2009 Maryland State Plan

for Postsecondary Education

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Maryland Higher Education Commission

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PREAMBLE

The Maryland Higher Education Commission is a body of twelve members appointed by the Governor and charged by statute to conduct statewide planning for higher education, as well as manage other responsibilities related to the coordination and supervision of postsecondary education in the State. In accordance with these responsibilities, we present the *2009 Maryland State Plan for Postsecondary Education*. This *Plan* reflects the thoughtful work of many, including Commission members and staff, members of the General Assembly, representatives of other government agencies, faculty and administrators from all segments of postsecondary education, business and non-profit leaders, and interested citizens. We are grateful for their efforts.

Education is essential not only for our individual successes, but also for the success of our State. For this reason, we are strong advocates for ensuring that the State invests adequate resources to maintain and enhance our postsecondary education system. We are mindful, however, that this *Plan* has been developed during an economic downturn of significant magnitude, and consequently, some of our recommendations may by necessity require extra time to be implemented.

We believe that every Marylander who can benefit from postsecondary education, and who desires to attend a college, university, or private career school, should have access. We recognize that access to education is illusory, however, unless it is also affordable. The 21st century will require individuals to earn more than a high school diploma in order to earn a sustainable living, so the need to make postsecondary education both accessible and affordable, especially to our State's poorest citizens, is pressing.

One of our state's great strengths is its diversity, and one reflection of that diversity is our Historically Black Institutions (HBIs), which boast a proud history and a continuing mission of providing quality education, including educating low-income students and students who are the first generation in their families to attend college. We join the Commission to Develop a Higher Education Funding Model for Maryland in supporting enhancements to these institutions. Our HBIs are not alone in this service, as all segments of postsecondary education in Maryland are acting to serve those students who have enjoyed fewer advantages in preparing for postsecondary education and have fewer resources to help them succeed. This *Plan* affirms the continuing necessity of broad statewide efforts to close any gaps in achievement between groups of students. Closing these gaps will require effective teachers, both at the preK-12 level and beyond. This *Plan* suggests steps that can be taken to strengthen teacher preparation and to improve instruction in postsecondary education through conscious attention to student-centered learning that smoothes the transitions from one stage of education to the next and addresses students' diverse learning styles and needs.

We offer this *Plan* with an understanding that our postsecondary institutions are already strong. It is our vision that the State will build upon existing strengths and raise the bar still higher, so that Maryland becomes an international model of educational excellence. This effort will require our individual and collective energy, enthusiasm, commitment and collaboration. As a first step toward achieving this goal, we ask that Marylanders join us in making this *Plan* a living, vital document that every day informs our thinking and guides our decisions.

The Maryland Higher Education Commission

INTRODUCTION

State law charges the Maryland Higher Education Commission (MHEC) with producing a statewide plan for postsecondary education every four years. The new plan may be an update or a fully revised document. Its purpose is to articulate State priorities that will give direction to both the State and to institutions offering postsecondary education programs.

The *2004 Maryland State Plan for Postsecondary Education* included five goals for Maryland's postsecondary education system and an overarching recommendation that a study be done to identify a stable and predictable funding model for postsecondary education in Maryland. Gordon Van de Water and Associates completed such a study in 2006, after which legislation introduced to convene the Commission to Develop the Maryland Model for Funding Higher Education (the Funding Commission). The final report of this high-level commission was released in December 2008, and legislation derived from the report's recommendations was introduced in the 2009 General Assembly. Because of the scope and importance of this report, the production of Maryland's next *State Plan* was deferred to allow the report's recommendations to be considered as part of its development. The *2009 Maryland State Plan for Postsecondary Education* includes not just an overarching pair of recommendations related to the report, but also recommendations in other sections influenced by it.

The five goals in the *2004 Maryland State Plan for Postsecondary Education* were found still to be relevant by Maryland postsecondary education constituents. With this support for the existing goals in mind, MHEC convened a diverse statewide group to work on the 2009 *State Plan* and asked that the starting point be the existing five goals. Each group was charged to begin with one existing goal and was granted the flexibility to shift the goal as its members felt appropriate. Accordingly, these groups collaborated with MHEC staff to revise the goals to better reflect the current environment of postsecondary education in Maryland. The topics of the current goals are the same as in the last plan: quality and effectiveness; access and affordability; diversity; student-centered learning; and economic growth and vitality.

MHEC is responsible for assessing the extent to which progress is being made toward achieving the goals of the *State Plan*. Progress will not be tracked at the institutional level, but rather at the level of groups of institutions (e.g., segments of postsecondary education, Historically Black Institutions). Every effort will be made to measure progress in ways that do not increase the reporting burden on institutions; indeed, one of the recommendations in this *State Plan* is that MHEC work with the segments and the institutions of postsecondary education to determine if there are ways to streamline reporting processes.

As a first step in the evaluative process, MHEC will use the Return on Investment (ROI) template developed by the Funding Commission to annually report on the State's progress toward realizing the goals outlined in the *State Plan*. The ROI will serve as a quick reference tool for policy makers, educators, and members of the public at large and will provide useful information on broad, overarching indicators related to Maryland's postsecondary success.

The next step in the evaluation process will be based upon initial implementation measures and/or strategies that have been developed for each of the five goals and that are designed to

build upon the ROI by more closely examining and monitoring key areas in which traction must be gained if the State is to fulfill its postsecondary goals. These measures and strategies should not be considered exhaustive or absolute, but rather a starting place for a process of assessing and reporting on statewide progress related to this plan. The Secretary of Higher Education will appoint an intersegmental workgroup to develop new measures, if they are deemed necessary, and to expand and refine as appropriate the initial set of measures and strategies that are presented in the Plan. This process of evaluating the *State Plan for Postsecondary Education* supplants the narrative reporting process used in the past.

The *2009 State Plan for Postsecondary Education* begins with an overview of some significant issues facing postsecondary education now and over the coming four years. These issues are germane in some way to each of the five goals and point to challenges the State and institutions will have as they work to achieve these goals. The *State Plan* supports the Governor's priorities for the State.

The significant issues section is followed by a pair of overarching recommendations that pertain to implementing the Higher Education Funding Model for Maryland. After that brief section, there are five sections for the goals. Each section begins with a statement of the goal, then provides a description of centrally important issues related to the goal, and ends with a set of four to six action recommendations. One or more implementation measures and/or strategies are suggested for each action recommendation. The document ends with a brief summary of progress made on the last *State Plan*; more detailed documents have previously been published on that topic. An appendix lists the many people involved in creating this document and demonstrates the broad constituencies represented in this effort.

SIGNIFICANT ISSUES
IMPACTING POSTSECONDARY EDUCATION, 2009-2013

Many of the same external forces discussed five years ago in developing the *State Plan for Postsecondary Education* continue to have an effect on the current and projected needs of higher education. In this section, some of the major issues are briefly highlighted. During the period that will be covered by the 2009 *State Plan*, all segments of postsecondary education will be impacted by the issues described here.

