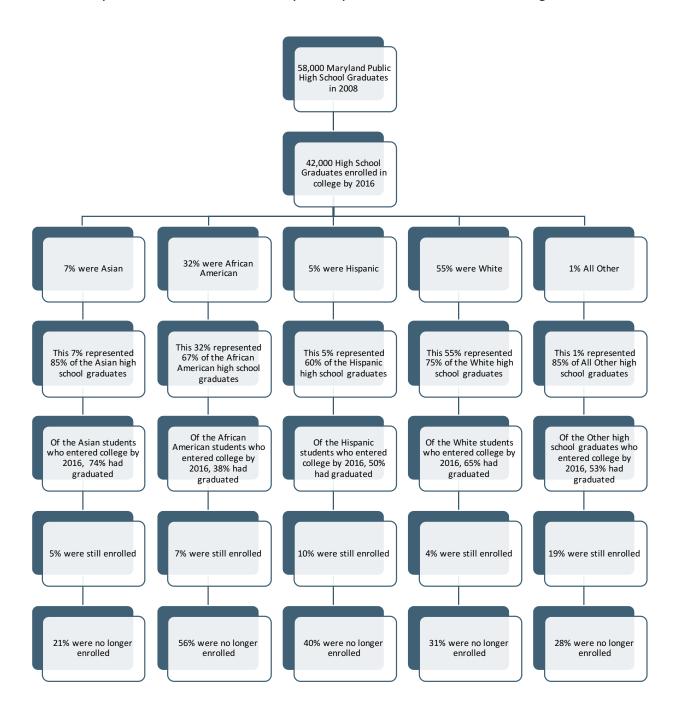
The chart also indicates that there were differences in outcomes by racial/ethnic groups. In 2016, 38% of blacks and 50% of Hispanics in the college-going population graduated, while 65% of whites and 74% of Asians in that same population graduated.







Maryland Public Schools Pathways Analysis 2008 Cohort Status through Fall 2016*

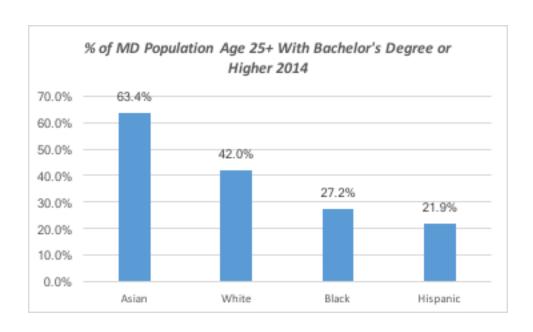


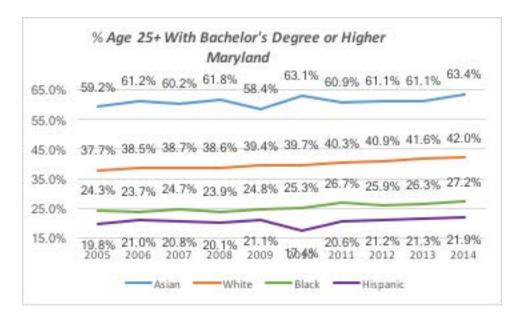
Source: Maryland Longitudinal Data System Center

*The MLDS Center may only report aggregate, de-identified data. All numbers and percentages reported are rounded. Enrollment, persistence and graduation data are through fall 2016 for high school graduates attending Maryland public and state-aided independent higher education institutions. The Center has data for high school graduates that enroll, persist and graduate from out-of-state colleges for the first five years after high school graduation. Some of the 2008 cohort may graduate or persist from out-of-state colleges after this period. Those results are not included in this analysis.

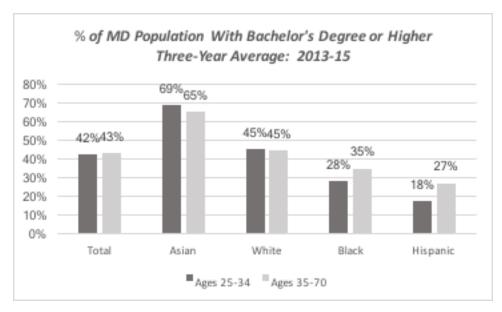


Maryland has a relatively large proportion of blacks and Hispanics, groups with levels of educational attainment, on average, well below those for whites and Asians. The educational attainment gaps between these groups has not been closing, and the older members of these groups have higher educational attainment levels than younger members. This is the opposite of the pattern that is necessary to close the gaps between the groups. Hence, the importance of increasing the educational success of these two groups throughout the educational pipeline.









How Morgan Contributes to the Solution to This Problem

Morgan State University has a number of well-established initiatives to increase the educational success of underserved populations and reduce the attainment gap. Our six-week Summer Bridge Program for students with demonstrated potential but whose SAT scores and/or GPA do not meet the University's criteria for admission (CASA Academy) serves as a vehicle for college admission. One of our signature innovations is the Reclamation Project, in which we invite students back who left the University in good academic standing (2.0 GPA or better) and earned at least 90 credits to return in their fifth or sixth academic year to finish Morgan "on-time" in six consecutive years or less. In addition, the University has



successfully initiated the 50 by 25 Campaign to increase the six-year graduation rate to 50% by 2025. This campaign is built around three central themes: 1) Advising and Degree Planning; 2) Faculty Development and Course Redesign; and 3) Beyond Financial Aid (BFA). The needs of nontraditional-aged undergraduate students are addressed through several scholarship programs. The Osher Reentry Scholarship Program provides scholarships to promising students,

aged 25–50, who have experienced an educational gap of five years or more and are returning to complete a bachelor's degree on a full-time or part-time basis. Since the initial award in 2008 to the Center for Continuing and Professional Studies, the Bernard Osher Foundation has funded 218



scholarships totaling \$1,200,000. Seventy-seven students have graduated as Bernard Osher Scholars. The success of the Osher Scholarship Program has resulted in the funding of a new award, the Crankstart Reentry Scholarship Program which started in November 2016. This scholarship funds an additional 20 adult students, aged 25–50, who have experienced a break in their education of five years or more and are returning to complete undergraduate degrees. The University's Center for Continuing and Professional Studies also provided funding through the Improved Opportunities for Parents (IOP) Program to support 20 parents attending Morgan. To provide pathways to careers for our graduates, the Morgan Center for Career

