The USM through 2020: A Renewed Vision for Powering Maryland Forward

Introduction

In December 2010 the USM launched *Powering Maryland Forward*, an exciting and innovative 10-year strategic plan designed to leverage the System's talent and resources in order to grow Maryland's economy, incentivize innovation, and advance the quality of life, social mobility and economic opportunity available to all Maryland citizens. Coming fresh off the deepest economic recession since the Great Depression, and facing projections of profound demographic and technology-driven change, the plan was focused on key challenges that our System, our state and our nation must address and overcome if we are to remain competitive leaders in an increasingly complex, global knowledge economy.

Much has changed since the plan's approval in 2010. Millions of Americans, and thousands of Marylanders, have seen their economic security and quality of life improve as home values have rebounded, retirement and stock portfolios have risen, unemployment has fallen, and wages and salaries have begun to increase, albeit at a slow pace. A steadily improving national economy has added more than 15 million new jobs (the U.S. created more jobs than the 35 other advanced economies in Europe and Japan combined between 2010 and 2015) and $1.8 trillion in real goods and services produced (GDP). Median income is up by over $3,000 per household nationwide; consumer optimism is at a 15-year high; and, thanks in part to the completion-focused efforts of American colleges and universities, foundations, and government entities, more than a third (33.4%) of all working-age Americans now hold a bachelor's degree, creating the highest educated workforce in our nation's history.

At the same time, not all have benefitted equally from the recovery. While the economy has boomed in many regions, other areas, and populations, have been left behind. Many "old economy" states—those dependent on traditional manufacturing, agriculture, and consumer services—have seen unemployment plateau in the 6% and 7% range, while states with more diversified economies, rich in knowledge jobs, advanced manufacturing, or clean energy resources have seen rates fall to near 3% or less. Though housing values have recovered overall, the rate and depth of the recovery has been unequal for many neighborhoods and many families. This has affected their ability to fully benefit from the most common vehicle in America for creating wealth—home ownership—and has fueled concerns about discriminatory practices, such as redlining and predatory lending, in our housing and financial industries.

Gaps in educational achievement between various groups also continue to exist nationally, creating concerns not just about the preparedness of the nation's future work force but also, as research is now showing, the potential for negative "downstream" impacts on innovation, entrepreneurship, and social mobility. Within higher education, swiftly changing demographic and technology-driven instructional models are forcing many institutions of higher education, particularly those located in areas of declining population and/or serving large numbers of at-risk students, to reassess their missions and business models, and in some cases merge or close. And finally, the violent events

witnessed in American cities and towns like Ferguson, Charlotte, Charleston, and Baltimore have exposed very real fault lines within our communities and institutions on issues ranging from race to economic and social justice, causing many to question our nation's commitment to—and true ability to deliver—economic opportunities and equal treatment under the law.

In many ways Maryland serves as a microcosm of our nation, displaying the wide range of trends affecting the U.S. as a whole. Although it has the highest median income in the nation, it also has deeply entrenched pockets of poverty found in all regions of the state. While the concentration of "knowledge economy" jobs and workers in suburban counties like Montgomery and Howard has kept unemployment in those areas among the nation's lowest (Howard's annual unemployment rate was 3.2% in 2016 and Montgomery's 3.3%), the percentage of unemployed workers in counties dominated by more traditional industries and natural resource-related jobs can be two to three times as high (Allegany's, for instance, was 6.1% in 2016 and Worcester's was 9.0%). While Maryland is among the nation's leaders in degree completion, with half of all Marylanders age 25 and up now having a college degree or meaningful postsecondary credential, just one in ten African American male residents of Baltimore's inner city has completed a college degree. Even as Maryland's location within the heart of the federal research and development (R&D) complex, and its mix of high quality public and private research universities, has enabled it to outperform all other states in attracting federal research dollars per capita, its over dependence on a single sector of funding has impaired its ability to quickly recover from a downturn in federal spending. Finally, despite its recent history and reputation as a progressive leader on social justice and equity issues, Maryland has seen violence and civil unrest strain the bonds of community and civility that help tie us together, causing many to question our society's ability, or willingness, to deliver on its stated commitments to civility, justice, and opportunity for all residents.

The USM through 2020: A Renewed Vision for Powering Maryland Forward is the System's effort to address the issues and trends we see affecting our state and our nation. The plan builds on the progress achieved under the 2010 strategic plan, updating the goals, themes, and strategies of the plan according to those challenges—whether new or ongoing—that must be addressed if the USM, and Maryland, is to achieve its goals by the end of this decade. As the past plan did, this document begins with a statement of the principles that help drive the USM's planning process and serve as the framework by which the other elements of the plan—mission, vision, values, goals, themes and activities—are developed, monitored and measured. The heart of the plan, however, remains the overarching goals, themes, and strategies. It is through them that the System lays out not only its vision for what Maryland can and should become, but also how the USM as the state's public system of higher education will help get it there.

USM Planning Principles

1. The plan must be a living document that is able to adapt to challenges the USM, Maryland, and the nation is facing, or will face, within the next decade.

2. As with plans for all complex organizations, the plan must address multiple issues, but it must also assess cost and establish priorities in order to maximize what can be achieved over the next decade. In that context, quality is, and must remain, priority one.
3. The plan should be visionary, pointing toward desired long-term outcomes, but also prescriptive enough to help chart a short-term course of action that advances achievement under those outcomes. It must allow for mid plan assessment and correction.
4. The plan should concentrate on core missions.
5. The plan should be inclusive, providing all stakeholders the opportunity to contribute.
6. Finally, and most importantly, the plan must seek to identify and address the critical educational, economic, social, and quality of life challenges facing the State of Maryland and its citizens.

Mission

The mission of the University System of Maryland (USM) is to improve the quality of life for the people of Maryland by--

- Providing a comprehensive range of high quality, accessible, and affordable educational opportunities that recognize and address the need for life-long learning and global and environmental awareness;
- Engaging in research and creative scholarship that solves today's problems expands the boundaries of current knowledge and promotes an appreciation of learning in all areas: the arts, humanities, social sciences, natural sciences, and professions.
- Preparing graduates with the knowledge, skills, and integrity necessary to be successful leaders and engaged citizens, while providing knowledge-based programs and services that are responsive to needs of the state and the nation.

The USM fulfills its mission through the effective and efficient management of its resources and the focused missions and activities of each of its component institutions.

Vision

The vision of USM is to be a preeminent system of public higher education, admired around the world for its leadership in promoting and supporting high quality education at all levels and life stages, fostering the discovery and dissemination of knowledge for the benefit of the state and nation, preparing graduates who are engaged citizens and have the knowledge, skills, and integrity to effectively lead people and organizations in a highly competitive, global environment, and instilling in all members of its community a respect for learning, diversity, and service to others. The overarching goal of the USM is to build lives and families and educated citizens.

Core Values*

The core values of USM reflect its role as a leading public system of higher education. Briefly summarized, USM's core values are--

- the intellectual development of its students, including the principles, values, and balanced perspective inherent in a well-rounded, liberal education;
- the advancement of knowledge and the use of that knowledge for the benefit of Maryland's citizens;
- the development of engaged citizens and leaders who have the knowledge, skills and integrity to effectively transform the lives of people and organizations;
- the professional development of USM faculty and staff;
- diversity and the creation of an environment that both celebrates and is enriched by the multiple perspectives, cultures, and traditions reflected in humankind; and
- a respect for—and promotion of—the ideals that are the hallmark of higher education: scholarship, learning, shared governance, freedom of expression, tolerance, and service to others.

(*See Appendix 1 for a full statement of USM's Core Values)

Goals

I. USM academic programs will respond to meet the changing educational and leadership needs of our state, our nation, and a growing and increasingly diverse undergraduate and graduate student population.

II. Throughout its educational, research, and outreach activities, the USM will strive to produce graduates who are knowledgeable of and sensitive to the cultural, environmental, and technological issues facing a global economy; who understand the importance of and the responsibilities inherent in citizenship and community; and who have the knowledge, skills, and integrity to effectively lead the people and organizations they serve.

III. USM research and scholarship will position Maryland as a national and international leader in science and technology, the arts and humanities, and the professions, creating and disseminating knowledge to ensure the state's continued economic growth, sustainable development, and international competitiveness.

IV. The USM will achieve national eminence as mandated by the state legislature and will relentlessly pursue its fundamental mission to serve the public good.

V. The USM will adhere to the highest standards of stewardship in all of its endeavors, and will promote the effective, efficient, and principled use of state and private resources.

2017 Environmental Scan

The world the USM inhabits has changed significantly since *Powering Maryland Forward* was developed at the beginning of this decade. While seventy-five consecutive months of private sector job growth, rising stock prices, and a revived housing market have helped shore up the traditional pillars of prosperity for many families in the U.S., increased inequality in how this wealth is distributed (in 2015 for the first time in modern U.S. history, less than half of American adults were middle class) combined with advances in technology that are helping disrupt or alter traditional patterns of employment (prior to 2009-2010, Uber, Lyft, AirBnB, Kickstarter and other icons of the emerging "gig" and "share" economy did not exist) have contributed to growing feelings of economic insecurity and dislocation within the U.S.

Outside the nation's borders, events ranging from the Arab Spring uprisings in 2011 and 2012, to Russia's annexation of Crimea in 2014, to the ISIS-inspired attacks that hit Paris and London in 2015 and 2017, have added to geopolitical turmoil, and fueled concerns that the framework of international agreements and behavioral norms that has helped secure relative peace and prosperity throughout much of the world since World War II is faltering. Voter concerns over immigration, assimilation, and public safety, combined with lingering post-recession economic anxieties, have helped lead to unanticipated shake ups in governmental leadership in Europe and the U.S. At the same time, post 2010 environmental disasters—both those man-made, such as the Deep Water Horizon oil spill in 2010, and natural, such as Hurricane Sandy in 2012 and Harvey in 2017—have helped remind us how interlinked our natural and physical environments are. The potential for massive-scale damage and disruption as demonstrated by these events has added ever greater urgency to national and international calls for action on climate change, including the commitments made by our campus presidents to support environmentally sustainable practices.

Within the U.S., more human-scale tragedies like those that have occurred since 2010 in Boston (2013), San Bernardino (2015), and Orlando (2016) have served to remind us that America is not immune to the ideological violence and passions that have inflamed other regions of the world. While the tragic events that unfolded in Ferguson (2014), Charleston (2015), Baltimore (2015), and Charlottesville (2017) have served to remind us, at the same time, how much work we have to do still as a nation to overcome prejudice and intolerance.

Like the world beyond our campus borders, the System also has changed significantly since 2010. In response to the state's call for greater access and more degrees we have added 22,000 additional students (an enrollment approximate in size to Towson's) and increased total degree production by over 8,000 degrees annually (up 29%). To help address the needs of our state's knowledge-based economy, we have hyper funded growth in STEM fields (up 41% for all STEM degree levels and 49% for undergraduate STEM programs through FY 16) and boosted total STEM degree production by 9,000 degrees annually. In response to calls for greater innovation and stewardship we have

created, or facilitated the creation, of over 500 new companies, and raised over $1.8 billion in private support. To broaden educational opportunities for all Marylanders and help achieve greater diversity within our institutions, we have expanded the number of degree programs available through our regional centers; launched new mentoring and support programs, like ACES, to identify, attract, and support underrepresented populations; expanded USM's need-based financial aid programs by almost 40% (or an additional $20 million); and launched a Regent-led conversation on diversity and inclusion.

Such progress has been impressive not only from the System's perspective, but from that of the State as well, allowing Maryland to stay on track on many of its primary educational objectives. Under the legislatively-mandated goal of 55% degree completion for working age Marylanders, for instance, the state has climbed from 44.7% in 2010 to 49.9% today, including those with workforce-related certificates. In addition, the State was able to make strong progress towards the goal it established in 2006 of increasing the STEM workforce by 40 percent by 2015. The total number of scientists, mathematicians, information technologists, and engineers produced by Maryland universities increased well over 50% between 2010 and 2015, alone.

However, despite all the progress that has been made under the strategic plan, the USM—and Maryland—continue to face a complex and shifting financial and operating environment that is likely to extend over the remainder of the current decade, and well into the next. While some of the changes the USM is likely to face will provide new opportunities (e.g., the projected upswing in the number of high school graduates and continued advances in the availability and use of data analytics, etc.), others, such as the continued pressure on federal agency research budgets, are likely to exacerbate existing challenges or create new ones. How we deal with them will determine how effectively the USM is able to close out the final years of its current strategic plan with continued, and even greater, success.