Changing Demographics

Demographic shifts in Maryland's population will continue to affect the state's postsecondary landscape. The growth trend that the state has experienced in the number of its high school graduates will not continue over the next four years. The high school class of 2008 marked the end of the "baby boom echo," and demographers project a decade of shrinking high school graduate cohorts. While the overall pool of Maryland high school completers is expected to decrease by more than 3,500 students by 2012, certain populations will experience notable gains. From 2008 to 2012, minority students are expected to comprise a larger share of Maryland's high school graduates than white students. Over this four-year period, the number of white high school graduates is projected to decline by nearly 7 percent, but the number of African-American graduates will remain about the same, and the number of Hispanic graduates is projected to increase by 15 percent. At this pace, Maryland will have a "majority-minority" high school graduating class in just two years, by 2011. These demographic changes underscore the importance of closing the persistent retention and graduation rate gaps that exist between African-American and Hispanic students and their white and Asian peers.

The achievement gap that separates some groups of students from others also has adverse long-term economic effects on Maryland and on the nation as a whole. McKinsey and Company's *The Economic Impact of the Achievement Gap in the United States: A Summary Report* (2009) provides much supporting data for this claim, including specific dollar figures on how much the United States has never gained as a result of not closing achievement gaps. As a wake-up call to policymakers, educators, and all citizens, the report concludes that "the persistence of these educational achievement gaps imposes on the United States the economic equivalent of a persistent national recession."

At the same time that Maryland is aiming to close its achievement gap, the State must also focus on meeting the needs of a larger number of students with disabilities and older students. Over the last three decades, Maryland's community colleges alone have experienced a threefold increase in the number of students with disabilities who have enrolled. Additionally, in 2008, individuals 25 years of age and older accounted for 32 percent of undergraduate enrollments. Approximately 3 million Maryland adults in that same age bracket had inadequate or no postsecondary education to secure employment sufficient to support themselves. Maryland will be better positioned to meet its workforce needs if a significant number of students from both of these groups acquire further education and training. Whether to increase the number of G.E.D. or Ph.D. completers, postsecondary institutions will be challenged to provide academic programs, support services, and delivery methods that serve the needs of these students who

often require flexible class schedules, locations, and ways of interacting with their peers and faculty.

Despite the trend toward fewer Maryland high school graduates, enrollments in Maryland's colleges and universities are expected to continue their upward climb. The rate of these increases will vary by institutional type, with community colleges enrolling new full-time students at a higher rate than part-time students, and public four-year institutions enrolling new part-time students at a higher rate than new full-time students. Women account for 60 percent of all students enrolled in college in Maryland in 2008, and this gender gap shows no sign of abating. An increasing number of Maryland postsecondary students will come from households of low to moderate income and where a language other than or in addition to English is spoken. Future enrollments will also include a higher percentage of first-generation college students.

Funding Challenges

Maryland experienced increases in State support for higher education over the four years prior to this State Plan. State General Fund support for higher education increased by almost 34 percent, or $398 million, from fiscal year (FY) 2005 to FY 2008, compared to an average 23 percent increase nationally. In the fall of 2008, the State and national economic picture changed quickly and drastically. State revenues slowed, particularly from sales taxes and individual income taxes, which forced reductions to all State budgets, including those for higher education. This revenue trend is expected to continue for the remainder of FY 2009 and over the next two fiscal years. As a result, the State was forced to reduce appropriations to higher education in FY 2009.

Although it is the largest portion of discretionary spending in the State budget, postsecondary education must compete for a shrinking pool of non-mandated funds. Slightly more than 67 percent of General Fund appropriations were mandated in FY 2008, leaving the remaining one-third, or $4.8 billion, available for non-mandated programs, including postsecondary education, public safety and health, hospitals, and mental health. While obtaining funding for non-mandated programs within the Maryland budget has become increasingly difficult in strong economic circumstances, the challenge to sustain adequate funding is even greater in periods of economic recession.

A prolonged recession may have an impact on access to and affordability for higher education in Maryland. Over the past four years, Maryland has made great strides in the areas of access and affordability. The Governor, with the support of the General Assembly, for the last four years has provided funding to freeze resident undergraduate tuition at the four-year public institutions within the University System of Maryland and at Morgan State University. Maryland's public institutions have consequently moved from the 6th highest in resident undergraduate tuition to 16th. In addition, funding for State need-based aid has more than doubled since FY 2005, rising from $42 million to $85 million. Maryland now ranks 12th in State need-based undergraduate grant dollars per full-time equivalent student, compared to 23rd in FY 2005. In addition, institutional need-based grant aid for all higher education segments has increased by 45 percent to $148 million. Continued reductions in State revenues may erode the progress that has been made in these areas.

College and Career Readiness

College and career readiness means that high school graduates are prepared to succeed when they enter college and to enter and thrive in career-track jobs. Students entering college must be equipped with the skills needed to complete first-year college-level work, and those entering the workforce must be prepared at a comparable level of rigor to those entering college.

College readiness standards focus on enhancing the threshold skills in reading, writing, science, mathematics, and the social sciences that students need to be successful at the postsecondary level. Well-prepared students do not need remediation or developmental courses, and reducing the need for these courses reduces the cost of postsecondary education for both the State and the student. The responsibility for ensuring that students are adequately prepared for college rests with both preK-12 and higher education. While educators at the preK-12 level are primarily charged with ensuring that students are prepared for college and the workplace, educators at the postsecondary level are charged with effectively conveying their expectation about the skills that students need to be successful in higher education. It is also important to advance students beyond threshold readiness whenever possible since some postsecondary admission standards are more competitive than others.

The Southern Regional Education Board's *Getting Students Ready for College and Careers* (2006) makes the case that states will know they are making progress in getting students ready for college and careers when all high school students complete an essential core of rigorous courses, the achievement gaps close between groups of high school students on college admission and on end-of-course exams, high school students enroll and succeed in rigorous bridge-to-college courses and programs, and the number of recent high school graduates needing remedial courses when entering college approaches zero.

Technology, Distance, and Online Education

The infusion of technology into education has occurred with geometric growth over the past twenty years. Advances in hardware and software initially transformed research efforts and then day-to-day operations in postsecondary institutions. After just a short time, these advances were also having an impact on the delivery of educational courses and programs. There are some who believe that within the next two decades, a majority of high school courses will be offered online and that higher education will have as many virtual campuses as it has physical campuses.

Technology has changed the landscape for higher education. With online education, institutions can expand their geographic reach to serve more students outside their normal service areas. Similarly, competition for local students can now come from anywhere in the world.