Development is the key component of Morgan's Career Pathways Initiative (CPI), a \$2-million investment by the United Negro College Fund (UNCF) to strengthen career placement outcomes by increasing the number of Morgan graduates who achieve "meaningful employment immediately after graduation." Bear Tracks uses a UNCF three-pronged approach designed to shape an undergraduate experience that results in "Students Engaged to Learn." This approach includes Guided Pathways to engage students early on in their academic career, curriculum enhancements to include 21st century skills, and co-curricular



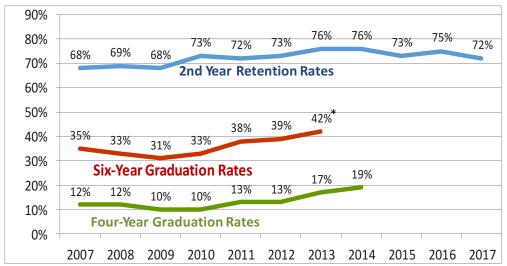
UNCF Career Pathways Initiative to Prepare Students for 21st Century Career Paths, Promote Employability and Improve Quality of Life

engagement to include learning activities outside of the classroom, which support students' skill development and competencies. A key component of this initiative is Morgan's collaboration with Norfolk State University and Tennessee State University in the creation of the HBCU Consortium on Transformative Teaching Practices for 21st Century, which focuses on creating inter-institutional learning communities, active learning strategies and the use of technology to enhance student learning.

As a result of these initiatives, we have seen an increase in our retention and graduation rates. Beginning with the entering class of 2010, the University has significantly increased its freshman-sophomore and sophomore-junior retention rates. Second-year retention rates have been above 70% for the past eight years. Third-year retention rates are at 60%. Fourth-year retention rates have risen to 56%. Our six-year graduation rates have increased from 31% for the fall 2009 cohort to 39% for the fall 2012 cohort. Our preliminary rate for the fall 2013 cohort is 42%.

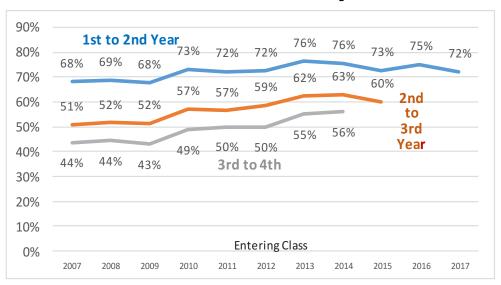


Return On Investment: MSU Retention & Graduation Rates



^{*}Preliminary rate

Return On Investment: MSU Persistence Rates Through Fourth Year



LEADING THE WORLD: MORGAN'S CONTRIBUTIONS TO AFRICAN-AMERICAN EDUCATION

Although Morgan's contributions generally have been well-documented, it is worth reviewing some of them, because the University continues to make large contributions to state and national educational attainment.



Quality Indicators

- ✓ Morgan maintains its status as the No. 1 HBCU in production of Fulbright scholars and grantees
 - Fulbright-related grants to Morgan students: 140 in 44 countries
 - Fulbright-related grants to Morgan professors or administrators: 71 in 41 countries
- ✓ U.S. News & World Report "Best Colleges" (2018)
 - 14th Among All Historically Black Colleges and Universities (HBCUs)

Statewide Rankings: Degrees Awarded to African Americans

Bachelor's Degrees Awarded	Master's Degrees Awarded	Doctoral Degrees Awarded
1 st Architecture	1 ST Architecture	1 ST Community College Leadership
1 ST Civil Engineering	2 ND Communication and Journalism	1 ST Engineering
1 ST Communication and Journalism	2 ND Engineering	1 ST History
1 ST Electrical Engineering	2 ND Social Work	1 ST Public Health
1 ST Family and Consumer Sciences	3 RD Electrical Engineering	1 ST Social Work
1 ST Industrial Engineering		2 ND Urban Educational Leadership
1 ST Philosophy and Religious Studies		
1 st Social Work		
1 ST Sociology		
2 ND Business Administration and Mgmnt.		
2 ND Marketing		

Source: IPEDS Degrees Preliminary 2016-2017

National Rankings: Degrees Awarded to African Americans

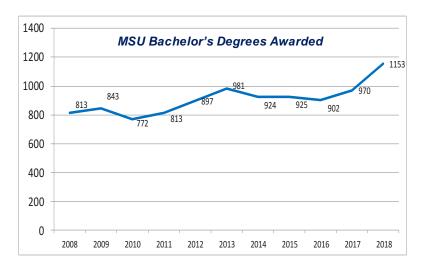
Bachelor's Degrees Awarded	Master's Degrees Awarded	Doctoral Degrees Awarded	
4 [™] Engineering	3 RD Architecture	2 ND History	
4 TH Family and Consumer Sciences	15 [™] Mathematics and Statistics	3 RD Public Health	
6 [™] Architecture	17 [™] Area, Ethnic, Cultural & Gender Studies	7 TH Public Admin. and Social Services	
6 [™] Education	20 [™] Engineering	17 [™] Education	
9 TH Communications Technologies		19 [™] Psychology	
13 [™] Comm., Journalism and Related		21 ST Engineering	
16 TH Public Admin. and Social Services			
21 ST Finance and Financial Management			