Challenges and opportunities the USM must be prepared to address include the following:

1. Demography: Maryland is about to experience a cyclical upswing in the number of high school graduates produced, creating a window of opportunity for Maryland universities seeking to grow enrollment and expand access.

One of the most readily observable trends on course to impact Maryland and the USM in the near future is a long-predicted boost in the number of high school graduates produced. While USM institutions have struggled for the last decade to overcome the headwinds caused by a slow but steady decline in high school graduates (the number of high school graduates produced by the state's high schools fell by seven percent between 2009, the high water mark of the Baby Boom Echo, and 2016, the projected nadir of the current population cycle), the much anticipated bounce back in high school graduate numbers is projected to begin occurring this year (2017). Over the next three years, according to the Maryland Department of Planning, the number of high school graduates

produced by Maryland high schools will rise from 56,765 in the fall of 2017 to just over 58,600 in 2020, and then will continue to grow through 2024, eventually reaching 64,000 graduates annually—a 12 percent increase over 2017—before once more again beginning to wane. This seven-year period of growth should provide a window of opportunity for institutions seeking to expand their enrollments and enhance the USM's ability to increase degree production in line with state goals.

2. Diversity: Maryland's high school graduate population will continue to become more diverse, with implications for how institutions must structure their outreach and recruitment programs, financial aid, advising, and related student support services to attract and better serve these populations.

While Maryland higher education institutions seeking to expand enrollments will have a growing pool of public high school (HS) graduates from which to recruit over the next seven years, they also will face a pool of graduates that is increasingly diverse. Minority public HS graduates will make up the entirety of the projected increase over the next seven years, with Hispanic graduates accounting for two-thirds of that growth (68%), followed by African Americans (21%), and Asians (11%). By the end of the seven-year growth period, the percentage of all Maryland public high school graduates who are Minority will have increased from 55% currently to 62%, on a base that expanded by 17% overall. Given that Maryland's African American and Hispanic populations, the two largest Minority population groups in the state, have been underrepresented historically in higher education, and continue to face disparities in educational attainment, employment, affordable housing, and family wealth accumulation, this growing diversity will continue to have significant implications for how USM institutions recruit, support, retain, and graduate students from these populations.

3. Funding: An uneven economic recovery combined with political stasis in Washington will continue to put pressure on both state and federal budgets, impeding the ability of states to invest more in higher education. For states like Maryland, which depend heavily on federal R&D dollars to help fuel economic innovation, this is likely to further slow economic growth.

Though in any normal period the nation's economy would be seen as unquestionably strong—unemployment is approaching 4.0%, stock indices are more than double what they were in 2010, and the average home price nationally is now above its pre-recession high—few things about the present period can be regarded as normal. The tepid pace at which the economic recovery had occurred prior to 2017 (annual growth in the nation's GDP has failed to break three percent for over a decade) combined with the unevenness of its impact (lower-income workers – those making within the lowest quartile of wages - - in a majority of states are earning less now than they did in 2007, adjusted for inflation) has created economic drag at both the state and national level. This, in turn, has contributed to an even slower recovery in state support for higher education, and heightened political conflict and debate over how we should address it.

While state spending on higher education has grown over each of the last four years, total state spending for public higher education nationwide is still well below its pre-recession level, with just five states spending more per student in general funds in 2016 than in 2008. The result, according to a 2017 report by SHEEO, has been a marked shift in the locus of support for higher education, with public institutions turning to tuition to make up the difference. The ability of states in the near term to reverse this trend and invest more funding in higher education appears doubtful. According to data in the Spring 2017 Fiscal Survey of the States by the National Association of State Budget Officers (NASBO), the majority of states have experienced sluggish general fund revenue growth of just 2.4 percent in fiscal 2017, with 33 states reporting collections below budget projections and at least 23 states instituting mid-year budget cuts totaling $4.9 billion in fiscal 2017. For fiscal 2018, NASBO projects that states will contend with "slow revenue growth" (growth is expected to come in at 3.1% based on state budget documents), "limited budget flexibility" and "substantial federal uncertainty" by increasing general fund spending by just 1.0 percent.

Within Maryland, the state's strong ties to the federal government allowed it to fare better than most states in avoiding the worst of the recession (going into the recession Maryland's unemployment rate of just over 3% was eighth lowest in the country and never climbed above 8% before starting to quickly recover with the infusion of stimulus funds), allowing the state to invest more in its public higher education system than in many of its peer states. However, Maryland's recovery largely stalled in 2013 with the federal government shutdown and the subsequent budget agreement that limited growth in federal agency spending. Since 2013, the state's economy has underperformed compared to that of similar states and, despite the efforts of its political leadership to enforce greater budget discipline, that lagging economy has caused Maryland to struggle to meet its original revenue estimates two out of the past three fiscal years. This has negatively affected the state's ability to invest significantly more resources in a number of high priority areas, including public higher education. (Note: Although Maryland's higher education system has received greater general fund support than in most states, including enhancement program investments and the "buy down" of tuition, the mid-year budget reductions combined with increased costs arising from new buildings coming online have essentially left the System "treading water" in terms of its overall budget.)

Looking toward the future, the federal Congressional Budget Office (CBO) projected as late as spring 2017 that absent successful efforts by the Trump Administration to reform the federal tax structure and/or implement a significant infrastructure program, the nation's real GDP would likely grow over the 2017-2020 time period at roughly the same modest pace that it has since 2009 (between 1.9% and 2.3%). While the nation's economy has since accelerated (exceeding an annualized rate of 3.2% in the third quarter of 2017), and should receive a further boost with the administration's successful tax reform, much of our nation's future growth is still expected to come from consumer spending, business investment, and residential investment.

More importantly for states, like Maryland, that depend heavily on federal support for research and development (R&D) to help stimulate new economic activity through basic

and applied research, technology transfer, and new company creation, the Administration's attempt to pare back federal spending on non-defense related R&D under most agencies could further slow economic growth. In a dramatic bid to reshape federal spending priorities, the Trump Administration has proposed reductions to science-based programs that could range from 40%-50% at those supported by the Departments of Energy and Commerce (which houses NOAA) to 10%-20% at programs under the National Institutes of Health and the National Institute for Science and Technology. For Maryland's R&D-driven economy, the impact of such an abrupt spending slowdown could be significant. According to an analysis done by George Mason University's Fuller Institute for Research on the Washington Region's Economic Future, the Trump Administration's FY 18 budget, if implemented, would shave up to one percentage point off the region's GDP, equal to about $5 billion in lost economic activity. The impact on Maryland, Fuller Institute researchers estimate, would be a statewide loss of about $900 million in federal contracts and $100 million in federal grants. In addition, layoffs to federal employees could lead to a further loss of about $600 million in salaries and wages.

4. Race, Equity and Social Justice. Controversies and concerns tied to issues of race, equity, and social justice will continue to arise within our institutions, our state, and our nation, testing not only our ability to create safe, tolerant, and socially responsible environments for our students, faculty, and staff to work, live, and learn, but also the ability of our institutions to live up to the values of diversity, equity, and inclusiveness that we, as a leading national public university system, espouse.

American colleges and universities face a complex set of stakeholder expectations. They are expected to not just advance the discovery and transmission of knowledge and ideas but also serve as guardians and advocates for many of our society's most cherished norms and values, including the freedom to debate ideas and issues openly and peacefully. They are expected to model race and gender equity and fairness, advocate for greater social justice, and help mold informed and ethical leaders. They are expected to ensure their students are knowledgeable of and engaged with the wider world, helping to push the intellectual boundaries and explore the cultural assumptions those students arrive with on their campuses. They are also expected to ensure the physical safety of students above all else, and finally, to serve as engines of economic opportunity and social mobility, raising the living standards and improving the quality of life for not just those who attend or work at the institutions, but the larger communities that surround and support them.

Given these expectations, and the youthful populations they predominantly serve, it is little wonder that American college and university campuses once again find themselves at ground zero in the political and cultural wars playing out in our society. On campuses ranging from Berkeley, CA, to Auburn, AL to Middlebury, VT student-led protests and demonstrations, some of which have become violent, have sparked charges that American college campuses have become hotbeds of "alt-right" bias and recruitment or politically correct intolerance run amuck. The extent to which American college campuses are suffering the impacts of the polarization and tensions that are currently rending our nation are shown in data from organizations like the U.S. Department of

Education's Office of Civil Rights, which reported a 21% jump in racial harassment complaints at colleges and universities between 2015 and 2016, and from organizations like the Anti-Defamation League (ADL) and the Southern Poverty Law Center (SPLC), which track incidents of race or religious bias on campus. Both the ADL and SPLC have noted significant spikes in incidents of race or religious bias on American college campuses over the past year, with the SPLC reporting 330 "hate incidents" occurring on campuses between the final two months of 2016 and the first quarter of first of 2017, and the ADL reporting it had found 147 incidents of race bias occurring on 107 campuses in 33 over the course of the 2016-2017 academic year.

While Maryland campuses have been spared much of the heated rhetoric and violence that have rocked campuses elsewhere, the tragic events that have occurred in Baltimore and College Park show that our state and its institutions are not likely to emerge completely unscathed from the race, equity, and social justice controversies affecting colleges and universities in other states. In addition, Maryland will continue to see its own, unique set of race, equity, and economic and social justice issues play out as the Coalition for Equity and Excellence in Maryland Higher Education lawsuit is resolved; further pressure is placed on State agencies, including the USM, to step up and provide greater opportunities to Baltimore youth in the wake of the Freddie Gray tragedy; and finally, flowing from the findings and recommendations of the Board of Regents' Workgroup on Diversity and Inclusion, USM campuses focus on measuring, assessing, and improving the overall diversity and inclusiveness of the their workforce and student populations, including creating more welcoming and inclusive campus environment for all students, faculty, and staff.

5. Student Debt, Economic Competitiveness, and Information Security. Broader environmental concerns that touch on higher education, economic competitiveness, and data/information security -- including the threats posed by rising student debt levels, heightened income inequality, and cyber insecurity -- will continue to be debated nationally and could have an impact on how well higher education institutions and university systems are supported going forward.

Finally, there are a host of ongoing "big picture" concerns and factors that are likely to continue to affect higher education institutions and systems either directly or indirectly. Depending on whether and how these concerns are addressed they are likely to further influence the national debate on higher education and its claims on public support over the remainder of this decade. They include:

- Continued concerns over college affordability, particularly rising student debt levels. According to a recent (2016) Brookings Institution report, 40 million student borrowers in the U.S., now collectively owe over $1.2 trillion in debt (at an average balance of $29,000 per student). After home mortgages, student loans are now the largest source of household debt, out ranking credit cards and car loans. Further troubling is the fact that U.S. student load debt is reportedly growing at a rate of $2,700 per second, 24 hours of every day, with seven million

borrowers already in default and more reportedly behind on their payments. The potential downstream impact of this debt on the nation's economy as graduates delay home ownership and other traditional forms of asset accumulation, has been a topic of local, state, and national debate. Partly in response to such concerns, a number of states and municipalities have begun to try and address the higher education cost/student debt issue more creatively. These efforts have resulted in four states (Tennessee, Oregon, Minnesota, and New York) implementing programs offering students some form of "free tuition" at their two-year and/or four-year public colleges and universities, and, according to an April 2017 report by *the Washington Post*, as many as 85 similar debt reduction proposals being explored by other states and municipalities.

- Growing concern over income inequality and its long-term impact on economic growth. Related to the issue of affordability are larger economic concerns about rising income inequality, and its long-term impact on economic opportunity and upward mobility. According to a 2015 report by Standard and Poor's Global the nature of the great recession -- i.e., a booming financial sector and over-leveraged housing sector, particularly among lower income households, combined to create a massive, systemic financial crash – has contributed to a concentration of income among the top earning American households at levels not seen since 1928. After-tax income soared 15.1% for the top 1% of American households between 2009-2010, but less than 1% for the bottom 90% during that same time period and actually fell for many income groups. At such extreme levels, the S&P Global report noted, "income inequality can harm sustained economic growth over long periods....dampen[ing] social mobility and produc[ing] a less-educated workforce that can't compete in a changing global economy." While a postsecondary credential continues to be seen as one of the most effective means for overcoming inequality of economic opportunities, the continued rise in the cost of higher education and the concomitant growth in student debt calls into question the ability of postsecondary institutions to effectively address this issue absent major changes in higher education's operating and financial models.