Several opportunities and challenges are presented by this growth and competition, for the State and for institutions, to ensure quality returns on investments of time and technology. Technology can enhance instruction across a variety of student learning styles, both in the classroom and also through careful translation from real-time, in-class instruction to online instruction. One of the greatest challenges postsecondary education faces is to create and provide sufficient faculty development so faculty creativity can be parlayed into software and

technology-savvy course design that can maximize technology's potential for substantially enhanced student learning.

Accountability

Recently, various stakeholders including parents, policymakers, and members of the public at-large have called for postsecondary institutions to be held more accountable for ensuring that their graduates are equipped with the skills they need for meaningful employment or further study. Colleges and universities have also been charged with demonstrating that the educational experiences they provide are worth the considerable private and public investments made by individuals, states, and the federal government. In its recent report, the national Commission on the Future of Higher Education argued that "higher education must change from a system primarily based on reputation to one based on performance." Within this context, Maryland can support a culture of accountability that is characterized by a commitment to continuous improvement and that includes at the campus level clear and appropriate indicators for measuring student learning. All of the goals outlined in this document are more likely to be realized with a transparent accountability system, to include strengthened cooperation among segments and preK-12 education in developing more integrated data systems that can be used to address critical statewide educational and accountability needs.

Governor's Priorities

The O'Malley-Brown administration is committed to supporting postsecondary education, which benefits the State by providing new knowledge and a well-trained workforce and benefits individuals through pathways to personal and professional goals. The *Maryland State Plan for Postsecondary Education* supports the Governor's priorities in workforce development; in making college more affordable for more Marylanders; in science, technology, engineering, and mathematics (STEM) initiatives; in preparing for the impact of Base Realignment and Closure (BRAC); and in fiscal accountability. Postsecondary education initiatives in STEM and campus efforts to improve energy efficiency support the Governor's efforts to protect the health of the environment. Certain recommendations in the *State Plan* also intersect with the work of the Governor's P-20 Leadership Council of Maryland, which is focusing on STEM initiatives, including the production of more STEM teachers; expanding and enhancing career and technology education; ensuring more students are college- and career-ready; and recruiting, preparing, and retaining quality principals for preK-12 schools. The Governor, in concert with the General Assembly and other State leaders in education and industry, has called for Maryland to raise its sights higher in education, training, and research in recognition that our economic competition is not national but international. Governor O'Malley supports President Obama's goal of the U. S. leading the world again in having the highest proportion of college graduates in the world by 2020. Maryland is fortunate in that it has a relatively high percentage of college graduates in its population, but the state imports many of those graduates. This *State Plan* presents recommendations that will increase the number of students receiving college degrees so Maryland can lead the nation in moving toward our collective international goal.

OVERARCHING RECOMMENDATION

Implement the Higher Education Funding Model for Maryland

The State of Maryland has a basic responsibility to provide postsecondary education adequately and efficiently. In the *2004 State Plan for Postsecondary Education,* an overarching recommendation called for Maryland to develop a postsecondary education model linking tuition policy, State support to institutions, and State and institutional financial aid to address such issues as student access and the particular needs of the State.

Even as there is an ever-greater demand for a highly educated workforce, more students than before have financial need and rely more heavily on student loans to close the gap between cost and available financial aid. The State must work closely and collaboratively with governing boards to effectively implement a strategy that coordinates tuition, financial aid, and State funding policies to make public postsecondary education more affordable. At the same time, it is important to establish goals, or benchmarks, to measure the State progress in achieving its strategy and to clearly communicate that progress to the public. This coordinated strategy will provide adequate State support to colleges and universities and moderate tuition rates for all students while increasing financial aid for lower-income students. Sufficient State investment must be provided to higher education institutions to provide high quality postsecondary education opportunities to Marylanders. An effective tuition policy must identify mechanisms to moderate tuition and fees through economic cycles so students and parents do not experience large fluctuations in tuition levels from year to year. An effective financial aid policy will align Federal, State, and institutional policies to ensure financial aid from all sources effectively reaches the student. It will also adequately address student financial need, especially among low- and moderate-income students, and give serious consideration to the long-term adverse effects that increases in student borrowing and student debt are having on the lives of students.

An outgrowth of the *2004 Maryland State Plan for Postsecondary Education* was the formation of the Commission to Develop the Maryland Model for Funding Higher Education, established by the Tuition Affordability Act of 2006 (Chapter 57). The charge to the 27-member Funding Commission had three main components:

- Develop an effective statewide framework for higher education funding;
- Review options to make recommendations for establishing a consistent and stable funding mechanism for higher education to ensure accessibility and affordability while at the same time promoting policies to achieve national eminence at all of Maryland's public institutions of higher education; and
- Review options to make recommendations relating to the appropriate level of funding for the State's Historically Black Institutions (HBIs) to ensure that the institutions are comparable and competitive with other public institutions.

The Funding Commission's intensive work over a two-year period culminated in a proposed funding model and a framework for funding higher education designed to ensure that Maryland and its citizens remain competitive in today's knowledge-based global economy. Recognizing the evidence that a highly educated citizenry is the key to prosperity of a state, the proposed

funding model seeks to link State support to institutions of higher education, tuition, and levels of institutional and State financial aid to serve student access and the needs of the State. The Funding Commission also developed an accountability process to monitor the State's progress in achieving the funding model.

The Funding Commission's proposed higher education funding model addresses the economic and demographic challenges facing Maryland founded upon the *2004 State Plan* principle of providing a high-quality education to every citizen of Maryland who seeks the opportunity. The Funding Commission's model, to be implemented within a ten-year period, balances quality, affordability, and access to Maryland higher education. The four linked principles of the Funding Commission's model—the "four-legged stool"—include *high* State funding of higher education institutions, *moderate* tuition levels, *high* State need-based financial aid, and accountability. The model also recognized that State investment includes funding for community colleges and eligible private institutions through statutory formulas tied to per-student State funding at selected public institutions.

In addition to this model, the Funding Commission proposed that financial resources be provided for special projects to assist in meeting the goals of the *2009 State Plan for Postsecondary Education* or those set out in individual institutional mission statements.

Action Recommendations

- Maryland should adopt as goals the four primary components of the Funding Commission's Higher Education Funding Model for Maryland:

    - Maryland should set the goal for the per-student investment in the State's four-year traditionally white institutions (TWIs) to match the 75th percentile and in the public Historically Black Institutions (HBIs) to at least the 80th percentile of a set of comparable peer institutions in the 10 states ("competitor states") with which Maryland principally competes to attract employers. Taking this step will also contribute to the strength of community colleges and independent institutions, which are tied by statutory formula to per-student funding at selected public four-year institutions.

      Implementation Measures/Strategies
      - Annual report by MHEC through the proposed Return on Investment on the progress made toward meeting the goal by measuring the State appropriation per full-time equivalent (FTE) student compared to the State appropriation per FTE at comparable institutions in competitor states

    - Maryland should set the goal for tuition and fees at the State's various public higher education institutions at or below the 50th percentile of comparable institutions in the competitor states.