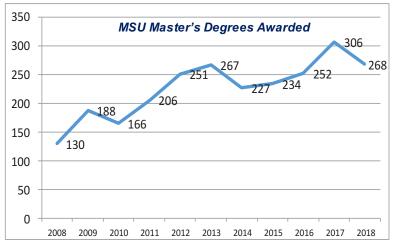
Source: Top 100 Producers of Minority Degrees 2018, Diverse Issues in Higher Education – 2016-2017 IPEDS Data

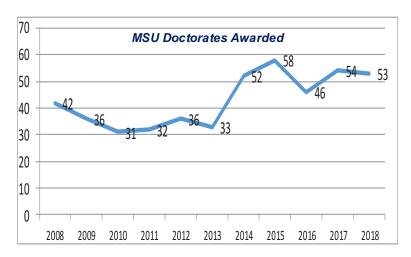


Degree Trends

In addition, Morgan awarded 1,153 bachelor's degrees last year. At the graduate level, the University awarded a combined total of 321 master's and doctoral degrees, 29 or 10% percent higher than just three years ago.









GROWING MORGAN AS MARYLAND'S PREEMINENT PUBLIC URBAN RESEARCH UNIVERSITY

Academics

Morgan seeks to provide rigorous academic curricula and challenging co-curricular opportunities to promote and facilitate the development of leadership qualities in its student body. Through collaborative academic partnerships that advance knowledge and creativity, our students continue to stand among the best and brightest in the state and nation. By putting the success of our students first, we are generating outstanding scholars who are receiving national recognition, representing the University in study abroad opportunities around the world and contributing to top employers such as Google Inc., Facebook, Inc. and Intel Corporation through internships and other programs.

Google Tech Exchange Students

Five Morgan State University students from the School of Computer, Mathematical and Natural Sciences are participating in a study-away initiative on the campus of Google, in Mountain View, California, for the 2018–19 academic year. The opportunity is part of an overall effort to expand

accessibility to computer science education and expose minorities to opportunities in the technology sector.

The Google Tech Exchange Program was established to offer students at HBCUs and Hispanic-Serving Institutions (HSIs) the opportunity to take computer science and soft skills classes at the Googleplex for one year or one semester during their junior year. Starting last fall, 65 rising juniors and five faculty members from 11 HBCUs and HSIs have been involved in the experience. In addition to Morgan, the other universities participating in the Tech Exchange



The five Morgan students participating in the program this year are Demetrius Robinson (senior), Morgan Whittaker (senior), Sarah Cooper (senior), Joshua Smith (junior), and Michael McDonald (junior).

Program are Howard University, Florida A&M University, California State University Dominguez Hills, New Mexico State University, Prairie View A&M University, North Carolina A&T State University, Dillard University, University of Texas–El Paso, University of Puerto Rico–Mayaguez and Spelman College.



The primary benefits to students participating in the program include:

- Access to state-of-the-art course content that is highly sought after in technology industries but may not be available at Morgan State University;
- Acquiring soft skills needed to obtain jobs and work in tech industries;
- Learning from a domestic exchange experience with peers from many other campuses; and
- Acquiring a better understanding of Google and high-tech industries.

Most, if not all, of the classes being taken at Google will count toward the students' curriculum requirements for graduation at their home institutions. As the program progresses, all of the participating HBCUs will contribute by sending faculty members to the Google campus to teach classes, in collaboration with Google scientists/engineers. The program is now being offered by Howard University in agreement with Morgan State University, through a domestic exchange program.

Each course taken has both a Howard University designation and a Morgan State University designation. Students may register for the courses at both Howard and Morgan.

Students will take a selection of applied computer science courses — including machine learning, product management, computational theory and database systems — throughout the year, taught by HBCU/HSI faculty and Google engineers.

The Wall Street Journal Partnership Prepares Students for 21st Century Journalism

Morgan State University's School of Global Journalism and Communication (SGJC) is partnering with *The Wall Street Journal (WSJ)* to provide business-journalism exposure to students, support SGJC faculty with tools



School of Global Journalism and Communication

and information to use in the classroom, and provide insight into the professional skills and reporting experiences the *Journal* seeks in recruiting and hiring. Launching in the spring of 2019, the Wall Street Journal–Morgan State Business Journalism Exchange Program meets two critical missions of both entities. The partnership reinforces SGJC's mission to prepare students for 21st century journalism with practical training and experience as well as a strong academic background. A longstanding commitment to training, outreach and diversity is the cornerstone of *WSJ*'s stewardship of the program.

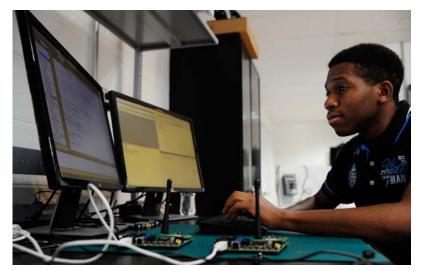


The partnership will involve an exchange of classroom instruction, mentoring and newsroom visits for a selection of students and faculty, both in New York and on Morgan's campus in Baltimore. SGJC faculty will have access to select *Journal* newsroom training sessions, and one faculty member will be embedded in the newsroom during the summer. *WSJ* professionals will serve as mentors, facilitate training sessions and assist with programming as part of the newsroom visits. The Exchange Program will provide practical experience beyond the classroom and develop a career pipeline for diverse talent.

New National High School Engineering Education Pilot Program

In October 2018, Morgan announced its role as one of the lead institutions in a groundbreaking pilot program in engineering education, funded by the National Science Foundation (NSF). "Engineering for US All – E4USA: A National Pilot High School Engineering Course and Database," a three-

year, \$4-million program, marks an important milestone in the creation of a standardized, nationally recognized high school engineering course through which pre-college students can earn transferable course credits at the college level. The program also includes professional development for teachers to support the course. Jumoke ("Kemi") Ladeji-Osias, Ph.D., associate professor of electrical and computer engineering at MSU, is a co-principal investigator for the program. The E4USA team leaders anticipate that five Baltimore area high schools, 15 in Maryland, will participate in the program beginning in the 2019–20 academic year.