- Continuing concerns centering on the quality of education and technical preparation being provided to our future workforce, particularly in STEM fields. A core "big picture" concern of the 2010 plan was helping to address the alarming decline in U.S. rankings in the percentage of adults holding a postsecondary degree, as well the science and math literacy of its population. As the 2010 plan noted, the U.S. had fallen from the international leader in high school and college completion rates for most of the 20th century to 12th place among industrialized nations in terms of postsecondary completion. While one bit of positive news for the nation as a whole is that the U.S.'s performance on postsecondary completion has improved slightly (going from 12th in 2010 to a reported 11th in 2015), student performance in those areas considered vital to competing in a knowledge-based economy --mathematics, science, and critical thinking -- has continued to decline compared to other world class economies. According to the most recent numbers by the international Organisation for Economic Co-operation and Development

(OECD), students in the U.S. ranked just 23 out of 33 OECD countries in scientific literacy in 2015, compared to 21st of out 30 OECD countries in the same area in 2010, and 34th in mathematics skills in 2015 versus 29th in 2010. Such declines present, at the very least, a continued cause for concern about our nation's future competitiveness and capacity to promote innovation, and lend continued credence to higher education's call for greater resources to support not just degree completion but STEM programs.

- Issues surrounding information technology and cybersecurity. Finally, the impact of "big data," including the adoption of data analytics programs associated with it, is continuing to revolutionize higher education's instructional and research capabilities and platforms. From the evolving definition and focus of massive open online courses (MOOCs) to the development and implementation of the next generation of advanced learner analytic systems, higher education institutions and systems are grappling with the possibilities that big data has to improve learning, reduce time to degree (and thereby, educational costs), advance and improve research and collaboration between faculty and students, and improve administrative operations and effectiveness. At the same time, as recent experiences have shown, complex information systems are vulnerable to cyber intrusion. With our vulnerability to cyberattack increasingly seen as an existential threat to institutions and organizations at all levels, and big data becoming more and more a part of American colleges and universities' everyday operations, how higher education balances its traditional commitment to the open sharing of ideas and information with the critical need to be more vigilant and protect against cyber threat will likely prove to be one of the ongoing debates in the decade(s) going forward.

The Six Strategic Themes of the 2020 Plan

The following themes establish the strategic focus of the USM and its institutions for the final period of this decade through 2020. Like most public university systems, the USM has a broad, and multi-faceted mission, which ranges from meeting the diverse education, healthcare, service, and workforce training needs of our citizens; to promoting the quality of life and the advancement of knowledge in, and the economic development of, our state and its complex economy through our faculty and staff expertise in research and development; to nurturing, promoting, and protecting the natural and cultural resources of our state and region. Accomplishing these goals will require the USM to utilize the varied and unique array of resources and mission-aligned services that are represented among its 12 institutions and two regional centers.

The goals and strategies highlighted within the six themes of the USM 2020 plan reflect the System's combined response to the multiple needs and responsibilities given to it by its stakeholders. Each theme, and the strategies and activities contained within it, is designed to be complementary to the others. Thus the System believes that strategies

designed to provide greater access to our institutions and increase the number of students succeeding in their degree programs, as proposed under Theme 1, will not only help the System achieve the goal of boosting degree attainment in Maryland, they will contribute to success under the other strategic plan themes as well: economic competitiveness; academic innovation; diversity, inclusion and civic engagement; stewardship; and, most importantly, national eminence. By leveraging the combined strengths and unique missions of each of its component institutions, the USM will be able to effectively address multiple goals, strategies and commitments under the plan, and carry out its mandate to serve to the best interests of the state. That is the advantage of having a multi-institution public system of higher education and one of the core strengths of Maryland.

In advancing the aims of these six themes, the USM will relentlessly pursue the highest standards of quality in all that we do, endeavoring to set a standard of performance that is a model for higher education institutions around the world.

Theme 1: Access, Affordability, and Degree Attainment – Driving Maryland Toward Success Under the 55% College Completion Goal

Rationale for Theme 1
More than ever the educational preparation and degree attainment of a state's workforce is key to determining not just the vitality and robustness of its economy but also the economic security and social mobility of its citizens. According to a recent report by Georgetown University's Center on Education and the Workforce over 73% of all jobs added in the U.S. between 2010 and 2016 required at least a bachelor's degree (8.4 million of 11.6 million). In comparison, the number of jobs available to workers without some level of college education decreased by 80,000.

Such statistics are not surprising to most Americans—or most Marylanders. As Brookings Institution scholar Ron Hastings has noted, the average citizen has long believed that "the road to achieving the American dream runs through the school house door." And in a period of growing income inequality and declining social mobility, earning a college degree is regarded by many as one of the surest steps individuals can take to increase their life time earnings and improve their chances for a high quality, upwardly mobile life for themselves and their dependents.

For a state such as Maryland, a leader in the knowledge economy, the linkage between degree attainment, workforce preparation, and economic vitality is ever more apparent and critical. It is the advanced education, training and technical expertise of its workforce, driven in large part by the needs of the federal agencies and labs within its borders, that helps to distinguish Maryland from its competitor states and gives it an edge in attracting and retaining high-paying, knowledge-based jobs. (Maryland ranks among the nation's leaders in the percentage of technical and professional workers in its workforce, the concentration of doctoral scientists and engineers within its workforce, and the percentage of its adults holding an advanced degree). This makes the goal of ensuring the educational preparation of its workforce particularly critical to Maryland. As testament to this, Georgetown's Center on Education and the Workforce, has projected

that by the end of this decade over two-thirds (69%) of all jobs in Maryland will require a postsecondary degree, with Maryland ranking third among all states in the percentage of jobs requiring an advanced degree beyond the baccalaureate.

In recognition of the critical importance that educational attainment has on both the state's overall economic competitiveness and the economic opportunities available to individual citizens, Maryland has embedded in statute a goal of having 55% of all working age Marylanders hold a college degree (either an associate's or above) by 2025. To help the State achieve this goal, the USM established its own goal in 2010: increase the number of bachelor's degree produced by USM institutions to 28,000 annually. While this goal reflected then—and still reflects today—an extremely ambitious vision, requiring the greatest 10-year increase in degree production in the USM's history to succeed, the System and the Board also recognized that anything less would mean that Maryland would likely fall short of achieving the goal of 55 percent degree completion.

Progress since 2010 and the Challenge Facing the USM through 2020
In developing the 2010 strategic plan and its overarching goal of 28,000 degrees by 2020, the USM recognized that an increase in degree production of the magnitude required could only be accomplished if other components critical to success were in place. These included a proportionate increase in total enrollment (the 2020 goal was 195,000 students); using the USM's regional centers to expand the System's presence in previously underserved areas of the state and provide greater access among historically underrepresented populations; advancing under the System's ongoing initiative to close the achievement gap; and working with the other segments of higher education in the state, such as MACC and the Governor's P-20 Leadership Council, to improve the academic preparation of students coming into the baccalaureate degree pipeline as well as increase the overall quantity.

Through 2016, the USM's progress on these goals—both the overarching goal and the secondary goals and strategies seen as prerequisites—has been strong. Total enrollment at USM institutions has grown by over 22,000 students to just under 172,000, while students studying at regional centers or other off campus sites has reached almost 5,000 (a 40% increase). Affordability has been maintained by holding down increases in tuition at USM institutions to just three percent annually, and increasing institutional need-based financial aid by over $20 million. The gap between six-year graduation rates for USM African American students and those for all USM students has been narrowed (decreasing 5 percentage points since 2010), and working in coordination with the other members of the Governor's P-20 Council, the USM has advocated for and implemented new programs designed to not only improve the pipeline of students coming into our institutions through stronger academic preparation but increase the overall number of those students as well (transfers are up by 23% since 2010 to over 11,600 annually).

Despite the level of progress made, significant challenges for the USM, and Maryland, remain if we are to hit our goal of 28,000 degrees. Despite the growth in enrollment that USM institutions have experienced since 2010, overall enrollment at USM institutions remains below the level projected as necessary to achieve the 28,000 degree goal. and

maintain and appropriate mix of graduate to undergraduate degree production. While this enrollment challenge may ease somewhat as Maryland begins to recover from the decline in high school graduates that accompanied the end of the baby boom echo, more of these students will come from areas of the state and populations that have traditionally been underserved and underrepresented. Between 2015 and 2027 the number of Hispanic students graduating from Maryland's public high schools will approximately double (growing to about 20% of the total number of public high school graduates), while the number of Asian students will increase by three quarters (reaching 12% of the total). The number of African American Maryland public high schools graduates will hold roughly steady at 19,000 and account for roughly the same share of the total (34%) as in 2015. In comparison, the number of White, non-Hispanic students will continue to decline, falling from just under 48% of all Maryland public high school graduates in 2015 to 35% by 2027. These changes are likely to put additional pressures on USM institutions to hold down increases in the cost of education, expand institutional need based aid, and provide additional outreach and advising services to these growing populations of students.

Key Goals/Targets under Theme 1 of the Plan
For the remaining years three years of the 2020 plan, the USM will continue to focus energy and resources on those areas of activity that it judges most critical to the success of its overarching degree goals. These include:
1. Expanding access to our institutions through the development and implementation of more effective enrollment management strategies and planning at both the individual campus and Systemwide level,
2. Improving the affordability of our institutions through strategies that focus on holding down the cost of education and providing aid to our most needy populations,
3. Increasing student success, as measured by retention and graduation, through initiatives that reduce gaps in achievement, improve student advising and degree navigation, enhance student learning outcomes, and incorporate advance data analytics into our student success programs,
4. Leveraging the power of USM and its institutions, in partnership with and the City of Baltimore and Maryland philanthropic organizations, to help address the unique access, success, and degree attainment challenges that face Maryland's largest urban center.

The following represent proposed goals or targets to be addressed in achieving the System's goals under Theme 1 of the plan.

1. By 2020 the USM will achieve and sustain an undergraduate degree production level of at least 28,000 degrees per year.
2. In support of the above goal, by 2020 the USM will—
   a. Enroll over 180,000 students (headcount) on USM campuses, off campus sites, and through online programs.
   b. Continue efforts to expand access to underserved regions of the state by offering new or expanded programs at its regional centers or other off campus sites

c. Continue to advance campus efforts to close the gap in educational achievement among students at USM institutions.

d. Continue working with the other segments of higher education in Maryland, including the P-20 Council, to increase degree attainment opportunities for Marylanders.

e. Continue working with the state and MHEC to streamline and improve the program approval process to better serve the needs of Maryland and its citizens.

f. Continue working with the state, our institutions, and our foundation partners to reduce barriers to affordability.

g. Fully implement B-Power, the USM's signature partnership initiative for helping strengthen and rebuild Baltimore, by building and securing a strong pipeline between the Baltimore City schools and USM institutions in order to provide Baltimore residents with the greater access, support, and degree attainment.

Strategies for Success

The following strategies will be critical to the System's ability to achieve the goals laid out above through the remainder of the 2020 strategic plan period.

1. Expand access to high quality USM institutions and programs for all Maryland residents, while, at the same time, addressing the needs of regions and population groups in the state areas that historically have been underserved or underrepresented in higher education.

   1.a. Continue to implement and refine a Systemwide enrollment planning and management process that expands access to USM institutions and programs in a more efficient and cost effective manner.

   1.b. Work with the state to adjust and refine the competitor states funding model to allocate resources to USM institutions in a more equitable and effective manner, in line with Maryland's postsecondary goals and the needs of the students and institutions.

   1.c. Continue to expand outreach to new or underserved areas/populations of Maryland through USM's regional centers and other off campus programs or activities.

   1.d. Expand and leverage the USM's investment in technology and data analytics, technology, and enrollment management best practices to related technologies, and other nontraditional learning opportunities.

   1.e. Continue working with the Maryland community colleges and other segments of Maryland's P-20 system to carry out the mandates of the 2013 Maryland College and Career Readiness and College Completion Act to improve program articulation and transfer of students between various institutions and segments within the state, as well as identify and "reclaim" stalled students where appropriate.

   1.f. Implement and institutionalize out-year phases (phases II-III) of the B-Power Initiative by 1) expanding B-Power College Readiness Academy, taught by University of Baltimore instructors, to include additional 4-6 Baltimore partner schools, 2) launching the B-Power Dual Enrollment

initiative at Coppin State University, and 3) developing additional, wider collaborations with the Baltimore City Schools and other Baltimore-area educational institutions and community based organizations (such as BCCC, Junior Achievement, and College Bound) to identify, attract, and support current and future B-Power students and alumni.