      Implementation Measures/Strategies
      - Annual report by MHEC through the proposed Return on Investment on the

progress made toward meeting the goal by measuring the in-state tuition and fees compared to in-state tuition and fees charged at comparable institutions in competitor states

- Maryland should set the goal for the investment in need-based financial aid per student to match the 75th percentile of such funding provided by the competitor states.

  Implementation Measures/Strategies
  - Annual report by MHEC through the proposed Return on Investment on the progress made toward meeting the goal by measuring the State need-based financial aid compared to need-based financial aid in competitor states

- Maryland should adopt a tool called the Return on Investment that will provide statewide higher education accountability benchmarks to measure its progress in achieving the funding model outlined above and the goals of the *State Plan for Postsecondary Education*. This information will be reported in an online format entitled "Maryland Higher Education's Return on Investment."

  Implementation Measures/Strategies
  - Development of a user-friendly online format for the Return on Investment
  - Annual report by MHEC through the proposed Return on Investment will begin in early summer 2010

- MHEC, the governing boards of the public higher education institutions, and appropriate State agencies should work together to implement agreed-upon strategies to moderate tuition and measure Maryland's progress compared to its competitor states with regard to public higher education.

  Implementation Measures/Strategies
  - Establishment of a goal that limits increases in resident tuition and fees to a percentage not to exceed the increase in the three-year rolling average of the State's median income
  - Establishment of the Tuition Stabilization Account as a part of the Higher Education Investment Fund to be used to stabilize tuition in years of decreasing revenues

- Maryland should allocate annually a specified amount of State funds for higher education to create a special projects fund to meet important State or institutional goals, such as goals outlined in the *State Plan for Postsecondary Education*, to encourage cross-institutional initiatives, and to enhance the competitiveness of Maryland's institutions.

  Implementation Measures/Strategies
  - Determination of initial allocation of State funds for special projects
  - Allocation amount for incentive funding compared to 1 percent of the State funds for higher education

QUALITY AND EFFECTIVENESS

Goal 1: Maintain and strengthen a system of postsecondary education institutions recognized nationally for academic excellence and effectiveness in fulfilling the educational needs of students and the economic and societal development needs of the state and the nation.

Goal One of the *State Plan for Postsecondary Education* is based on the State's desire for an academically excellent and effective postsecondary system. There are a number of important characteristics of a high-quality and effective system, including diversity of educational institutions and strong support for institutions to carry out their respective missions and mandates. Such a system produces graduates who excel in their fields and demonstrate the capacity to think and communicate creatively, critically, and clearly. Key components to an excellent postsecondary system are a faculty and staff who work in collaboration to produce the number and quality not only of graduates, but also of ideas, products, and services necessary to fuel the economic and social development of the state. Faculty and staff contributions are enhanced by appropriate recognition and support for development and sustained professional growth. Such a postsecondary system is also one that partners closely with the preK-12 schools in its state to align and articulate appropriate learning outcomes, competencies, and expectations for all students. Finally, an excellent postsecondary system is one that acknowledges, engages, and contributes to both local and global communities. Achieving an excellent postsecondary system and maintaining it help ensure the intellectual enrichment of individual citizens, the betterment of local communities, and the economic success of the state.

By ensuring a quality education for individual citizens, the State helps them expand their knowledge base and their ability to grapple with difficult issues and provides opportunities for people to hone fundamental communication skills, to acquire an awareness and appreciation of cultural differences, to be prepared for rewarding employment, and to develop into effective, engaged citizens. Quality postsecondary education is the cornerstone of an educated citizenry and so strengthens democracy and public service. The humanities are just as central to this broad endeavor as the study of sciences and professions. Thus, excellence in postsecondary education should be supported not simply for its economic benefits, but also for the personal and intellectual enrichment that the pursuit of learning provides our diverse citizenry.

Pursuing excellence in the 21st century requires higher education to engage in dynamic interaction with both local communities and communities across the globe. Local engagement may include community collaborations with nonprofit organizations and governments, preK-12 schools, industries and businesses, and the public health sector. Service learning and internships offer students opportunities to contribute to their communities while learning. Current concerns such as those for global warming create opportunities for undergraduates and graduates to join in promoting sustainable energy and conservation projects. The rapid dissemination of ideas and global interconnectedness, which was recently underscored by the 2008-2009 worldwide economic distress, encourage students to actively pursue international study. The goals for local

and global engagement are the same: create more aware and committed citizens while contributing to constructive and productive community life.

From Western Maryland to the Eastern Shore, thousands of Marylanders benefit annually from the cultural events and continuing education offered by our postsecondary institutions. Marylanders of all socio-economic levels benefit from the world-class care provided by nurses, physicians, dentists, and other health care professionals trained at Maryland postsecondary institutions; thousands are directly served by the academic health centers connected to Maryland universities. Further, thousands of Marylanders each year learn from highly competent teachers trained at Maryland institutions and depend on first responders trained at Maryland institutions in fire fighting, law enforcement, and emergency medical treatment. These benefits exemplify the direct impact that an array of excellent academic institutions has on the quality of life enjoyed by Marylanders.

In the wake of the financial collapse of 2008 and the ongoing economic crisis, it is important to recognize that education fuels the contemporary knowledge economy, which requires well-educated and highly skilled workers and rewards knowledge creation, entrepreneurship, and innovation. Key to ensuring the State's success in the highly competitive, knowledge-based global economy is the quality and range of its postsecondary institutions and the graduates, research, and outreach services they provide. From career and technical colleges, to community colleges and baccalaureate institutions, to comprehensive and research-intensive institutions, Maryland's postsecondary system produces excellent graduates, forges new knowledge, creates new products and companies, and provides services and partnerships that help Maryland hold a leadership position in the national economy. The state ranks third in the nation, behind only Massachusetts and Colorado, in the percentage of its workforce holding advanced, bachelor's, or associate degrees, or who have completed some college coursework, and it ranks first in the number of scientists and engineers in its workforce (on a percentage basis) and first in terms of federal research dollars coming into the state on a per capita basis. It is this highly educated, highly prepared workforce, combined with one of the nation's leading sets of academic research institutions, that has helped place Maryland in the vanguard of states whose economic futures are tied to the global knowledge economy.

Defining Academic Excellence and Effectiveness

Goal One calls for each of Maryland's postsecondary institutions to strive for academic excellence and effectiveness. What this means in operational terms, however, and how it can be defined and assessed for a postsecondary system that includes public colleges and universities, independent two- and four-year degree-granting institutions, regional higher education centers, community colleges, and career and technical schools is more difficult to say. No single definition of academic excellence is sufficient to capture what it means to all the stakeholders in such a diverse system, just as no individual measure can be used to assess it. Instead, a variety of measures is required to define and assess academic excellence, and the measures selected must account for the various institutional missions and goals inherent in a multi-segment, multi-institutional system.