Baltimore students will help test a new national engineering course.

The University of Maryland, College Park will lead the pilot in partnership with Arizona State University, Virginia Tech and MSU. Vanderbilt University will evaluate the curriculum, student learning and teacher training, and NASA Goddard Space Flight Center will collaborate on dissemination of program information.

Dr. Ladeji-Osias and Morgan's School of Engineering will be involved in developing the E4USA syllabus and curriculum, developing standard rubrics for teachers to use in evaluating the students' progress with the program's hands-on engineering design products and distance-learning technologies, and working with the professional development team to customize the teacher training.





Through the pilot program, the E4USA investigators want to help "demy-stify" and "democratize" engineering and determine whether a broader diversity of students will become interested in careers in engineering education or practice. Their research will also explore whether professional development can certify teachers who are highly qualified in engineering and help them train students to tackle and solve problems.

The first year of the pilot will be devoted to developing the first-of-its-kind high school engineering course and the professional development for teachers, Dr. Ladeji-Osias reports, and implementation of the program in the schools will begin in year two. Hundreds of engineering educators will be involved in shaping the curriculum by the conclusion of the pilot. The pilot's success will hinge on the continued support and feedback from the high school teachers involved. Teachers, who will be grouped as a network to create a broad learning community, will engage in collaboration, learn from one another, and receive support by sharing teaching materials and challenges.

As a result of the NSF E4USA grant, more than 1,000 students, at approximately 40 high schools nationwide, are expected to complete the pilot program during its three-year span. An additional 30 schools will participate indirectly with other funding.

The Wharton School and Morgan's Earl G. Graves School of Business and Management Announce Strategic Collaboration

In April 2018, The Wharton School of the University of Pennsylvania announced a collaboration with Morgan State University's Earl G. Graves School of Business and Management focusing on faculty and student academic programs. This is the first collaboration of its kind between The Wharton School and a Historically Black College or University. The collaboration represents a key element in the missions of both schools

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in building academic excellence through diversity while addressing challenges in communities at home and around the world. Areas that will be explored include shared opportunities for faculty and students in conferences, curricular development, and research.

Research

Beyond its education of students, Morgan is a research university. As is the case at other research campuses, Morgan's faculty is expected to engage in both research and scho arship that advance knowledge in



to engage in both research and schol-President David Wilson; Provost Wendell Pritchett, University of Pennsylvania

their fields. The resulting applied research enables the University to provide services as well as improve the quality of life in the surrounding community and beyond.

2018 Carnegie Classification Elevates Morgan State University to R2 Status

In December 2018, the Carnegie Classification of Institutions of Higher Education moved Morgan State University to an elevated classification of R2, a status reserved for doctoral universities with high research activity, from a moderate research classification of R3 (a ranking it had

held since 2006). The University joined only 130 other universities to be given an R2 classification. Faculty and staff worked extremely hard to achieve this Carnegie reclassification by engaging in a proactive and concerted effort to increase research contracts and grant amounts, while also graduating more students and expanding the types of research conducted on campus as well as in the community.

At the same time, the University has strengthened its Computer

Science Department and is advancing its School of Engineering with the addition of new research centers and labs, including the launch of a Cybersecurity Assurance and Policy (CAP) Center, which will provide the



U.S. intelligence community with knowledge, methodology, solutions and skilled cybersecurity engineers to prevent penetration and manipulation of the nation's cyber physical infrastructure.

Ripple Partners with MSU to Fund Education and Research in Blockchain, Cryptocurrency, and Cybersecurity

Bolstering its position as a preeminent public urban research institution, Morgan has received funding from Ripple, a leading Silicon Valley financial technology ("FinTech") company. The funds, \$2.1 million, will underwrite a five-year academic partnership bringing advanced education and research programs to the University. Morgan joins a select number of institutions now participating in Ripple's University Blockchain Research Initiative (UBRI), a global effort designed to further accelerate academic research, technical development and innovation in blockchain, cryptocur-



Earl G. Graves School of Business and Management

rency and digital payments. The UBRI program fosters increased engagement and participation in FinTech among faculty and post-doctoral and graduate students.

Through the efforts of the Center for the Study of Blockchain and FinTech Innovation (the Center) at Morgan's Earl G. Graves School of Business and Management (pictured at left), the University's UBRI program will encompass the development of specialized curricula, expansion of academic courses, hosting of conferences and awarding of scholarships to faculty and students pursuing work in block-

chain, cryptocurrency, digital payments, and related topics. The Center will also serve as a funding hub for other HBCUs seeking to develop their own FinTech initiatives.

The UBRI program at Morgan will be housed in and administered by the Graves School in cooperation with the University's Department of Information Science and Systems, as well as other engineering, computer science, finance and business departments. Introduced in June 2018, UBRI supports 29 domestic and international university partners and has cultivated a vibrant global network of researchers and practitioners in its field. Morgan is among a select number of UBRI partners and the only such partner in our region.



MSU Leads \$2.3-Million Project to Train Minorities for 'Smart Cities' Research

The National Science Foundation (NSF) has funded the initial phase of a three-year, \$2.3-million project led by MSU, in which undergraduates and teachers will be trained in technologies to revolutionize U.S. cities. The project, titled "REU-RET Mega-Site: Research Experiences for Undergraduates and Teachers in Smart and Connected Cities," involves a consortium of 14 HBCUs and one HSI and has as its goal to recruit and train a diverse population of students from minority groups that are underrepresented in science, technology, engineering and mathematics (STEM) as well as teachers in minority-serving K–12 schools and community colleges. Kofi Nyarko, D.Eng., associate professor in Morgan's Department of Electrical and Computer Engineering, is principal investigator for the project.