2. Increase the affordability of USM institutions and programs.
   2.a. Working with our partners in the General Assembly and the Administration, continue to focus on balancing the need for tuition and fee increases with the state's mandated goals for the system of providing access to a high quality, affordability postsecondary system for to Maryland students and families.
   2.b. Expand institutional financial aid programs in line with the USM's financial aid policies, and continue to focus on increasing support for transfers and other nontraditional populations.
   2.c. Continue to develop, support, and advocate for lower cost alternatives to traditional 4-year degree programs, such as early college programs, 2+2 programs, and use of new technologies, such as MOOCs and hybrids, to improve outcomes and reduce time to degree.
   2.d. Continue to seek out cost effective ways to reduce out of pocket expenses to students, including through the Maryland Open Source Textbook (MOST) initiative.
   2.e In collaboration with Baltimore City Schools and our other institutional and community-based partners under the B-Power Initiative (including BCCC, Junior Achievement, College Bound, etc.) work to secure additional financial aid opportunities, including tuition discounts, for participating Baltimore City students.

3. Promote increased levels of success for all USM students, as measured by degree completion.
   3.a. Expand the use of data analytics, such as the Student Success Matrix, to leverage the System's ability to improve undergraduate retention and graduation and contribute to the elimination of achievement gaps at USM institutions.
   3.b. Develop student advisement programs to support students at every level of their college experience.
   3.c. Continue working with USM institutions to recognize the importance of graduate and professional programs to the economic success of the state and monitor and enhance and the graduate, and professional educational experience at all USM institutions.
   3.d. Work with USM's Historically Black Institutions (HBIs) to identify and secure the level of resources and support necessary to ensure student outcomes at a level equal to those at non-HBI institutions with the same general mission.

3.e. Through the B-Power Initiative partnerships, promote greater student success through use of peer mentors/coaches, enhanced academic and career advising, and other support services.

3.f. In coordination with Maryland's P-20 Council develop, improve, or implement strategies designed to boost student success and degree attainment through such strategies as college readiness, early college, and summer bridge programs.

Theme 2: Research to Jobs – Expanding Maryland's Leadership in Research, Innovation, and Economic Competitiveness

Rationale for Theme 2

By almost any measure Maryland ranks among the nation's leaders in developing and sustaining a knowledge-based economy. The most recent (2014) New Economy Index, ranked Maryland number five among all states in those traits it sees as key to success in the "new economy": entrepreneurial, IT-driven, globalized, and innovation- and knowledge-based. Statistics published by NSF and NIH annually demonstrate Maryland's prowess in R&D, placing it among the leading states in academic R&D per capita (1st), R&D expenditures in the Life Sciences and Engineering, Math and Computer Sciences per capita (1st), and overall research and development (R&D) intensity (3rd). Most recently, a 2016 Milken Institute report ranked Maryland number three in the U.S.– just a tenth of a point behind second place Colorado -- in the strength of its science and technology capacity, which Milken considers the key to sustaining high-value-job creation and promoting overall economic growth.

Factors driving Maryland's success on these measures of economic strength and innovation are many, and include:

- The state's location at the heart of the greatest concentration of federally-supported research and technology laboratories in the nation (which helps bring in more than $17 billion in federal R&D obligations annually).
- A highly-educated, highly-skilled workforce that consistently ranks at or near the top such measures as percentage of adults with a bachelor's degree (3rd), percentage of adults with advanced degrees (2nd), and percentage of adults working in a STEM field (2nd).
- A nationally-ranked P-12 public school system that helps attract, retain, and prepare that workforce (and leads the nation in key college-preparatory measures such as advanced placement exam participation rates and pass rates).
- A robust higher education system that includes four major research universities that account for over $3 billion in combined R&D expenditures annually, along with a high quality set of 2-year and 4-year liberal arts and comprehensive colleges and universities that, excluding the four research institutions, were responsible for producing three-fourths (76%) of all undergraduate degrees awarded in Maryland in 2016, and over half (51%) of all master's degrees.

These assets have allowed Maryland to build a knowledge economy -- fueled by the research, new ideas, and new technologies flowing into and out of the academic institutions and federal laboratories within its borders -- that is the envy of other states. Ensuring that the USM leverages its strengths in basic research, workforce development, and innovation to help maximize Maryland's locational advantage, build its economy, and advance a better quality of life for its citizens is the rationale behind Theme 2 of the plan.

Focus of 2010 Plan and Progress to Date
In 2010 the USM's strategic plan sought to capitalize on Maryland's "unfair advantages" in location, research funding, and the quality of its workforce to broaden and expand economic development in Maryland. The plan set out a multi-faceted strategy focused on doubling R&D funding, creating or facilitating 325 new companies, instilling a culture of entrepreneurship and innovation throughout the System, and expanding degree production in STEM and other fields in order to address the needs of Maryland's technology-heavy workforce. By 2016, in response to the goals and strategies laid out in the plan, the USM and its institutions had created or facilitated over 500 new companies; increased STEM degree production by over 60%; adopted and implemented policies that revised faculty appointment and tenure processes to encourage greater faculty entrepreneurship; and successfully advocated for legislation designed to spur capital investment and job creation in designated areas, as well as to enhance the integration of research into economic development (e.g., RISE Zones and E-Nnovation Initiative). While the USM's goal to double research and development funding failed to gain traction early on due in part to federal cut backs in research funding, R&D funding generated by USM institutions had regained its footing by fiscal 2014 and has gained ground at a steady if modest rate for each of the past three years.

Revised Strategic Plan Goals and Strategies for the Period through 2020
For the remaining three years of the 2020 plan's term, the USM proposes to continue building on its strengths in research, technology, and the production of a highly skilled workforce to spur innovation, generate new companies and high paying jobs, and simulate statewide economic growth. Through an integrated set of strategies that the System envisions as "research to jobs," the plan will focus on the following:
- Expanding support for basic research and knowledge creation; streamlining processes for transferring that knowledge into new products and commercially-viable technologies and services.
- Building on the USM's successful effort to generate more new companies.
- Addressing the state's workforce needs by not just expanding the number of baccalaureate graduates produced overall, but in critical areas like STEM, Cyber, Healthcare, and Education (this also will include, as appropriate, the creation of more technical certification and training programs in fields undergoing rapid transformation that are generating new credential requirements, such as Cyber and Healthcare).
- And finally, make a first order priority the efforts of the Administration to augment, reorganize, coordinate, leverage, and optimize the totality of the economic development resources encompassed under the EXCEL Initiative.

Such elements are critical to strategically building and supporting an innovative, knowledge-based economy.

Key goals for the remaining period of the strategic plan through 2020 include:

1. Grow the state's knowledge and innovation workforce by increasing the number of STEM degrees produced annually to 11,000 (a 15% increase) and the number of health-care related degrees to 4,100 (a 25% increase).
2. Address the critical need for graduates in cyber-related fields by expanding the number of graduates in computer science and other key IT fields to over 5,500 annually (a 20% increase), and support institutional efforts to development of more technical training and certificate programs in such fields.
3. Continue to steadily expand both basic and applied research as measured through the generation of externally-sponsored R&D funding through baseline growth of at least 1% annually (from a projected base of $1.27B), with an aspirational goal of 4%, while diversifying the sources of R&D funding.
4. Further promote the commercialization and transfer of USM-developed knowledge, products, and services by increasing the number of licenses and options executed and new patents filed each year by USM institutions and their faculty (currently benchmarked at 61 and 228 per year, respectively).
5. Continue to expand the USM's impact on entrepreneurship and new company development by creating or facilitating at least 100 companies per year through 2020.
6. Continue to address the state's need for well-trained teachers by producing at least 1,100 new teacher candidates each year, including at least 300 new STEM teachers annually.
7. Establish as a strategic priority the implementation of the EXCEL Initiative to raise the economic competitiveness of Maryland on a national and international level.

Key Strategies for the Remainder of the 2020 Plan Period:
The following represent suggested strategies for helping to achieve the USM's goals under Theme 2. Many are continuations of successful strategies outlined in the 2010 plan and implemented since. Others – like the call for support of the Center for Maryland Advanced Ventures – reflect needs and developments that have arisen since 2010. The strategies are numbered so that progress under each can be easily tracked and reported.

2.a. Address Maryland's overall workforce needs by increasing the number of high quality graduates available to enter the state's workforce each year.
    2.a.1. Support the increased production of bachelor's degree recipients in all fields of study in order to help meet the state's wide-range of workforce needs.
    2.a.2. Expand and support institutional efforts to develop advanced technical certification programs in critical workforce areas, such as Cyber and Healthcare.

2.b. Target critical workforce shortages in STEM, Cyber, Healthcare, Education (particularly STEM education) through the development of new and ongoing programs and initiatives.

    2.b.1. Work with State leadership to secure and allocate targeted enhancement funds for the development and expansion of STEM, Cyber, Healthcare and Education programs.

    2.b.2. Expand access to STEM, Cyber, Healthcare and Education programs, including innovative certificate and training programs, in underserved regions of the state through the development of new or expanded programs, including those offered online and at the USM's regional centers or other off campus sites.

    2.b.3. Continue to develop and promote strong partnerships between STEM departments in universities and local secondary schools.

    2.b.4. Continue initiatives designed to expand professional teacher development programs and pathways to certification and enhance options for career changers into all STEM fields.

    2.b.5. Continue efforts to work with MSDE to develop programs to reduce remediation needs and align high school graduation with college entrance requirements for math and STEM fields.

    2.b.6. Continue to develop statewide seamless articulation and transfer agreements.

    2.b.7. Continue to work to increase the number of highly qualified teacher candidates who graduate from USM programs of teacher education.

    2.b.8. Build the internal programmatic and R&D capacity to support the Administration's priority on economic competitiveness in mature economic sectors like the Life Sciences; still evolving sectors like Cyber; and emerging sectors and/or sectors representing extraordinary growth opportunities, such as unmanned and autonomous systems research and technology transfer, and augmented and virtual reality development in relevant areas like media.

2.c. Leverage the USM's historic strengths in basic and applied research to expand R&D support <u>and</u> diversify the sources of that support.

    2.c.1. Refine and implement, as appropriate, the strategies and recommendations of the USM Work Group on Research and Innovation, including--

        o Become more coherent in identifying and targeting Systemwide research opportunities, and take advantage of Maryland's research expertise and location to pursue high profile research opportunities.

        o Use the size and variety of institutions in the USM and their relatively close proximity to help overcome individual campus or departmental limitations and collaboratively build up areas of research strength.

- Creatively engage in new strategies to partner with business and industry in support of basic and applied research.
- Develop and support mechanisms (up to and including workload policies as appropriate) that promote the expansion and enhancement of basic and applied research opportunities – including undergraduate research -- at all USM institutions, comprehensives as well as research intensive.

2.c.2. Increase support for the recruitment, support, and retention of USM faculty working in basic and applied areas of research deemed critical to the state's economy.

2.c.3. Increase the quality and amount of research space available to USM institutions.

2.c.4. Leverage and grow existing R&D relationships with federal partners such as the FDA, NASA, NIST, and the NSA by identifying emerging commercial market opportunities and strategic industry collaborations/partnerships.

2.d. Optimize the utilization of capital facilities recently completed or nearing completion.

2.e. Establish the USM as a user-friendly "front door" for industry by serving as a starting point for initiating R&D collaborations between Maryland industry and USM institutions, eliminating barriers to faculty entrepreneurship and commercialization opportunities, and expanding technology transfer and research commercialization support.

2.e.1. Continue to work with the BOR and campus leadership, including the System Research Administrators Group, to identify, reform and/or eliminate impediments to technology transfer and commercialization, including overly restrictive conflict of interest policies, issues associated with indirect cost recovery, revenue distribution policies, and issues associated with inter-agency regulatory jurisdiction.

2.e.2. Seek out and pursue at the Systemwide level (or encourage the institutional development of) new opportunities that can streamline or improve services for all USM institutions (such as the development and dissemination of umbrella agreements, intellectual policy waiver policies, and service-related research opportunities).

2.e.3. Continue Board efforts to ensure that innovation and entrepreneurship are a part of the culture of each institution, in line with its respective mission, and that the commercialization of research is formally recognized in the faculty and staff reward structure of each institution.

2.e.4. Use top performing institutions or systems of institutions as national models for identifying best practices.