Though every institution will define excellence in unique and significant ways, there are some general vantage points from which the State should consider the assessment of excellence. First,

from the viewpoint of faculty, students, and their families, excellence can and should be evidenced by the value of the education or training the student receives and the opportunities that result from that education. Effectiveness might be measured by assessing student achievement of learning outcomes, students' mastery of the concepts and content of their academic programs, and the level of challenge in their courses and those programs.

Effectiveness also might be demonstrated by graduation rates, the numbers of students entering the workforce and graduate programs, and alumni support and giving, although all of these measures must take into consideration students' pre-college preparation and their financial circumstances. In addition, students should be able to demonstrate competence in core communication skills, such as written and oral expression, and fluency in the use of complex data and information. At the local, state, national, and international levels, fundamental skills in critical thinking and communication are key. Thus academic excellence goes beyond a particular base of general and specific knowledge and includes the capacity to think and communicate creatively, critically, and clearly.

From the vantage point of institutions, academic excellence might be measurable by the knowledge, skills, and credentials possessed by the faculty they recruit and employ, the impact of the graduates, and, for research institutions especially, contributions to new knowledge. It could also be measured by the reputation their faculty, programs, and graduates hold among peers at like institutions, and the impact that their research has on a particular field. Measures that can be used to assess excellence from this perspective include such indicators as faculty awards and recognition; national rankings of institutions, programs, or specialty areas; sponsored research funds generated; patent and licensing activity generated; incubator companies spun off; the percentage of graduates accepted into top-level graduate programs nationwide; and the numbers who complete their graduate programs. More qualitative measurements, such as positive peer reviews and the quality of publications, would also be appropriate.

Strategies for Achieving Success

In many ways, Goal One serves as the keystone for Maryland's postsecondary plan. It has the potential to affect a wide range of issues touching almost every aspect of the postsecondary education system. Over the next several years, Goal One will be critical in helping the State address the postsecondary education and training needs of a changing population—and the need to improve curriculum alignment between the preK-12 and postsecondary sectors. Goal One also will be essential in helping the State recognize and support the diverse range of institutions and their respective missions that serve postsecondary education, research, and training needs. As a result of the implementation of Goal One, Maryland's postsecondary institutions will be better able to develop, support, and retain high quality faculty and staff, who through their education, research, and service-related efforts, help advance the quality of life in Maryland and provide an excellent education for its citizens.

Action Recommendations

Given the central importance of this goal to Maryland's postsecondary education plan, and based on the characteristics of a high quality and effective system of higher education discussed earlier, the following strategies have been developed to ensure progress under Goal One.

- The State should provide appropriate and sustainable funding levels based on the continued use of funding guidelines, statutory formulas, and funding strategies as currently required by State law and MHEC policies (with appropriate modifications as necessary) to build the highest quality postsecondary system possible.

  Implementation Measures/Strategies
  - The annual progression of funding for each public four-year institution that is not a public Historically Black Institution (HBI) toward attaining the funding guideline at the seventy-fifth percentile of competitor states
  - The annual progression toward restoring full statutory funding of the formula-aided segments of higher education
  - The annual progression toward full implementation of the funding strategy for regional higher education centers

- The State, policymakers, governing boards, and campus leaders must continue to work to ensure that Maryland's public HBIs are comparable and competitive, both in terms of programs and infrastructure, with the State's public traditionally white institutions with comparable missions.

  Implementation Measures/Strategies
  - The annual progression of funding for public HBIs toward attaining the funding guideline at, minimally, the eightieth percentile of competitor states

- Under the auspices of the Governor's P-20 Council, the College Success Task Force will develop recommendations for aligning high school graduation standards with expectations and requirements for successfully entering and completing first-year, credit-bearing college courses.

  Implementation Measures/Strategies
  - A plan that includes measurable, attainable action recommendations and a timeline for increasing college readiness rates developed and forwarded to the Governor within 10 months of the task force's formation
  - If approved by the Governor, implementation of these measurable, attainable action recommendations following the suggested timeline

- MHEC should convene a representative group to examine existing practices, procedures, and requirements to identify those that result in duplication of effort, redundancy of reporting, and bureaucratic barriers, and develop cost-effective methods to achieve needed outcomes and objectives.

  Implementation Measures/Strategies
  - Formation of a workgroup by the end of the 2009 calendar year charged with examining duplicative practices, procedures, and reporting requirements
  - Workgroup recommendations forwarded to the Secretary of Higher Education by May 31, 2010

- Upon approval of the Secretary, implementation of workgroup's recommendations begins in fiscal year FY 2011

- Segments of higher education and their governing boards should continue to encourage students and faculty pursuit of dynamic engagement with their local communities through involvement with local nonprofits, K-12 schools, industries and businesses, and the public health sector, and active participation in international study and projects

  Implementation Measures and/or Strategies
  - Beginning in FY 2011, institutions' Performance Accountability Reports include a section that highlights innovative partnerships that reflect the accomplishment of this recommendation

ACCESS AND AFFORDABILITY

Goal 2: Achieve a system of postsecondary education that promotes accessibility and affordability for all Marylanders.

Two guiding principles have been established for Maryland postsecondary education to further enhance a system that is accessible and affordable:

- All Maryland residents who can benefit from postsecondary education should have a place in postsecondary education and should be able to afford it; and
- To ensure all Maryland residents are aware of and can participate in postsecondary education, support structures should be in place to create both the desire to participate in postsecondary education and the means to achieve it.

These principles frame the discussion below on access and affordability.

Access

Access can be examined from the perspective of postsecondary education entities and from that of the student. Access is the capacity of these entities to provide programs to admit, enroll, and support students to meet educational goals. At the same time, access depends on the responsibility and capability of the student to be an active and engaged participant in the postsecondary education process.

Capacity for Enrollment Growth

To meet the needs of an increasingly diverse student population, efforts to support enrollment growth should continue, and alternative means of delivery, such as regional higher education centers and distance learning, should be considered to expand program offerings. These are approaches that can be used for students who face challenges related to geographic distance, family obligations, or limited mobility because of disability. Higher Education Investment Funds have been used as an incentive to promote enrollment growth.

Regional higher education centers (RHECs) are designed to ensure access to upper-division baccalaureate and graduate education in both unserved and underserved areas of Maryland at a reasonable cost to students and to the State. RHECs provide an opportunity to address workforce needs in high-demand areas, particularly for nontraditional students. They support State, regional, and local economic and workforce development goals and thereby help make Maryland an attractive destination for companies. There are currently eight regional higher education centers in the state, two administered by the University System of Maryland and six for which the Maryland Higher Education Commission has oversight. Existing centers should be supported and, as needed, new ones explored as an effective and efficient way to expand enrollment.