"Smart cities" use various digital technologies to collect electronic data using sensors, process and analyze the data and use the information to connect and enhance the lives of citizens. Monitoring and management of transportation systems, energy use, water use, health care facilities and schools are among the myriad areas for which "smart" technologies are being developed and utilized. Smart cities will require engineers who know how the sensor technology works and how to integrate the sensors into the cities, engineers who understand how data are generated from sensor devices and those who know networking technologies to route the data to the appropriate centers for



storage and analysis. Smart cities will also need engineers knowledgeable about algorithms, such as machine-learning models that can operate on the data in real time, who can extract meaningful information from the data to improve the lives of citizens.

As the lead institution, Morgan will be one of five host sites for the Research Experiences for Undergraduates (REUs) and Research Experiences for Teachers (RETs). Three host sites, including Morgan, will be active each year. The project will train 30 students and 15 teachers annually and is designed to move the students toward doctoral degree programs in engineering and improve the quality of science and engineering education in local high schools and community colleges, further stimulating underrepresented minority students' interest in STEM careers.



Partnerships Expand Research Opportunities for MSU Doctoral Students

Three Morgan State University advanced doctoral students were selected to spend the fall 2018 semester at other institutions while working on their dissertations. In addition, all three served as adjunct faculty and were involved in professional activities at the partnering institutions. The students, Alexandra Burrel (Higher Education Administration) and Tracy Cudjoe (Social Work) were the first doctoral students to participate in the







Above (L-R): Alexandra Burrel, Tracy Cudjoe and Otis Eldridge, Jr.

newly formed Morgan – Monmouth Mentorship Scholars Program in New Jersey, while Otis Eldridge, Jr. (Higher Education Administration) completed the semester at James Madison University (JMU) in Virginia, as part of an ongoing collaboration with Morgan.

Monmouth University (MU) launched the Mentorship Scholars Program for the 2018–19 academic year. For their participation, the two Morgan students

served as Mentor-Scholars in MU's School of Education and the School of Social Work for the fall semester. Each taught one course, participated in program activities, and developed a capstone project about the experience. The purpose of the collaborative program is to diversify faculty, expand student research opportunities, increase cross-cultural exposure and experience among faculty and students, and expand opportunities for collaboration and educational exchange.

Eldridge was the eighth doctoral student to participate in the Preparing Future Faculty (PFF) Program at JMU. The JMU PFF was set up to provide teaching opportunities to doctoral candidates before the completion of their dissertation and also to create opportunities to attract more minority candidates to the teaching profession. The PFF program provides mentorship, contributes to the atmosphere of inclusivity, brings new perspectives to students, and promotes diversity.

Innovation

Morgan encourages and supports its faculty, staff and students in all forms of scholarship, including the discovery and application of knowledge in teaching and learning, and in developing innovative products and processes.

Liquid Fuel Rocketry Program

After competing for a highly competitive grant, Morgan was awarded a three-year, \$1.6-million Aerospace Workforce and Leadership Development Grant from the nonprofit Base 11, on February 11, 2019. The grant,

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which aims to improve diversity in the aerospace talent pipeline, drew proposals from eight HBCUs. The grant will fund a state-of-the-art rocketry lab, a student rocketry team, and the recruitment and hiring of an aerospace faculty leader to create a world-class liquid fuel rocketry program at Morgan. The University intends to bring together these elements to successfully build and launch a liquid fuel rocket that reaches 150,000 feet by 2022.

The fledgling rocket program will be housed in the Center for the Built Environment and Infrastructure Studies (CBEIS) building, which is home to Morgan's School of Architecture and Planning as well as some of the University's engineering programs. It is important to note that CBEIS is a gold certified LEED green building with solar water heating panels and

a bioretention pond. CBEIS is also

home to the only earthquake simulator on the east coast and a supersonic

wind tunnel. Students studying in this

contemporary facility have access to



Former NASA astronaut Leland Melvin was on hand to formally present a check and inspire university students to pursue aerospace as the "Next Frontier."

printing labs that contain 2D and 3D printers and a fabrication lab where students can use technologically advanced cutting tools.

The commercial space industry is expected to become a \$2.7-trillion economic sector in the next 30 years, according to Bank of America Merrill Lynch. Yet the industry faces challenges in recruiting a diverse workforce. According to the National Science Foundation, African Americans make up just 5 percent of the nation's science and engineering workforce. MSU officials will work to bring together a cross-disciplinary team of faculty and external collaborators to develop, prepare and turn out workforce-ready talent in high-demand industries such as aerospace.

Innovation Gap Grants

The Office of Technology Transfer's Innovation Gap Grants (I-GAP Grants) strive to enhance the commercial viability of Morgan innovations and technologies by bridging the "gap" between early stage laboratory discoveries and the marketplace. The I-GAP Grant is part of the Innovation Works Initiative. The grants are designed to increase the likelihood of transferring a MSU innovation to business or industry by enhancing current innovations and, where possible, improving the scope and value of the University's intellectual property and securing additional funding for commercialization efforts.



So far, in FY 2019, the Office of Technology Transfer has awarded 11 grants: four small tech transfer grants, six prototype grants, and one opportunity grant, as outlined below. The Office of Technology Transfer expects to award up to 18 I-GAP Grants this fiscal year.