2.e.5. Identify and grow industry collaboration activity/partnerships in areas where USM related R&D and/or government relationships present strategic commercial market opportunities -- such as the National Cybersecurity Center of Excellence with MITRE Corporation, or via

the National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL), with companies like Emergent BioSolutions, Medimmune, etc.

2.f. Continue to identify, support, and advocate for strategies and opportunities at the state and national level that help build Maryland's economic development infrastructure and success.

    2.f.1. Support the development and operation of the newly-created Center for Maryland Advanced Ventures (CMAV) in Baltimore, the University of Maryland Center for Economic and Entrepreneurship Development (UMCEED) in College Park, and the further development of the wide-ranging slate of programs and activities being developed through the University of Maryland: MPowering the State initiative.

    2.f.2. Help USM institutions address technology transfer infrastructure and commercialization needs throughout the System, including through the collaborative sharing of resources and personnel.

2.g. In support of the state's health care and workforce needs, explicitly recognize and address the opportunities and challenges facing the state's only public academic health center (AHC) at UMB by continuing to support policies and procedures for personnel, budget development and review, and performance accountability that are responsive to the special circumstances of the center.

Theme 3: Academic Innovation -- Leading and Responding to Maryland's Changing Academic Needs and Opportunities

Rationale for Theme 3

In 2016, the median age for all USM students—graduate as well as undergraduate—was just twenty four, while 25% of all USM faculty were under age 40. This means that half of all students attending a USM institution have never lived in a world that did not have the World Wide Web, webcams, and live streaming (all launched in 1993), while a quarter of all USM faculty have never taught in an environment that was not influenced by the development of hypertext transfer protocols (HTTP), WiFi, free Web-based email, Google, or social media such as Facebook (all launched in 1997).

The rationale behind Theme 3 of the strategic plan is straightforward: the technological, financial, and demographic forces affecting higher education in this country are making the academic model we have operated under for much of the past century increasingly unsustainable. Advances in technology are making cutting-edge changes to pedagogical practices possible and fundamentally altering our expectations of teaching and learning in terms of access and achievement. At the same time, the financial model we have employed to develop and support our institutions is becoming increasingly unsustainable -- not just for the students and families who must pay tuition, but in the case of public universities, for taxpayers as well. In the years to come, if the USM and its institutions

are to be most effective in carrying out our core mission of teaching, research, and service—and meet the Board's commitment to quality in all our endeavors—we must be willing to invest in and continuously seek ways to get ahead of the disruption affecting higher education, whether that is in the classroom, lab, or our administrative and support offices.

The great advantage that the USM has under Theme 3 is that for more than a decade the System and its institutions have successfully engaged in activity specifically designed to get ahead of the disruption curve – and indeed, help lead in establishing the way forward -- at both the institution-specific and system-wide level. From our initial course redesign initiatives (the first such system-based effort in the country), to the recent launch of our groundbreaking partnership with edX (which gives USM institutions access not only to the tools and platform used by edX in developing MOOCs but the learning outcomes and cost efficiencies data and lessons that can be gleaned from such efforts as well), the USM and its institutions have sought ways to design, implement and validate new approaches to increasing access, affordability, and achievement for the students we serve.

Focus of the 2010 Plan and Progress to Date
In the current strategic plan, the USM sought to build on its prior success in academic innovation by focusing on two major goals: 1) ramping up progress under the System's nationally-recognized Course Redesign Initiatives by tripling the number of gateway courses reconceived under the effort (going from just 10 completed to over 40), and 2) beginning the process of institutionalizing change within the USM's operating culture by establishing a Systemwide infrastructure that would allow the USM to identify and support new or promising, early stage innovation projects and initiatives. By 2016, the USM had addressed not just these goals but many more, including:
- Redesigning and implementing over 45 additional courses through the Course Redesign Initiative (surpassing the 2020 goal by 50 percent).
- Creating the Kirwan Center for Academic Innovation to lead the USM's system-level academic innovation initiatives aimed at increasing access, affordability, and achievement, which in turn has helped secure more than $5.7 million in federal, state, and private funding to support transformation initiatives,
- Through the Kirwan Center, establishing a System-wide network of academic change leaders designed to provide a framework for ongoing identification and support of transformation initiatives and strategies.
- Launching the Maryland Open Source Textbook (MOST) initiative in partnership with the USM Student Council, saving over 3,500 USM students more than $1 million in textbook costs to date, and
- Partnering with edX, a Harvard and MIT-created leader in the development of massive open online courses (MOOCs), to launch USMx, the System's own unique effort to leverage the world class instructional technology and data analytics platform of edX with the online learning and academic expertise found at UMUC and other USM campuses in order expand the System's MOOC footprint. Importantly, USMx will allow the System to use data gleaned from the courses to imp**rove** learning outcomes throughout its programs.

Revised Goals Under Theme 3 through 2020:
The USM's accomplishments to date under Theme 3 have positioned it well to continue addressing challenges—and opportunities—in academic innovation as they emerge for the remainder of this decade and beyond. For the remaining three years of the 2020 plan's term, the USM will seek to:

1. *Go beyond the USM's historic use of student-success analytics to engage in more advanced learning analytics in order to improve student learning outcomes*. A key challenge that faces the USM's analytics effort over the remainder of this decade, and into the next, is advancing to the "next level" in the use of learning analytics. Specifically, we must expand the way we have traditionally used analytics – which primarily has been to identify and eliminate roadblocks to student success as defined relatively by course and degree completion -- and incorporate a greater focus on student learning outcomes and cognition. This includes engaging in research designed to identify the impact of specific pedagogical models or interventions on student learning and performance.

2. *Find new and more impactful ways to use technology to improve access and affordability.* The Maryland Open Source Textbook (MOST) Initiative, launched in 2013, has been a show case for how USM institutions, working with students, faculty, and administrators, can creatively find new ways to use technology and policy to improve the cost and quality of education for our students. To date, MOST has saved USM students more than $1 million in textbook costs. The challenge for the USM in the near term is to take the lessons learned under MOST to identify similar mechanisms or strategies by which we can reduce the cost of the education for our students, and improve the overall affordability of USM institutions.

   As a first step in this process, the Maryland General Assembly passed Textbook Cost Savings Act of 2017, which charges the Kirwan Center with scaling the adoption of freely available open educational resources to replace costly textbooks. As part of this effort, the Kirwan Center recently created a mini-grant program that is providing 21 faculty at 12 institutions in Maryland (seven community colleges and five public four-year institutions) with grants to help them "adopt, adapt, and scale up" the use of open educational resources throughout the state, for an estimated potential savings of $1.3 million in text book costs in fall 2017 alone.

3. *Expand the array of flexible learning opportunities available to Maryland students through USMx and other alternative learning models.* Through its partnership with USMx, UMUC has begun developing a slate of online non-credit micro-master's programs that, for a fraction of the cost of regular tuition, can help accelerate the pathway to an advanced degree and save students thousands of dollars in tuition and fees. Through 2020, the USM will expand on the current slate of educational programs offered worldwide under the USMx initiative. At

the same time, institutions in the U.S. are increasingly experimenting with new learning models that provide more flexible pathways for students to get credit for what they know coming into a program, allow students to build on that knowledge at their own pace, and earn high quality degrees, certificates, and other credentials at the end of the program that help them advance in their lives and careers. Through 2020, the Kirwan Center will work with UMUC and other leaders in the competency-based learning (CBL) movement to explore alternatives for adapting and incorporating more CBL opportunities into the System's array of programs.

4. *Explore models for alternative credentialing that better communicate to potential employers and the public what our USM graduates know and are able to do when the leave our institutions.* Public colleges and universities increasingly are being challenged to justify the value of their degrees and credentials, and to produce evidence of return on investment. As another component of its broad academic innovation platform, the USM's Kirwan Center is addressing a critical issue: employers not convinced college graduates are arriving at the workplace with the career-ready skills needed to succeed. Since summer 2015, USM institutions have been working together to design, develop, and explore the feasibility of digital badging. The USM Digital Badging Initiative consists of six badges focused on career readiness competencies that align with those developed by the National Association of Colleges and Employers: critical thinking problem solving, communication, collaboration, leadership, and professionalism. In 2016-2017, six USM institutions are piloting the badges with small, targeted groups of students. Each institution has developed one or more pathways by which students can earn a badge. Students who earn a badge will be able to claim them publicly using an online platform for recognizing, storing, and sharing digital badges and associated artifacts.

Key Strategies Under Theme 3 for the Remainder of the 2020 Plan's Term:
Strategies, either new or continuing, that the USM will engage in under Theme 3 through the remainder of the decade include:

3.1. Build and enhance the learning analytics capacity of USM institutions in order to support the ability of the leadership at those institutions to use data to improve decision making and positively impact teaching and learning.

3.2. Continue to build on the System's broad portfolio of academic innovation initiatives and projects by seeking out and identifying barriers to substantive change and facilitating efforts to overcome them.

3.3. Leverage the leadership and expertise available through the Kirwan Center, and the network of institutional academic change leaders it has developed, to identify, organize, and evaluate research into new and innovative academic change initiatives that can be implemented across the System, including those focused on learner analytics, open educational resources, badging, and competency based education.

Theme 4. Equity, Diversity, Inclusion, and Civic Engagement: Building a System-Wide Culture that Values and Celebrates All Maryland Residents.

> We value diversity, and are dedicated to creating an environment that both celebrates and is enriched by the multiple perspectives, cultures, and traditions reflected in humankind.
>> From the Core Values Statement of the USM, approved by the Board of Regents on February 13, 2004.

> [I]ntolerance and injustice targeting the most vulnerable among us - people of color, the LGBT community, women, and religious and ethnic minorities - remains one of America's great unmet challenges. As a community of scholars and learners, we must confront, condemn and denounce both isolated acts of bigotry and the systemic, institutional racism that continues to limit our nation's potential.
>> From Chancellor Caret's Statement on Diversity and Inclusion, August 30, 2017

Rationale for Theme 4
Few issues resonate as broadly and deeply among Americans — and have as great an emotional impact — as those tied to equity, diversity, inclusion, and social justice. From the tragedies of Ferguson, Charleston, and Orlando to the civil unrest that has roiled campuses in Missouri, California, Texas, Virginia, and here in Maryland, we are reminded almost daily of the critical importance of practicing tolerance, understanding, inclusion, and civility in all our activities and interactions. As Maryland's public higher education system, and a national leader among public university systems, the USM is committed to promoting diversity, equity, and inclusion in all System policies and endeavors, and instilling in our graduates a strong appreciation for civic engagement and service to others. The actions we take in support of these values will have a deep and long-lasting impact not just on the lives and careers of our current students, faculty, and employees but on the generations of Marylanders who come after, as we seek to create the next generation of informed, engaged citizens for our democracy.

With 12 institutions, two regional centers, 172,000 students, 39,000 faculty and staff, and almost 1,000,000 active alumni, the USM is one of the nation's largest public university systems *and* one of the most diverse. Our mix of institutions and institutional missions, our location close by the nation's capital and among one of the world's great research complexes, and the deep support we receive from our state's leadership in Annapolis, means that our ability to attract faculty, staff and students of different backgrounds and talents from countries, states and localities throughout the world is great. This ability to bring together a diverse set of people and perspectives, who have tolerance and respect for the views of others, into a system of institutions that has a wide range of missions and programs is both a unique strength of the USM, and an advantage for building and sustaining the competitiveness of our state.

As a leading higher education system, the University System of Maryland must strive to serve as a model of inclusion, fairness, and civility in all our operations. We must demonstrate that differences, whether they exist between people or institutions, need not be a barrier to collaboration but rather an opportunity to learn from one another, grow stronger, and bring together our unique talents and perspectives in order to solve difficult problems. It is only by taking full advantage of the diversity of knowledge and talent residing within our institutions, their faculty, staff, and students that we will be able to fully respond to the opportunities and challenges that face us. In the end, the USM will not be completely successful – and more importantly cannot fully address the needs of Maryland and its citizens – if we do not.

Progress Made on Equity, Diversity, Inclusion, and Civic Engagement Since 2010
In addressing issues of equity, diversity, inclusion, and civic engagement, Maryland and its public university system have the advantage of building from a position of strength. With almost 49% of all Maryland's residents identifying as Minority, the state is one of the most diverse in the nation. Only Hawaii, California, New Mexico, Texas, and Nevada have a greater percentage of Minority residents among their overall populations, and by 2025, Maryland will join these five as the nation's only majority Minority states. In addition to being highly diverse, however, Maryland's population, irrespective of race or national origin, is also among the most highly educated. The percentage of the state's African American population holding a graduate or professional degree ranks third among all states, while the percentage of African American Marylanders with at least a bachelor's ranks seventh. Similar percentages and rankings are true for Maryland's rapidly growing Asian and Hispanic populations as well, with the state ranking 1st and 7th among Asian and Hispanic residents holding graduate/professional degrees, respectively, and 6th and 9th among bachelor's degree recipients. When combined with attainment levels achieved by its White residents, the level of degree attainment achieved by all Maryland's different population groups propels the state to among the nation's top five in the percentage of residents holding at least a bachelor's degree (specifically, 4th in 2015) and 3rd in the percentage of residents with advanced degrees.