Distance education is also an important tool to help postsecondary institutions become more accessible. The University of Maryland University College (UMUC) is an international leader in distance learning, and other two- and four-year postsecondary institutions are using distance education and related technology to help provide access to postsecondary education for adult students, other non-traditional students, and those in underserved areas of the state. Programs

may be delivered fully online or through hybrid courses that combine face-to-face with online instruction. MarylandOnline (MOL), a consortium of colleges and universities dedicated to pooling their resources and expertise to enhance online educational opportunities, provides faculty training, technical assistance in developing online courses, a seat bank that allows students to take online courses at other member institutions, and a collaborative online general studies degree program. These efforts and others should be supported to provide additional access to education opportunities.

Instructional and Research Space Needs

The State has invested over $1 billion over the last four years to address research and instructional space needs at postsecondary education entities. Even with this funding, academic space deficits persist and are projected to increase as enrollment grows. Aging buildings also present challenges. The public and independent institutions report a combined facilities renewal backlog of over $3.1 billion. Maryland research institutions now have significant deficits in current and projected laboratory research space. Of particular concern is the shortage of research space at Morgan State University; the University of Maryland, Baltimore; the University of Maryland, Baltimore County; the University of Maryland, College Park; and the University of Maryland Eastern Shore.

Construction at community colleges has not improved overall space deficits, especially for colleges located in metropolitan areas. Inadequate space at community colleges is of pressing concern because these institutions play a critical role in local and regional training programs for a wide range of audiences designed to meet workforce needs. More laboratory space in all program areas, especially allied health, is also needed at community colleges.

Overall, Maryland has a strong capital planning program to support higher education. Recent reviews of capital planning guidelines have concluded, however, that certain components should be updated, including enrollment used to project space needs and space-planning factors to account for modern technology needs in both classrooms and labs. Factors impacting space utilization should also be explored and incorporated into the guidelines.

Expanding Postsecondary Participation for Students with Diverse Needs

The changing demographics of the high school population have greatly increased the importance of college awareness and other outreach programs. Such programs can generate the desire for postsecondary education and improve academic success both before and after students enter postsecondary education. Although these programs are offered at some secondary schools across Maryland by postsecondary education institutions and other nonprofit and business entities, they should be expanded, modified, and offered to more students in middle school, or earlier if possible. Programs should clearly send the message that postsecondary education is an option, that there are steps students can take in school to prepare for it, and that financial aid is available to students in postsecondary education. College awareness and outreach programs, which offer services such as mentoring and career exploration and preparation, should follow students through secondary education to ensure students stay on track and are prepared for postsecondary education upon high school graduation. One program that does follow students throughout secondary education is the Maryland Career Development Framework, which has been

implemented in some local jurisdictions in primary and secondary school settings and which provides a structured process to help students plan and prepare for entry into college and careers.

Early college access options such as dual and concurrent enrollment allow high school students to enroll in and earn credit at postsecondary institutions while still in high school and can shorten the time that students need to earn a college degree. Advanced Placement (AP) is also an option for many students to earn college credit. Early college programs promote rigorous academics, eliminate artificial barriers that impede students from moving "seamlessly" between preK-12 and postsecondary systems, align outcomes and expectations in curriculum areas, increase student aspirations to go to college, and build a stronger academic focus by students in their senior year of high school. Efforts to promote and expand early college access initiatives, especially for students with diverse needs, should be supported.

Most postsecondary institutions offer support programs and other services to students as they progress toward completing their courses of study. Still, many students are not graduating from higher education institutions, particularly those among lower-income populations. To improve retention and graduation rates for these students, institutions should offer bridge programs, tutoring, and other student services. Resources will be needed for these programs to be effective, and performance metrics will have to be identified and used to measure their success.

Historically, some populations have greater difficulty accessing postsecondary education in the United States, for example, members of ethnic minorities, low-income individuals, and those whose family members did not earn college degrees. Individuals with disabilities, older individuals, and military veterans also experience difficulties with access. Financial resources should be provided to support structures to integrate all students into the campus environment at both public and independent postsecondary institutions.

Affordability

Affordability is the capacity of any Maryland resident to manage the cost of higher education opportunities while maintaining at least a minimally acceptable standard of living. In addition, affordability means that individuals who wish to pursue a higher education, especially low- and moderate-income students, have the financial means to do so by taking advantage of all forms of financial assistance.

Moderating Student Costs

The Higher Education Funding Model for Maryland identifies recommendations and strategies to coordinate tuition, financial aid, and State funding policies to make postsecondary education more affordable. However, other rising costs, such as for living expenses and textbooks, have generated affordability issues that need urgent attention. Living expenses represent the largest component used in the total cost of attendance for both resident and commuter students. These include room and board, transportation, and personal expenses incurred for attending postsecondary education. Textbooks are not included in living expenses for State financial aid programs, but they are necessary and increasingly expensive. Nationally, textbook prices have tripled between 1986 and 2004, with prices increasing each year at more than twice the inflation rate and at a greater rate than tuition increases. Costs for living expenses and books, like tuition,

must be addressed either through increased financial aid or innovative ideas such as those initiated in other states and institutions. The Maryland Higher Education Commission's Faculty Advisory Council has established a comprehensive list of recommendations for obtaining textbooks at a reasonable cost.

Improving Affordability through State Financial Assistance Programs

The Howard P. Rawlings Educational Excellence Awards program, the State's primary need-based program, has two components, the Guaranteed Access (GA) Grant and the Educational Assistance (EA) Grant. Although these programs have recently received greater funding and have been able to assist more students, the maximum awards available through the EA Grant have not kept pace with increases in tuition and other costs. Furthermore, deadlines prevent the program from reaching certain populations. The GA Grant is reserved for extremely low-income populations and provides much larger awards. Nonetheless, recent data show that aid recipients with the lowest expected family contribution (EFC) had the highest amount of unmet need, even after taking out student loans. This is true for students attending both two- and four-year institutions. To minimize student loan debt, modifications should be considered for need-based programs that direct higher amounts of aid to students with the greatest unmet need.

Recent studies show that the predominant reason students do not accept an EA Grant is that they attend part-time. Part-time students represent one of the fastest growing populations in Maryland public postsecondary education, and represent 62 percent of enrollment at community colleges. Many students with disabilities or developmental needs are often better served by attending part-time, and a large population of working adults finds part-time attendance to fit better with family obligations, time, and cost. Although Maryland offers part-time grants, the majority of State need-based aid programs require full-time attendance. The Maryland Part-Time Grant Program represents only seven percent of the total State grant aid available for students, and institutions report that many more part-time students could benefit if sufficient funding were available. Considering the increasing trend in part-time enrollment, State aid programs should be more flexible to address the needs of this student population.