FY 2019 Innovation Works I-GAP Awards: July 2018–January 2019

	Grant Type	Awardee	Short Title of Project	School/College/Division
1	Prototype Grant	K. Aslan	Improved Seed Germination Speed & Viability	Engineering
2	Prototype Grant	S. Lee	Biomass System Scale-up	Engineering
3	Small Tech Transfer Grant	T. Akers	Rapid-Pods	Research and Economic Development
4	Prototype Grant	V. Sitther	Cyanobacterium Biomass/Biproduct Production	Computer, Math, Natural Sciences
5	Small Tech Transfer Grant	T. Akers	Pulmonary Vest for Electro-Sonic Treatment	Research and Economic Development
6	Prototype Grant	L. Davis	Improved Diabetic Shoe	Education & Urban Studies
7	Small Tech Transfer Grant	M. Liu	Chesapeake Pearl Oysters Shell Pigments	Research and Economic Development
8	Prototype Grant	M. Rahman	Melanoma Detection	Computer, Math, Natural Sciences
9	Small Tech Transfer Grant	S. Nyaga	Pancreatic Cancer Diagnostic	Computer, Math, Natural Sciences
10	Prototype Grant	S. Lee	Refrigeration, Holding & Transport System	Engineering
11	Opportunity Grant	L. Davis	Commercialization Grant	Education & Urban Studies

SUSTAINED INVESTMENT IS ESSENTIAL FOR MORGAN TO FULFILL ITS DESIGNATION AS THE STATE'S PREEMINENT PUBLIC URBAN RESEARCH UNIVERSITY

The No. 1 priority at Morgan State University is student success. This relates to admitting, retaining, and graduating a greater number of students. We are confident that we can and will increase our retention and graduation rates over time. The value added to the state's economy for many of our graduates is significant, and Morgan's increasing productivity is essential to moving the percentage of the state's population that attains a college degree toward the state's goal of 55% by 2025. As the state continues and hopefully increases its invest-



ment, we will be able to *grow the future and lead the world* by (1) educating citizens from diverse academic and socioeconomic backgrounds; (2) carrying out research – giving priority to that which is applicable to the problems of the region and its residents; and (3) providing cultural opportunities for the region and offering programs of service to the community and the general public.

As exhibited by our Over-the-Target Operating Budget Request to the Governor last year, the need is substantial to provide quality programs and maintain instructional facilities that current and prospective students expect to see at a premier public urban research university. The general areas of critical need submitted to the Governor are outlined as follows:

STEM Education
Center for Sustainable and High Impact Practices (C-SHIP) \$2.0M
Deferred Maintenance / Facilities Renewal\$5.0M
Conversion of Contractual Employees to Regular Positions \$1.4M
Salary Compression
TOTAL

We are appreciative of the Governor's recommended support to provide funding for growth, deferred maintenance and annualized COLA.

Regarding our capital budget, after presenting a rather convincing case to Governor Hogan's administration for investment in deferred maintenance, the Governor has proposed an allocation of \$39 million over the next five years. This funding is the largest commitment we have ever received from the state for deferred maintenance. However, there still remain a number of aging facilities on campus that drain the University's operating budget, and coupled with the additional expense to maintain newer facilities without a corresponding increase in our operating budget, Morgan has not been able to keep pace with the growing backlog of deferred maintenance needs with costs estimated at more than \$100 million. Fortunately, the ongoing support and investment in Morgan has now positioned the University to begin to address some challenging problems with many of our facilities that are historic and have been long-neglected.

It should be noted that the State was impressed with Morgan's case for deferred maintenance investment, and it informed us that they are recommending our model to other State agencies going forward. However, although much progress has been made on this front, there is still much more to be done at Morgan in terms of obtaining critical funds, to include: securing the final appropriation to complete construction of our new Student Services Building (Tyler Hall), and ensuring that funds authorized for the construction of a new Health and Human Services facility as well as the commitment for the new Science Complex remain in the State's Capital Improvement Plan (CIP) on schedule.



CLOSING

I cannot emphasize how much more important State support is than ever before, in consideration of the increasingly competitive environment within higher education. Based upon demographic changes, minority students are being pursued more than ever. At the same time, minority students, particularly African Americans, are experiencing unprecedented challenges with beginning and continuing college, because of restructured federal Pell grant and Parent Plus loan regulations. On one hand, increased competition for students is much higher, while, on the other hand, those students who are admitted face even greater financial need.

It will only be through targeted investment and development of institutions like Morgan that the education gap will be closed. Moreover, if significant progress is not achieved in awarding college degrees to an increased percentage of the minority population, significant workforce shortages will soon occur in the state. Progress can only be achieved through the admission and graduation of both those with excellent academic credentials as well as those who may be considered average students by mainstream institutions' admission standards but who possess the potential to excel in college and beyond.

Please be assured that Morgan continues to be committed to extending its resources to provide a high-quality education to an increasing number of students to assist Maryland in meeting its statewide goals.

Thank you, again, and, on behalf of Morgan State University, I request your support of the Governor's recommendations for FY 2020 and for the additional priorities we outlined above. I will respond to the issues presented by the analyst and will be happy to respond to any additional questions you may have.



RESPONSE TO ISSUES & RECOMMENDED ACTIONS

Department of Legislative Services' Analysis

Issue #1 (Page 7): The President should comment on the ability of the university to maintain or increase enrollment of international students and the budget implications if the university falls short of its budgeted target. The President should also comment on efforts to increase enrollment of in-state students.

Response: The drop in the number of international students for the past year is mainly because Morgan has done an excellent job in graduating international students from Saudi Arabia and Kuwait. Morgan graduated close to 400 international students in 2017 and 2018, half of them from Saudi Arabia.

The national trends in the recruitment and enrollment of international students have been very difficult for all universities. The current political environment and trends indicate that attracting and enrolling international students from all countries around the world will be very difficult during the next two to five years. In the last two years alone, the USA has seen a decrease of up to 25% in international student applications and enrollment.

We expect the numbers of Saudi and Kuwaiti students to keep decreasing over the next two to five years until they reach a number that is approved by both embassies. We expect that number to be around 150 to 200 (max) per country. This implies that there is a chance we will lose between 100 to 200 Saudi and Kuwaiti students because of graduation and transfer out during the period in question.