The strength of Maryland's commitment to diversity and inclusiveness has not been focused solely around issues of race or national origin, however. More recently the state also has emerged as a national leader on issues affecting lesbian, gay, bisexual and transgender (LGBT) citizens, as well as the expansion of education opportunities for undocumented residents. As early as 2001, Maryland voted to put in place statewide protections against discrimination based on sexual orientation (recently expanded to include gender identity) before becoming, in 2012, one of the first states to approve legislation legalizing same-sex marriage. That same year Maryland also took up the emerging issue of equity for undocumented college students, becoming one of the first states to allow undocumented students to qualify for the in-state tuition discount at all public two-year and four-year institutions in the state, if the students met certain conditions.

In 2017, the USM hosted a statewide symposium on civic engagement, civic education, and civic responsibility built around the theme that civic education is a mission critical

responsibility for P-20 education. That symposium, keynoted by Senator Barbara Mikulski, launched a Systemwide focus on the critical thinking and civic skill sets students need to participate fully in our democracy.

As Maryland's public university system, the USM plays a critical role in the state's efforts to attract, build, and support its diverse and highly-educated population, including taking a leadership role on issues tied to social justice and free speech. Though more can and must be done to advance equity, diversity and inclusion throughout the System, and the State, the USM and its institutions have been able to accomplish much since the current plan was implemented in 2010. Examples of progress include:

1. The USM's student population – mirroring the changing demographics in Maryland as a whole – has become significantly more diverse. Between FY 10 and FY 17, the percentage of USM students who identify as Minority, including those identifying as multiple race, increased by 41%. In comparison, the increase in the USM's White student population was just 3%. The biggest driver in this disproportionate growth, and the one whose impact will continue to expand over the coming decade, was the growth of the USM's Hispanic student population, which jumped from less than 6,000 students total in FY 10 to just under 14,000 in FY 17, an increase of 131%. The overall effect of the growing number of Minority students attending USM institutions has been that USM's student population now approximates that for the state as a whole, with between 48% and 51% of all USM students identifying as Minority or multiple race (depending on how unknown and foreign students are counted), compared to Maryland's most recent statewide demographic projection of 49% Minority and 51% White.

   Similarly, when the focus is narrowed to include only those Minority groups that have been underrepresented in higher education historically -- African American, Hispanic, Native American, and Native Hawaiian/Pacific Islander – the growing alignment between Maryland's demographics and those of the USM is seen as well. In FY 16, students from underrepresented Minority (URM) groups accounted for 42% of the USM's total student population (up 6 points since 2010). That slightly exceeded the 40% share URM groups represented in Maryland's population overall.

2. Barriers to academic success that help to create and sustain disparities in degree attainment for many students have been identified and are actively being addressed. Recognizing that providing expanded access to higher education is meaningless if we do not also provide students with the financial aid, academic advising and other types of support services necessary to help them succeed, the USM and its institutions have worked to eliminate barriers to academic success encountered by our students, particularly those from at-risk and/or historically underrepresented Minority groups. One of the results of that effort has been that the 25 point achievement gap that existed between the graduation rates for USM African American students and all students in 2010 has been cut by seven points, while the gap between low income students and all students has been cut by a

quarter, from 16 points to 12 points (there is no existing gap for Asian or Hispanic students).

3. Finally, to help ensure that the USM is appropriately representative of those we educate and serve, the System and its institutions have worked diligently to enhance diversity among the ranks of our workforce, particularly our faculty. Through greater attention to the issues that impact Minority faculty recruitment, retention, and promotion – particularly faculty from underrepresented Minority groups – the USM institutions have seen the share of faculty positions held by underrepresented Minorities climb by almost four percentage points (3.6%) since 2010, and the share of faculty positions held by Minority faculty members overall climb by just over five percentage points (5.3%). Much of this growth has been driven by increases in the number of African American faculty (up by 569 hires or +41%), Asian faculty (up by 457 hires or +39%), and Hispanic faculty (up 180 hires or +63%) now teaching at USM institutions. Combined, these three groups accounted for well over half (58%) of the total growth in faculty recorded by the USM institutions between 2010 and 2016, with Minority faculty from underrepresented groups accounting for 40% of the total growth.

Challenges Going Forward Under Theme 4:
Despite the progress made to date, the USM and Maryland face challenges around equity, diversity and inclusion that are not just evolving but, given the levels of polarization and acrimony that are besetting campuses and communities throughout the nation, are growing stronger. Over the near term, these will test our ability as citizens of Maryland and educators to live up to the ideals and values we espouse. They include:

1. Continuing to address statewide disparities in degree attainment, overall and in key fields, which impact economic opportunity and upward mobility. Although Maryland outperforms most states in degree attainment, both among its overall population and it various subgroup populations, wide gaps in degree achievement remain. The likelihood that a Maryland resident who is African American will have completed a bachelor's degree by age 25 is only about two-thirds that for a White Maryland resident and less than half that for Asian Marylanders. For Hispanics, who make up the state's third largest and fastest growing minority population, the likelihood is even lower, at approximately half that of White Maryland residents and only two-thirds that for Asian Maryland residents. Complicating the challenge is the unevenness of degree attainment across Maryland's geographic regions, with suburban counties like Montgomery and Howard having 57% and 60% of their working age populations holding at least a bachelor's degree, while more rural counties like Caroline and Somerset have completion rates of 15% or less, regardless of the racial composition of the population group.

In addition to race-based disparities in degree attainment overall, the state must also face the challenge of disparities in attainment within in certain fields, such as STEM, that are critical to the success of Maryland's innovation economy. Data compiled for the USM by the Jacob France Center in 2017 show that women made up less than 25% of all STEM

graduates produced by USM institutions in 2015 (despite accounting for 56% of all USM students), while Black and Hispanic STEM graduates were outnumbered by White graduates by ratios of 2:1 and 3:1, respectively. Given the demographic changes sweeping Maryland, the state will find it difficult to continue to produce STEM graduates in numbers sufficient to fuel its expanding "knowledge economy" if the issues underlying these race and gender inequities are not addressed.

2. Building and sustaining a more diverse and representative faculty. The USM's ongoing effort to attract, retain and promote a more diverse workforce, particularly its instructional faculty, faces many of the same challenges encountered by most higher education institutions in the U.S., where in 2015 Minority or multiple race faculty made up less than a quarter (23%) of all instructional faculty (leaving out non-resident alien and unknown). Although at 30% Minority or multiple race, the USM's faculty is more diverse than the average for U.S. colleges and universities as a whole, the overall percentage of Minority members among USM faculty still lags behind the percentage of Minority among Maryland's population by almost 16 points. More importantly, faculty from Minority groups historically underrepresented in American higher education (i.e., African American, Hispanic, Native American, and Native Hawaiian/Pacific Islander faculty) accounted for just 18% of all USM instructional faculty in 2015, a gap of 22 points between their representation in the faculty and their representation within the state's population as a whole. In a state dependent on its highly educated population for its competitive advantage and which is soon to become majority minority, reducing this gap between the state's instructional workforce and its emerging economic workforce is critical.

With that said, we must acknowledge that the market for talented faculty with diverse backgrounds and viewpoints (whether defined as race, socio-economic status, sexual orientation, gender/gender identity, or all of the above) is highly competitive. As a result, recruiting and retaining talented faculty members from Minority populations – particularly those from groups underrepresented in higher education -- represents one of the most long term and consistent challenges faced by our institutions. While the faculty recruitment/retention needs and circumstances faced by each USM institution are unique, it is imperative that the USM and its institutions continue to seek out new and creative ways to identify, recruit, retain, and promote more faculty from underrepresented backgrounds. This requires all USM institutions working together to expand the pipeline of faculty from underrepresented populations or non-majority backgrounds/identifications while at the same time addressing the unique service expectations, research conformity expectations, and other types of barriers to tenure and promotion such faculty frequently face.

3. Working to overcome local and national issues and concerns tied to race, justice, equity, safety, and free speech that are dividing our nation and its higher education institutions while building campuses that "celebrate and are enriched by the multiple perspectives, cultures, and traditions reflected in humankind." Our nation and its institutions are facing—and will continue to face—one of the most socially and politically polarized environments since the 1960s. Given the lead role that America's

colleges and universities historically have played in not just advocating for, but helping advance, positive social change, it is not surprising that the tragic events that have occurred in cities and on college campuses ranging from Ferguson to Charlottesville have shaken our campuses and forced us to take a new look at the values central to us.

As a community of educators and scholars, the USM and its campuses must proactively work to underscore and demonstrate the fundamental values we hold to be true:

- An unassailable commitment to free speech and inquiry;
- A belief in the inherent value and worth of all members of our community;
- The absolute rejection of intolerance, bigotry and hate in whatever form they take;
- The wholesale embrace of equity and inclusion, fairness and justice as the basis for our actions towards others; and
- A willingness to live out and model the values we espouse in both our individual actions and those of our institutions.

At the same time, we recognize that these values all rest on the bedrock of security. Research, teaching and learning can only flourish in an atmosphere free from fear. Our campuses serve as homes to tens of thousands of students, as centers of learning and scholarship to thousands more, and as workplaces for faculty and staff. We can never tolerate violence, or the threat of violence, on any of our campuses. The safety of all USM students, faculty and staff is paramount above all other considerations; it cannot and will not be abridged.

In the end, our collective success will depend on each of us - students and faculty, staff and administrators - doing our individual parts to advance justice, equality and fairness for all.

Goals and Strategies Under Theme 4 for the Remainder of the 2020 Plan Term:
The USM will continue its efforts to enhance student, faculty, and staff diversity -- particularly for Maryland populations that traditionally have been underrepresented in the State's higher education system -- and to ensure that all are more fully included, regardless of ability, background, gender, gender identify, race or ethnicity, creed, perspective, or national origin. Specific USM goals under this effort include the following:

1. Through 2020 the System and its institutions will work to increase degree attainment among underrepresented Minority groups in Maryland (defined as African American, Hispanic, Native American, and Native Hawaiian/Pacific Islander) by expanding the number of bachelor's degrees awarded annually by USM institutions to individuals within these groups by over 900 degrees (over the FY 16 total).

2. Through 2020, the USM will expand the number of bachelor's degrees awarded annually to underrepresented Minority students in STEM and Healthcare fields, fields critical to the success of the state's economy, to at least 1,800 degrees in

STEM (equating to a 14% increase over 2016 levels) and at least 1,000 degrees in Healthcare (a 50% increase over FY 16 levels).

3. Through 2020, the USM, will demonstrate the high value it places on diversity and inclusion by continuing to expand the diversity of its students, staff, and faculty as follows:
    a. The percentage of USM students who come from underrepresented Minority groups will expand beyond the current level of 42%, reported in FY 16.*
    b. The percentage of USM faculty who come from underrepresented Minority groups will increase beyond the current level of 18%, reported in FY 16.*
    c. The percentage of USM staff, excluding faculty, who are from underrepresented Minority groups will increase beyond the current level of the 38%, reported in FY 16*

    (*Note: All underrepresented Minority group calculations include "Multiple Races Non-Hispanic" and exclude "Unknown" and "Foreign")

    Through 2020 the USM will continue its commitment to fostering and supporting safe, civil, and welcoming environments for our students, faculty, and staff at all USM campuses, and support those activities emerging from the Diversity Council or other campus-based groups that recognize and celebrate the rich diversity of our System in its people, institutions, and ideas.

4. Finally, the USM will work to help educate the next generation of citizens to build stronger, more engaged communities by increasing institutional participation and recognition in the American Democracy Project and the Carnegie Civic Engagement Classification.