Many students choose to begin postsecondary education at community colleges because they are less expensive than four-year institutions and offer open-door enrollment. Students may also choose community colleges because they see value added in that environment and can avoid other costs by remaining at home while attending college. Since more than one-third of first-time, full-time community college students continue their education after two years, resources need to be available for them to transfer to Maryland four-year schools. The existing Distinguished Scholar Community College Transfer Scholarship was designed to assist students in paying the higher cost of a four-year college, but funding is not adequate to award all eligible students who apply.

Funding options for graduate and professional students are more limited than for undergraduates, with most aid available through student loans and with little, if any, grant aid. In many areas of Maryland, this population represents one of the fastest growing groups of students. The State, working with the postsecondary institutions, must provide some form of assistance for this population to assure our workforce remains competitive and among the most educated in the world.

Merit aid and workforce scholarship programs help keep postsecondary education affordable while meeting other specific needs of the State. Merit aid programs provide incentive to keep the most talented students in the State. Workforce programs provide opportunities for students to major in programs that are linked to occupations for which trained labor is in short supply or in occupations needed to produce, develop, and expand a knowledge-based economy. Although these financial assistance programs play a role in developing a workforce for tomorrow, a balanced funding approach between these programs and need-based aid is needed to ensure opportunity for all students.

Action Recommendations

- The Maryland Higher Education Commission, working collaboratively with the segments of higher education and appropriate State agencies, should modify the current space planning process and guidelines to address capacity issues at Maryland's institutions. Keeping the guiding principles of Goal Two at the forefront, a multi-pronged approach should be developed to address increasing enrollments through the expansion of initiatives to promote enrollment growth, programs at regional higher education centers, and distance learning. Further, efficiencies should be built into the current capital planning process to incorporate facility renewal policies, flexible schedules, and universal design principles, as well as collection and examination of space utilization data and other measures to account for the condition and functionality of space.

  Implementation Measures/Strategies
  - Increase in the number of programs and enrollments at regional higher education centers
  - Increase in the number of distance education courses and programs
    - Facility space planning guidelines modified to promote efficiencies by 2012
    - Increased use of universal design principles in the initial capital planning stages of campus facilities

- The Maryland Higher Education Commission, working with the segments of higher education, appropriate State agencies, nonprofit organizations, and the business community, should expand college awareness and outreach initiatives to include web-based applications and social marketing techniques. These initiatives should be designed to deliver a focused, branded message to all types of students of all ages, on preparation, careers after high school, college selection and application, financial aid, and other topics. They should also have the goal of familiarizing students with preparing for, entering, paying for, and succeeding in college. Initiatives developed should assist a wide variety of student populations and reflect the diversity of Maryland's students, and information should be available in accessible formats for the blind and print-disabled.

  Implementation Measures/Strategies
  - A public awareness campaign using MDgoforit.org, incorporating web-based applications and social marketing strategies, implemented by 2011

- Progress toward making all web-based applications and social marketing tools compliant with Section 504 and Section 508 of the Rehabilitation Act

- Maryland postsecondary institutions should work with administrators, faculty, students, bookstores, and publishers to establish best practices and other efforts to moderate and lower the cost of textbooks and course materials. Institutions should be encouraged to develop programs that provide the greatest cost-benefit to students, including students with physical and learning disabilities, using approaches that may be compatible across the various sector schools.

  Implementation Measures/Strategies
  - Increase in the number of programs and strategies implemented by institutions to moderate textbook costs
  - Minimum advance notification dates established for spring semester and fall semester by which time information on mandatory textbooks must be made available to students

- The Maryland Higher Education Commission should work collaboratively with the segments of higher education to develop a voluntary program to enable students of certain income and qualifications to complete their undergraduate degree programs 100 percent debt-free. This program should access all sources and types of student financial aid with the goal that the cost of a higher education is not a barrier for Maryland's neediest students.

  Implementation Measures/Strategies
  - Increase in the number of institutions implementing the program
  - Increase in the proportional amount of need-based institutional aid as reported annually to MHEC

- The State should make significant efforts to increase funding to award eligible students for the Howard P. Rawlings Educational Excellence Awards Program, the Part-Time Grant Program, Early College Access Grant, the Graduate and Professional Scholarship, and the Distinguished Scholar Community College Transfer Scholarship.

  Implementation Measures/Strategies
  - Percentage increase in funds provided in the State's budget for these programs from one year to the next

- Revise State need-based aid programs to promote a high level of student access and choice with the flexibility to accommodate students from a variety of circumstances.

  Implementation Measures/Strategies
  - Expansion of income eligibility for the Guaranteed Access Grant program to 150 percent of the federally defined poverty limit by fiscal year 2012
  - Incremental increases in the Educational Assistance Grant maximum award beginning in FY 2013

- Workgroup established to identify the best model for a graduated scale for awards and extension of application deadlines
- Cost of living formulas reviewed and adjusted as necessary to reflect appropriate student costs
- Development of simplified application process for State financial assistance

DIVERSITY

Goal 3: Ensure equal opportunity for Maryland's diverse citizenry.

Maryland's greatest resource is its diverse citizenry. Accordingly, the State is committed to ensuring equal opportunity for and access to high-quality postsecondary education for all regardless of characteristics that have historically narrowed the probability of full participation in Maryland postsecondary education. The definition and discussion of diversity in the *State Plan for Postsecondary Education* focuses on efforts to address Maryland's obligation to remedy past discrimination and to remove any vestiges of the *de jure* system that provided dual and unequal educational experiences to the State's residents. At the same time, the definition of diversity within the context of State planning must also embrace Maryland's varied and changing population. Demographic shifts in Maryland's population will continue to challenge and shape its postsecondary and workforce landscapes, thereby demanding a renewed focus on ensuring that all students in the State, regardless of their backgrounds or personal attributes, have access to a high-quality postsecondary education. Maryland cannot meet its economic or educational goals—to say nothing of its civic and ethical aims—if its postsecondary education system fails to serve students equitably. The State must attend to the following key issues to ensure that all students have the opportunity to take advantage of Maryland's postsecondary education system:

- Address population shifts toward more African-American and Hispanic Marylanders;
- Consider average income of prospective students and their families;
- Account for the particular educational needs of first-generation, first-time college students, non-traditional adult learners, and students with disabilities.

To accomplish Goal Three, the State of Maryland and postsecondary education institutions within Maryland must create and sustain a welcoming and supportive learning setting that promotes a high level of achievement for all students, both inside and outside the classroom. The State can implement the strategies below to ensure that it continues to provide educational opportunities for all that are both exceptional and equitable:

- Regularly evaluate its progress toward this goal;
- Adjust its policies, practices, programs, and services so that they are responsive to and consistent with evaluation findings; and
- Support and hold institutions accountable for a cycle of continuous improvement with regard to diversity.