Understanding international students to be a vital part of our enrollment management strategy, the University will continue to make strategic investments in the Office of International Affairs and in the undergraduate and graduate admission offices to increase the number of international students from other countries in the Middle East (UAE, Qatar, Jordan), Asia (China, India) and Africa. These students will make up for the loss of other international students and also enable Morgan to maintain and possibly increase our overall international student population over the next five years.

Regarding efforts to increase in-state enrollment, the Office of Undergraduate Admission and Recruitment has embarked on several recruitment initiatives to increase the enrollment of in-state students and out-of-state students. Specifically, the Office held its first Free Application Week in November of 2018. This campaign yielded a 40% growth in overall applications, 42% in in-state applications, and 39% in out-of-state applications. This will be an annual campaign held by the Office. In addition, the Of-



fice hosted six county-level receptions in Maryland in November 2018 to expose students to Morgan and to provide instant admission decisions. Correspondingly, there was a 70% increase in the acceptance rate of instate students after these events. These county receptions will also remain as a recurring signature recruitment event of the Office. Moreover, the Office of Undergraduate Admission and Recruitment has taken the lead role in acquiring a Financial Aid Optimization tool. This tool will enable the University to apprise prospective students of the institutional aid they have been offered, before their enrollment, thus enabling students to make more informed decisions regarding their matriculation.

Issue #2 (Page 13): The President should comment on why the 2019 working institutional aid numbers could not be produced.

Response: Morgan is still in the process of awarding institutional aid for fiscal year 2018–2019. We award institutional aid to students not only in the fall term but during the spring and summer terms as well. We are now finalizing awards for the spring term. As such, any numbers we have at this time would not provide an accurate tuition discount rate. We look forward to providing the information on the Fiscal Year 2019 institutional aid awards after all of the awards have been made for this fiscal year.

Issue #3 (Page 16): MSU should comment on the reasons for the 20% increase in academic support funding.

Response: In the FY19 appropriation, the academic support program budget increased to include the new Cybersecurity Program, COLA, contractual conversions, and fringe benefit increases. In addition, various salary adjustments and position realignments caused a decrease in FY18 salary expenditures. The salary adjustments and position realignments were due to the retirements of several administrative faculty retiring in FY18 (i.e., deans/chairs/directors). The replacements to these vacant positions were promoted on an interim basis and charged to the instruction program. Therefore, a miscellaneous adjustment was made to balance salary realignments and adjustments in the academic support program.

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Issue #4 (Page 16): The President should comment on whether MSU has undertaken efforts to identify administrative and academic efficiencies and, if so, what actions have or will be taken to achieve a cost savings.

Response: In today's higher education environment, there is tremendous pressure to address the rising cost of a college degree. More important, given Morgan's mission and its commitment to access and affordability, continued tuition increases are the rule not the exception. As such, with limited projected revenue, expense controls become paramount. Although we fully recognize that net tuition or discounted tuition is what students pay, Morgan's financial models indicate that long-term tuition will grow at a slower rate than expenses, thus expense growth must be adjusted accordingly. This challenge is faced by all institutions of higher learning and, specifically, Morgan must develop ways to enhance revenue but control cost. To that end, in January 2017, I issued a memorandum to establish and assign members to a Cost Reduction Task Force. The committee's official charge was to identify ways to improve operating efficiencies with fewer resources and advance cost reduction recommendations. The task force also examined areas that have improved at the institution (such as the increase in the number of international students and students with disabilities, the administration of athletics, etc.) and suggested market adjustments based on figures from comparable institutions, so MSU could appropriately respond to these new and evolving institutional demands. Construction Management, Physical Plant operations, and energy efficiency/saving opportunities were excluded and are being reviewed separately. The committee issued a draft report in the summer of 2017. Over the last year, the recommendations from the committee have been effectuated, and implementation plans are forthcoming.

With regard to academic efficiencies, the Division of Academic Affairs has implemented a new system to monitor faculty workload and identify opportunities for resource reallocation from underutilized courses and programs into high-demand areas. In addition, data from our new analytics platform, Academic Performance Solution (APS) from EAB, is providing insight into the composition of the overall instructional cost at program level. We are in the process of developing data-driven annual department evaluations with metrics that are generated in the APS platform.

Metrics such as "median course capacity utilization" and "median student credit hour production per faculty member" in junction with "three-year enrollment trends" and "median teaching load per instructional full-time equivalent faculty" across programs are being utilized to evaluate all academic programs to identify cost saving opportunities in all academic units.



Issue #5 (Page 23): The President of MSU should comment on what actions have been taken to ensure that the athletics department is in compliance with NCAA regulations.

Response: In response to Morgan State University's infractions case, the institution has addressed the systemic issues that led to 94 scholar-athletes' competing and receiving competition-related expenses while deemed ineligible and prior to reinstatement by the NCAA.

Morgan has addressed all of the issues identified in the infractions case. First, the Athletics Department was awarded an Accelerating Academic Success Program (AASP) grant from the NCAA in the amount of \$889,000, which is being used to address the lack of personnel. Second, it is not the best practice to have one academic advisor for 300 scholar-athletes. As a result of the AASP grant and industry best practices, the University hired a full academic team: a senior administrator to oversee the academic department with primary responsibility for the basketball program; one staff member dedicated to football; a staff member dedicated to track/field as well as tennis; a staff person dedicated to bowling and learning strategies; and, finally, a part-time staff person who focuses on instructional learning and providing tutors for the scholar-athletes.

At the core of the University's violations was a lack of knowledge of NCAA rules and regulations governing eligibility and financial aid. To address the immediate concern/issue, this past year, the Athletics Department invested in the education of all individuals involved in any aspect of the certification process and/or the awarding of athletic aid. Specifically, the financial aid staff, University Registrar, faculty athletics representative, athletic academic support staff, and athletic compliance staff attended one of the Regional Rules Seminars. We have also invested in additional professional development; for example, the academic staff attended the N4A educational sessions at NACDA (National Association of Collegiate Directors of Athletics). In addition to attending the regional rules and N4A sessions, the University brought in an external compliance professional to conduct a review of Morgan's certification practices. The external review identified a few details of the certification process that the University could improve upon.