Critical Strategies for Success Under Theme 4:
    4.1. Continue to expand outreach to underserved populations and areas of the state through the USM's regional centers, Minority-serving institutions, and focused System initiatives like B-Power and ACES.
    4.2. In recognition of the challenges faced by the System's Historically Black Institutions (HBIs) in carrying out their unique missions, increase support for our HBIs, particularly those serving Baltimore as well as other critical regions/populations of the state, and the development of more cross-institutional collaborations and partnerships, such as B-Power.
    4.3. Continue to increase need-based financial aid, in line with the System's overall financial aid policies.
    4.4. Further develop/advocate for cost effective ways to reduce students' cost of education and out of pocket expenses (e.g., 2+2 programs and initiatives like MOST) and promote greater student success (e.g., through peer mentors/coaches, enhanced advising, greater deployment of the Student Success Matrix, etc.).

4. 5.Work with campuses to identify, develop, and support more effective mechanisms to identify, recruit, hire, retain, and promote underrepresented Minority faculty.

4.6. Through the USM Inclusion and Diversity Council, develop and disseminate proactive measures to communicate to students, faculty, staff, and our larger external communities the value of diversity and inclusion, and to monitor campus climates in support of the USM's broader equity, diversity and inclusion commitments.

4.7. Involve every constituency within USM's shared governance matrix in an open dialogue around race, equity and diversity, bringing together administration, faculty, staff, and students in inclusive, collaborative, proactive, and constructive processes for the common good.

4.8. Building off the needs and strategies identified by the Board's 2016-2017 Diversity and Inclusion Workgroup, continue Systemwide efforts to build a comprehensive framework to identify student priorities and concerns and address them, as appropriate, in consultation with the University System of Maryland Student Council.

4.9. Work with campus Human Resources Offices to develop proactive measures to ensure equal opportunity in education and employment.

4.10. Support campus-led efforts to educate students, faculty, staff and external communities about the value of diversity and its importance to the attainment of excellence, including promoting learning opportunities to expand diversity awareness and understanding.

4.11. Increase the number of USM institutions participating in the American Democracy Project, a national network of more than 250 state colleges and universities focused on public higher education's role in preparing the next generation of informed, engaged citizens for our democracy.

4.12. Increase the number of USM institutions recognized under the Carnegie Foundation's Community Engagement Classification.

Theme 5: Stewardship -- Maximizing the USM's Resources and Expertise for the Benefit of Our Students and Our State

Rationale for Theme 5
The focus of the fifth theme of the USM strategic plan is specifically on stewardship. As Maryland's public system of higher education, and a national leader in the movement to improve the effective and efficiency of higher education institutions and systems, the USM has a responsibility to instill and maintain the highest possible standards of management and accountability for the resources entrusted to it. This responsibility extends not just to the capital and operating investment the state makes in the System, but also the support provided by alumni and other stakeholders and the environmental and cultural resources entrusted to our protection and preservation. How the USM can promote the most effective and efficient use of these resources and leverage their use for the greatest benefit to our students, their families, and our state is the overarching goal of this theme.

The 2010 USM strategic plan divided the theme of stewardship into three areas of emphasis: effectiveness and efficiency (E&E), sustainability, and philanthropy. Under E&E, the USM committed to developing and implementing the next generation of its nationally recognized Effectiveness and Efficiency Initiative. Under sustainability, the USM committed to helping Maryland come to terms with the impact of climate change and begin to ameliorate or address environmental impacts resulting from it. Finally, under philanthropy the USM committed to building a vibrant culture of philanthropy across the USM institutions in close partnership with their affiliated foundations.

Progress Achieved Under Theme 5 Since 2010
The progress achieved on the goals and strategies included under Theme 5 of the 2010 strategic plan has been significant. The System and its institutions have worked collaboratively to identify and launch an advanced set of targeted strategies as part of a second generation Effective and Efficiency Initiative, known as E&E 2.0. The scope of these initiatives has ranged from developing shared academic programs and services, to streamlining procurement and Board of Public Works (BPW) approval processes, to the expanded use of institutional consortia to leverage the System's buying power over information technology products and services. As of the most recent year (FY 16), the USM has documented almost $270 million in savings achieved through E&E since the current strategic plan was launched in 2010, and over $900 million in E&E savings over the 14-year life of the initiative. In addition, the USM also has worked with the state leadership in Maryland to pursue broader authority and administrative flexibility under its role as a public corporation, including investment flexibility for its endowment and fund balance.

In the area of environmental sustainability, the USM has provided leadership both within Maryland and nationally on ways to successfully reduce and/or ameliorate greenhouse gases. In response to the State's Greenhouse Gas Reduction Act, the USM has led all state agencies in eliminating CO_2 emissions, with over 100,000 metric tons eliminated since 2010 (and more than 176,000 metric tons eliminated since the initiative began in 2007). Nationally, the USM was one of the first large university systems to have all of its campuses commit to the American College and University Presidents Climate Commitment, and all USM campuses have move steadily to implement the Climate Action Plans developed as a result.

Finally, with respect to philanthropy and fundraising, since the 2010 strategic plan was adopted by the Board, the USM has not only completed a $1.7 billion federated capital campaign (raising over $2 billion, the largest amount in its history), but has worked with institutions and their affiliated foundations to further build and strengthen the USM's overall fundraising capacity. The result has been that over the past five years USM and its institutions combined have raised, on average, over $290 million annually in private funds.

Challenges and Strategies for the Remaining Period of the 2020 Plan:
While the USM's success under Theme 5 of the strategic plan has been significant, the System and its institutions cannot rest on their laurels. Advances in the availability of

data and use of new forms of data analysis to inform and enhance operational decision-making, the continued impact of climate change on our facilities, infrastructure, and natural resources, and the need to continually stay at least one step ahead of our competitors in the race to attract private funding mean continued challenges for the USM and its institutions over the remaining years of the decade and into the next. Some of the key challenges the USM expects to face through 2020 under Theme 5, and the strategies it will take to address them, include—

1. *Effectiveness and Efficiency – The need to incorporate the power of "big data" and data analytics to improve operation decisions.* Now entering its 15th year, the USM's E&E Initiative continues to be one of the System's most recognized and innovative initiatives. Since creating E&E in 2003, the USM has been able to generate almost a billion dollars in savings and/or cost avoidance, as well as add enrollment, shorten the average time to degree for students, and tighten faculty workload requirements. The Board also has instituted a strong dashboard accountability process that is tied to the strategic plan to aid in monitoring progress under it as well as other Regent and System priorities.

   As with most long-term initiatives, however, a primary challenge in going forward for E&E is how to maintain the sense of urgency in identifying new innovations that can have a meaningful impact. For the 2017-2020 period, in addition to continuing to press forward on the work achieved over the past two years under E&E 2.0 – such as streamlining procurement processes – the USM will focus extensively on exploiting opportunities to expand shared services, as well as using its enhanced data analytics capacity to improve the effectiveness and efficiency of business operations and decisions. As an example of such a strategy, USM is moving quickly to develop and implement, on both an institutional and multi-institutional basis, a data-driven Activity Based Costing (ABC) decision framework. In its most basic form, ABC is a method of identifying the activities carried out by an organization, along with the resources those activities consume, and then assigning those "fully burdened" costs to each activity based on the level of resources consumed. The System's ultimate goal is this effort is to ensure that it and the institutions using ABC have the data and information needed to make fully-informed decisions about business processes and costs, and, then, to make sure those decisions align with the priorities established.

   E&E 2.0 Goals through the end of 2020 planning period include the following:

   1. The USM will continue its drive to fully develop and mature ongoing E&E 2.0 initiatives, including the increased use of shared services where appropriate and the streamlining of procurement processes.

   2. The USM and its institutions will leverage the use of data and data analytics to improve business and academic operations throughout the system, including the development and implementation of data-driven decision frameworks.

2. *Sustainability – The need to maintain the USM's exemplary progress on sustainability issues, strengthening its role as a state and national leader in climate-related mitigation and adaptation.* Environmental stewardship continues to be an area of critical importance to the Board of Regents, the System institutions, and our state-level leadership. A changing climate, and the global competition to develop new, clean, sustainable technologies and practices in response to climate change, will continue to have a long-term impact on both the operations of our institutions and the long-term workforce development and R&D needs of Maryland and its economy. The role the University System can play in preparing Maryland and its citizens for the physical impacts of a changing climate, as well as the associated economic changes and opportunities that may occur as a result, is great. They include education, research, outreach, and best practice modeling. No entity in our state is in a better position to provide leadership on the complex issues associated with climate change and sustainability than the USM.

   Because of the work campuses already have done on sustainability—and the close coordination/integration of these efforts with the state's larger energy reduction and sustainability efforts—the System and its institutions are well positioned to further strengthen their leadership role in climate-related mitigation and adaptation. USM strategies over the next three to five years will focus on the following:

   1. Continue to develop new or enhanced strategies to promote greenhouse gas reduction and their impact.

   2. Further promote environmentally-conscious business practices that can be used as models by other state agencies or businesses.

   3. Give greater emphasis to climate change-related adaptation in the USM's sustainability-related planning and activities, including energy use reduction, hazard mitigation planning, and water management.

3. *Philanthropy – Maintaining the USM's fundraising momentum through the next campaign by continuing to build and support a "culture of philanthropy" across all USM institutions and their affiliated foundations.* Finally, the importance of using private, philanthropic support to aid public institutions of higher education in their education, research and service missions cannot be overstated. In an era of limited state and federal budgets, private funds can mean the difference between a good university/university system and a great one.

   The USM's advancement offices are committed to the careful, responsible, and accountable stewardship of resources, particularly with regard to the use of private funds, in support of the plan's strategic goals. As such, the System's key

objectives under Theme 5 relate to building a vibrant culture of philanthropy across the USM institutions and in partnership with its affiliated foundations.

Since adoption of the 2010 strategic plan the USM has sought to build this culture of philanthropy by providing advancement offices across the System with the staff, resources, and support needed to develop and maintain strong and productive advancement programs. With the close of the federated capital campaign, the System has continued to focus on this overriding goal as it lays the groundwork for the launch of the next campaign. In support of this effort, for the remainder of the current strategic plan period the USM will focus on the following goals:

1. Continue to work closely with USM campuses through 2020 to expand their fundraising capacity, as measured by the total amount of private funds raised annually by all USM institutions combined (currently averaging $290M over the most recent five years).

2. Create opportunities for institutional leaders at the senior leadership levels (i.e., presidents, provosts, deans, and other senior administrators) to expand their knowledge of philanthropy and the role they play in its success.

3. Work with institutions to engage with alumni and expand or enhance their donor pipelines.

4. Launch, or prepare to launch, ambitious comprehensive campaigns across USM campuses, with a focus on building endowment to ensure sustained support for students, faculty, and programs.

Specific strategies the USM and its institutions will engage in in support of these goals include the following:

- Continue to work closely with campuses to increase staffing – both front line and support – that will enable their advancement offices to achieve and sustain their full potential.
- Examine funding mechanisms beyond state support that will provide the flexibility and stability to foster consistent growth.
- Further refine and implement, as appropriate, benchmarks and accountability measures for fundraising activities that demonstrate return on investment and ongoing improvements to development operations.
- Ensure that professional development opportunities and best practices are shared across all USM institutions and that campus officers -- from entry-level advancement staff to deans and presidents -- have the opportunity to learn participate and learn from those opportunities/practices.
- Continue to provide leadership through a pooled asset portfolio managed by the USM Foundation with an objective of generating returns so that

distributions can be made, and capital can be preserved, adjusted for inflation.

- And finally, support planning for the USM's next federated capital campaign, which will focus on building long-term endowment resources for all USM institutions.

Theme 6: Leveraging the Power of the System to Advance the Higher Education Goals of Maryland and Achieve and Sustain National Eminence for the USM and its Institutions

Rationale for Theme 6

The true power of a university system lies in its ability to harness the talents and resources at individual institutions -- including their people and facilities – to create an organization whose sum is greater than any individual part, and whose value to its stakeholders and ability to have a long-term positive impact is multiplied as a result. That is the idea behind, and the value embraced within, the concept of "systemness."

The 1988 Maryland Higher Education Charter for the State of Maryland established the following: "The goal of the University System of Maryland is to achieve and sustain national eminence with each component fulfilling a distinct and complementary mission." The fact that this is the first and *only* goal expressly given to the University System in the Charter reflects the importance placed on it by the citizens of Maryland and the stakeholders of the University System of Maryland. To meet this mandate—and provide Marylanders with the quality of higher education that they demand and deserve—the USM traditionally has focused, under Theme 6, on two of the most critical aspects of the academic enterprise: people and facilities. Great institutions of higher education are built and sustained by attracting, retaining, and developing the best faculty, staff, and students possible and then providing them with the quality of facilities and related services they need to effectively learn, teach, and carry out their work. That simple formula, easy to identify yet difficult to achieve and maintain, lies at the heart of any successful academic enterprise, whether it is a single college or university or a university system.

Yet, as one of the nation's great public systems of higher education, the USM also has a responsibility that extends beyond ensuring sufficient support for the individual elements within this model. In addition to working to ensure that all of our constituent institutions are able to build, attract, and retain high quality faculty, staff, students, programs, and facilities per the needs of their respective missions, a core goal of the USM under this theme also must be ensuring that the sum of the whole is greater than the individual parts--that the USM institutions are working together in the most effective and efficient way possible to leverage their resources to the full advantage of the State and the System. That is the way a nationally eminent university system is built and sustained.

Progress Since 2010 and the Challenges Facing the System Going Forward

Since the strategic plan was approved in 2010, the USM has had significant success in working toward the goals of Theme 6. This has included increasing average faculty salaries between 7 and 10 percent, working with the state to increase the System's flexibility to retain critical faculty and staff during budget downturns, implementing new Board policies tied to adjunct and graduate student compensation and work conditions, adding almost a quarter million square feet of space to the USM's research complex and 439,000 net assignable square feet to its academic space (classrooms, teaching labs, faculty/staff offices, etc.), and raising the visibility of its equity and diversity initiatives through creation of a Regent's Workgroup on Diversity and Inclusion and the revitalization of the USM's Inclusion and Diversity Council. As a result, USM institutions have continued to be recognized as among the nation's finest relative to their peers in national and international publications and ranking systems, the diversity of USM faculty and student has increased substantially, and the USM, as a system, has continued to rank among the top public university systems on key national measures, such as annual research expenditures.

Despite the progress made, however, the USM, like most higher education institutions and systems, will continue to face a number of trends over both the near- and long-term likely to challenge its ability to continue the momentum under Theme 6. These include:

- *Maryland's chronic structural budget deficit.* While Maryland's economy has continued to improve, the state's chronic budget deficit has hindered its ability to steadily invest significant additional operating budget resources in its public higher education system (beyond buy downs of tuition). This has occurred while a national trend toward shifting greater levels of responsibility for financing higher onto the backs of students and their families has allowed some competitor states to pull ahead in Maryland's measure of adequacy of support: the Funding Guideline. Looking across all states, while their spending on higher education has begun to bounce back from its recession-driven lows, total spending on public higher education nationwide is still well below its pre-recession level, with just five states spending more per student in general funds in 2016 than in 2008. The result, according to a 2017 report by the State Higher Education Executive Officers (SHEEO) group, has been a marked shift in the locus of support for higher education, with public institutions turning to tuition make up the difference.

  Maryland has bucked this national trend and made a priority of maintaining college affordability by using state resources to buy down tuition. However, because the state's recovery is hindered by workforce shortages in areas critical to its ability to achieve its full economic potential, Maryland simply has not been able to invest additional general funds in the USM at a level sufficient to outpace, or in some cases keep pace with, peer universities and university systems in other states, where tuition has been allowed to surge to make up for state cuts. The result is that the level of resources available to the USM to build and maintain quality, as measured against its peers through the Funding Guideline, has been level for several years, coming in at between 72%-74%.

Similarly, because Maryland's innovation economy is fueled by federal research and development (R&D) spending to a greater extent than most peer states, the continued federal slowdown in R&D spending, combined with continued budget uncertainty in D.C., is likely to prove a drag on growth in both the state's innovation economy and the USM's R&D performance – a key driver of the System's national and international reputation.

- *Demographic changes.* Though Maryland's changing demographics, which includes a growing high school population, will offer opportunities for struggling institutions seeking to expand enrollment, the demographic changes also will also challenge USM institutions to better serve students from populations that have been traditionally underrepresented in Maryland higher education. Minority public high school graduates will make up the entirety of the projected increase over the next seven years, with Hispanic graduates accounting for two-thirds of that growth. Given that many of these students will come from families and backgrounds that traditionally have had fewer resources and less opportunities to participate in higher education -- and continue to face disparities in educational attainment, employment, affordable housing, and family wealth accumulation -- this growing diversity will have significant implications for how USM institutions recruit, support, retain, and graduate these new student populations.

- *Advances in technology -- and the instructional and research delivery expectations that flow from those -- will continue to disrupt the academic model and impact our traditional education delivery, staffing, and financing models.* Finally, the instructional delivery, staffing, and support services models developed by traditional higher education institutions over the last century are continuing to face constant and growing pressure from disruptive technologies. These reflect an ongoing challenge that traditional higher education institutions, including the institutions in the USM, must be prepared to not only address but get ahead if they are to meet the educational mandate for excellence and eminence placed on us by the State.

Key Goals/Targets Under Theme 6:
1. Achieve and sustain national eminence by attracting, supporting, and retaining high quality students, faculty, and staff.

2. Build, support, and maintain world class teaching, research, and living/learning facilities.

3. Foster and promote "systemness" by seeking out and engaging in initiatives that leverage the combined strength of the USM and its institutions to create an organization whose total impact, and value to the state of Maryland, is greater than the sum of its individual parts.

4. Maintain the USM's international reputation as one of our nation's strongest public university systems with research and education programs that have not just a regional and national impact, but a global one.

Proposed Strategies Under Theme 6 for the Remainder of the 2020 Plan Term:

5.1. Attract, retain, and graduate Maryland's best and brightest students through the following:

For undergraduates students:

5.1.a. Continue to support a fair, effective, and affordable tuition system that contributes to and promotes student access, retention, and success, but which also provides to institutions the level of support necessary to achieve their institutional missions and contribute to the Systemwide mandate of national eminence.

5.1.b. Continue to monitor progress under the Board's policy on institution-based financial aid, and, as appropriate, advocate before the executive and legislative offices for increases in the amount of financial aid awarded on the basis of need.

5.1.c. Continue to identify, implement, and support effective campus-based programs that improve retention, graduation, and student satisfaction — including programs designed to reduce and eventually eliminate existing achievement gaps on USM campuses.

5.1.d. Continue to support and monitor the progress of campus-based programs, services, and facilities designed to enhance the quality of undergraduate learning experiences and strengthen student and alumni ties to our campuses by using strategies appropriate to the unique missions and student needs of the constituent USM institutions.

5.1.e. In collaboration with the members of the Maryland P-20 Council and other segments of higher education in the state, continue working collaboratively to develop well-articulated programs and services that expand the range of educational opportunities and programs to students throughout Maryland.

For graduate and first professional students:

5.1.f. Work with the campuses and their respective graduate/first professional programs and offices to enhance the quality of life, programs, and services offered on our campuses.

5.1.g. Work to provide an environment that supports the recruitment and retention of faculty and support staff who are essential to the quality and success of graduate/first professional programs.

5.1.h. Implement, as appropriate, the recommendations of the legislative and System work groups on graduate assistants, including:

5.1.h.1. Providing timely information to newly admitted graduate students on the length and terms of their appointment.

5.1.h.2. Establishing and abiding by due process procedures and policies for resolving grievance concerns.

5.1.h.3. Establishing and implementing appropriate professional development opportunities for graduate assistants and training for graduate supervisors.

5.1.h.4. Establishing graduate stipends at levels that are competitive with peer institutions, to the extent allowed by available fiscal resources, and including other benefits, as appropriate.

5.1.h.5. And finally, providing the opportunity to participate in shared governance.

5.2. Attract, retain, and support a high quality, diverse faculty through the following:

5.2.a. Develop, implement, and secure competitive salaries and benefits for System faculty, including a continued focus on achieving and maintaining the 85th percentile for mean faculty salaries at all ranks.

5.2.b. Continue to focus on the development and implementation of hiring and retention practices that lead to greater quality and diversity among faculty, including new initiatives coming out of the work of the USM Inclusion and Diversity Council and the ongoing Systemwide development program for program chairs, which focuses on successful faculty recruitment and retention strategies, among other issues.

5.2.c. Continue to support the use of best practices in faculty professional development, including effective faculty orientation and development programs, faculty mentoring programs, and programs designed to recognize the universities' most distinguished teachers and enable them to share their expertise with other faculty.

5.2.d. Include professional development funding and opportunities for all categories of faculty.

5.2.e. Finally, encourage and support faculty participation in shared governance and service.

5.3. Attract, develop, retain and support high quality staff through the following:

5.3.a. Continue efforts to develop, implement, and secure competitive salaries and benefits for System staff, along with faculty.

5.3.b. Continue to work with the USM Council of System Staff (CUSS) to encourage and promote appropriate policies and practices related to staff training, professional development, and shared governance.

5.3.c. Identify best practices for staff development and training at peer institutions and systems, with particular attention to identifying practices that can be implemented and shared across System institutions.

5.3.d. Continue to support and monitor both at the System level and campus level the effectiveness of ongoing staff professional development programs, including staff orientation and development programs, staff mentoring programs, and programs designed to recognize the universities' most distinguished staff.

5.4. Build and maintain world class facilities through the following:

5.4.a. Continue to seek increases in capital spending under the Governor's Capital Improvement Program in the range of $600 million over the next five years, with the primary purpose of using this increase to address critical shortages in laboratory space essential for maintaining Maryland's competitive edge in sponsored research, and the infrastructure to support the State's innovation economy.

5.4.b. Coordinate capital planning and programming with Systemwide goals and strategies for expanding access and degree attainment, particularly in critical economic and workforce areas (i.e., STEM, health care, education, security).

5.4.c. Continue to develop and update regularly facilities master plans that are integrated with the institutional and USM strategic plans.

5.4.d. Continue to enhance capital funding for building renovation, infrastructure, and facilities renewal to protect the state's investment in physical assets.

5.4.e. Coordinate capital planning and programming with Systemwide strategies for the use of technology to boost transformation of the academic model.

5.4.f. Continue efforts to plan, staff and launch a multi-billion dollar capital campaign that will support key elements of the strategic plan, including not just those related to capital facilities but tied to quality, access, attainment, competitiveness, innovation, diversity, and systemness as well.

5.4.g. Maintain the System's focus on effective project management and stewardship of its capital resources.

5.4.h. Work with the executive agencies and legislature to ensure sufficient resources are available to cover the operating costs associated with bringing new capital facilities on line.

5.5. Seek out opportunities for sharing and collaboration of resources and best practices across System institutions in order to maximize their impact and efficiency and leverage the power that accrues to Maryland from having a nationally eminent university system.

Next Steps for the Revised 2020 Plan: Action and Accountability

The USM and its institutions will work together to further refine and implement the revised goals and strategies outlined within the major themes. Accountability under the plan will be ensured by annual progress reports contained in the *University System of Maryland Scorecard,* created at Chancellor Caret's request in 2016 to provide yearly performance at a glance on the System's progress under its Strategic Plan priorities. Accountability reporting under the revised plan will also occur with the annual Board of Regents Dashboard Indicator process and other state accountability reporting measures (such as Managing for Results). The information in these reports will provide the public and the system stakeholders with valuable information showing the return on investment and benefits offered to the citizens of Maryland annually by the University System of Maryland.

Appendix I

USM's core values are as follows:

1. We value the intellectual development of our students, and we are dedicated to providing them with an education that is of the highest quality and that fully meets their professional and personal needs.

2. We value the creation and dissemination of knowledge, and we are dedicated to using the knowledge developed in our institutions to advance the state's economy and to improve the quality of life for Maryland's citizens.

3. We value integrity, and we are dedicated to the highest ethical standards in all our endeavors and to creating a culture that promotes civility and probity in the daily conduct of all faculty, staff, and students.

4. We value the free and open exchange of ideas, and we are dedicated to producing graduates who are well prepared to be contributing members of a democratic, pluralistic society and the larger global community.

5. We value diversity and are dedicated to creating an environment that both celebrates and is enriched by the multiple perspectives, cultures and traditions reflected in humankind.

6. We value the talents and contributions of our faculty and staff, as well as their participation in the shared governance of our institutions and the System, and we are dedicated to recruiting and retaining exceptional people and providing them with the resources and professional development opportunities to ensure their success.

7. We value the natural and cultural resources of Maryland, and we are dedicated to using our knowledge and talent to preserve, protect, and promote these irreplaceable assets.

8. We value our historic role of serving the public good and we are dedicated to using our considerable human and physical resources for the benefit of our state and nation.

9. We value our role as the state's leader in higher education and we are dedicated to serving as an exemplar of academic quality and of principled, effective, and efficient use of resources.