Last, this past year, the University has been proactive in seeking additional resources to educate staff on not only the rules and regulations but also the best practices in the industry. The campus community has been receptive to engaging and collaborating with the Athletics Department in its educational efforts.

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Issue #6 (Page 24): The President of MSU should comment on what actions have been taken to address the findings of the January 2019 audit report. The President should also specifically comment on what actions have been taken with regards to the audit's repeat findings.

Response:

Steps That Were Taken as a Result of the Audit

Various information technology tools were purchased and are now being implemented to strengthen the network security. In addition, the following business processes have been or are now being enhanced: cash handling, inventory management, vendor monitoring, procurement, construction management, financial aid, and student billing. Some of the deficiencies are attributed to outdated policies and procedures that do not conform to industry best practices. We have formed a committee to review all institutional policies and procedures and will revise them accordingly.

Repeat Findings

The three repeat findings pertain to student residency, grant receivables, and user access reviews. The University has implemented several internal controls that mitigate the risks to an acceptable level, although there is still room for improvement. Specifically, regarding residency status, we commissioned an independent contractor to randomly select and test the propriety of a significant number of changes. Since the contractor did not pull the sample selection, the auditors did not consider the process to be sufficiently independent. This was corrected going forward. However, in our opinion, the progress that was made was not adequately recognized by the auditors. In addition, the auditors have expanded their requirements since the last audit which led to a repeat finding. For example, we were advised that not only *changes* need to be independently tested but, rather, *initial determinations* as well. This is not typically performed in the higher education industry, and it imposes a burden on the staff. Although we have agreed to expand the existing review process, we would like the opportunity to discuss the cost-benefit of such a review with the Legislative Auditor as part of a larger coalition of universities that were cited with the same finding.

Regarding grant receivables, we have received preliminary approval from the Central Collection Unit (CCU) to extend our billing process timeframe significantly before having to remit those receivables for collection. This aligns with the process used by other universities in the State of Maryland, and beyond, and will reduce, if not eliminate, a portion of the finding. In addition, the University has acquired a reporting tool to assist management with aging outstanding receivables. This will help us streamline the billing and collection process. Unfortunately, competing priorities, such as the



critical network upgrade, delayed the purchase and implementation of the tool. Also, the staff was augmented to help improve collection activities. In addition, we complied with the auditors' recommendation to restrict access to the enterprise resource planning (ERP) system. However, we recognize that in a dynamic environment where new employees are hired, a more robust training program is required to educate managers on how to conduct and document the quarterly user access reviews in a most effective and efficient manner. Further, the auditors expanded their review to cover additional information systems that were not covered in the previous audit, which contributed to a repeat finding. The training program and expanded review has been developed and is being implemented now. We believe that user access was revoked in a timelier manner than was reflected in the report; however, we recognize that the system did not record the termination date as accurately as expected. This is now being captured properly by a tool that was recently acquired and implemented.

Issue #7 (Page 27): The President of MSU should comment on what is being done to ensure that the workload percentage of Department chairs is brought back in line with expectations.

Response: Morgan is in the process of developing new workload and teaching load policies for all instructional faculty and staff members, including Department Chairs. The large course loads that Department Chairs carry are individual-level courses, such as independent study or thesis/dissertation guidance courses. In the new policy, we will define appropriate weights for the contribution of individual-level courses to overall workload computation.

We are also in the final stages of updating our policy on Department Chair appointment, roles and responsibilities, and expectations.

The expected teaching load for Department Chairs will be adjusted appropriately to reflect the requirements of the new Workload and Department Chair policies. These efforts will ensure that the workload percentage of Department Chairs is in line with expectations.



Recommendation #1 (Page 25):

Add the following language to the unrestricted fund appropriation:
, provided that \$700,000 of this appropriation made for the purpose of
converting contractual positions may not be expended until Morgan State
University (MSU) submits a report to the budget committees documenting
the positions and the salaries of those positions that will be converted.
The report shall be submitted by August 1, 2019, and the committees shall
have 45 days to review and comment. Funds restricted pending the receipt
of a report may not be transferred by budget amendment or otherwise to
any other purpose and shall revert to the General Fund if the report is not
submitted.

Further provided that MSU shall submit a report on the positions and the salaries of those positions that were converted by December 1, 2019.

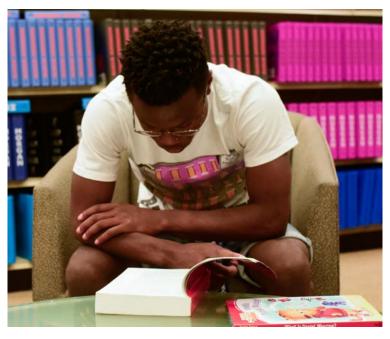
Response: The University concurs.

















Baltimore

Morgan State University Produces \$1 Billion a Year in Economic Impact in the State of Maryland.

Total Annual Impact

Annual Economic Impact



Maryland \$990 million

Baltimore \$574 million

Annual Jobs Supported



Maryland 6.530

Baltimore 3,990

Annual Economic Impact by Category



Operations

Maryland \$334 million

Baltimore \$302 million



Capital

Maryland \$75 million

Baltimore \$62 million



Ancillary Spending

Maryland \$97 million

Baltimore \$47 million



Wage Premium

Maryland \$484 million

Baltimore \$163 million

Annual Fiscal Impact

Tax Revenue

Maryland \$47 million Baltimore \$9 million

Impact study conducted by Econsult Solutions, Inc.

To view the full impact study online, visit www.morgan.edu/economicimpact.



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