By following these steps, Maryland will make progress toward achieving a postsecondary education system marked by quality, diversity, and equity. Key to this endeavor as well is the cultivation, education, recruitment, and retention of more minority faculty and professional staff throughout State-supported higher education. Educating and creating pipelines to terminal degrees that will increase the number of "minority" faculty and professional staff is an investment in the State's knowledge economy that is future-wise, cost-effective, and within State and institutional means. Public campuses will continue to update their progress in these areas by submitting their Performance Accountability Reports and Minority Achievement Action Plans to the Maryland Higher Education Commission (MHEC). As a result of 2008 legislation, State-aided independent institutions will also report on plans and activities related to cultural diversity.

As noted in the Significant Issues section, by 2011, a growing majority of Maryland's high school graduates will be African American and Hispanic. At the same time, the upward trend of larger high school graduating classes will decline, and the class of 2012 is estimated to have 3,500 fewer graduates than the class of 2008. Given the persistent retention and graduation rate gaps that separate minority students from others, these trends underscore the importance of promoting high achievement levels for *all* students at all points along the educational pipeline simply to maintain current educational attainment levels. If Maryland is to sustain the capacity of its workforce and the resources of its individual citizens, efforts to eliminate these gaps must be systematically developed and implemented.

While an increasing proportion of traditional age (18-22 years old) college students will be members of underrepresented groups, Maryland must also meet the needs of a growing population of students 25 years of age and older, a significant portion of whom will also be minority. As with the development of faculty and professional staff, it will be necessary to focus on effective ways to recruit, support, and retain older students. To best serve the needs of these individuals who often require flexible class schedules and locations and non-traditional ways of interacting with their peers and faculty, Maryland's postsecondary institutions will need to offer their academic programs and support services using innovative instructional approaches and a variety of delivery formats. Distance education, co-curricular learning, and collaboration among two- and four-year colleges and universities will require new and creative financial and policy support to meet these students' needs.

Closing the Achievement Gap

The gap in academic achievement that divides first-generation, low-income, and under-represented minority college students from their peers is evident across the country, and in some instances, the gap is growing. The achievement gap is reflected in college participation, retention, and graduation rates, and numerous national and local studies have concluded that it has damaging consequences for the State and the nation. Since postsecondary education has almost become a requirement for securing a well-paying job and enjoying a comfortable standard of living, this persistent gap poses a threat to having the highly skilled workforce necessary to sustain Maryland's economic development and competitiveness.

Community colleges are a critical component of Maryland's higher education system, and essential to any significant effort to eliminate the achievement gap. There are two primary reasons for this role: First, community colleges are, by definition, open access, which means that almost any high school completer is admitted without regard to academic preparation, and second, community colleges enroll a significant portion of Maryland's minority student population.

Many community colleges and public and independent colleges and universities have implemented programs in Maryland and across the country that close the achievement gap. There is research that demonstrates what strategies work. What is often missing is a sustained commitment—at the State level, institutional level, or both—to funding and implementing successful best practices. In April 2008, the Education Sector, a Washington, D.C.-based research group, issued *Graduation Rate Watch: Making Minority Student Success a Priority*, a

report on efforts by colleges and universities nationwide to close the achievement gap between white and African-American students. The report concludes, "While more research in this area is certainly needed, the biggest challenge in better serving minority college students is not creating new knowledge about how to help them; it is creating new incentives for institutional leaders to act on the knowledge that already exists." The research literature commonly cites the following areas as being inextricably linked to the achievement gap and underperformance issues that disproportionately and adversely affect first-generation, low-income, under-represented minority students:

- College-preparatory coursework—or lack thereof;
- Adequacy and sustainability of need-based financial aid;
- Participation in educationally purposeful activities;
- Experience with good practices in undergraduate education, including successful performance in gateway courses;
- Sustained academic support through degree completion;
- Focus on changing institutional culture and not just changing the student; and
- Centralization and coordination of resources for retention services and programs.

To eliminate the achievement gap, the State can systematically address four encompassing domains that adversely affect underserved students: *Preparation*, *Access*, *Participation*, and *Completion*.

Preparation

Preparation for college begins well before high school. The State must encourage and support efforts to align high school, college, and work expectations and to communicate to the public the dire consequences that have resulted and will result from failing to broadly improve student preparation for college. Key to that successful preparation is sustained progressive exposure and experience in academic programs that enable students to achieve grade-level proficiencies, particularly in reading and math, by the eighth grade. Proficiencies must be rigorously and critically examined and developed further in high school to reasonably assure pre-college academic preparation. Wherever necessary there should be early intervention to address skill weaknesses.

One strategy that has proven effective in increasing the rigor of pre-college preparation, particularly for low-income and minority students, is early college access (including, but not limited to, dual enrollment) programs that encourage high school students to enroll in college courses and take those courses on a college campus. Advanced Placement (AP) courses can increase the rigor of high school-based courses, but do not necessarily result in the student earning college credit. Early college access can both increase the rigor of the high school experience and expose students to the college environment. This is particularly important for under-represented minority and first-generation students who might not otherwise receive such an opportunity or assume college is for them. Coupling early college access programs with effective mentoring typically increases students' desire to attend college after high school. Maryland's community colleges enroll some 3,000 high school students in college-level courses, but there is room for significant expansion involving two- and four-year institutions. Support for early college access has been expressed by the Governor's P-20 Leadership Council and by the Commission to Develop the Maryland Model for Funding Higher Education.

Access

The Study Panel on the Comparability and Competitiveness of Historically Black Institutions, which was a part of the Commission to Develop the Maryland Model for Funding Higher Education, recommended enhanced funding to support the public HBIs' dual missions of educating the most qualified students, as well as those who were not adequately prepared to complete college-level work. Supporting this effort is one means of expanding access in Maryland. The State must also expand postsecondary opportunities for students who have the desire and ability, but not the financial resources, to be successful in college. National data suggest that *high*-achieving, *low*-income students—many of whom are from minority backgrounds—attend college at about the same rate as *low*-achieving, *high*-income students. More than two-thirds of college-ready, college-capable students from low-income families want to attend college, yet only half are able to do so. To increase college participation among high-achieving, low-income students, institutions with the greatest resources and the lowest proportions of first-generation, low-income, and under-represented minority students should be charged with maximizing the enrollment rates of these groups by increasing their efforts to recruit, retain, and graduate individuals from these backgrounds.

Participation

One way to increase the college participation of first-generation college, low-income, and under-represented minority students is to create and or expand family and community support initiatives to raise college awareness and educational aspirations and to reinforce the importance of becoming college prepared and of persisting in college. Early college access described above is one example of such a support initiative. The State should recommend or provide incentives to promote these initiatives. To better understand what helps students stay and succeed in higher education, the State must do a better job of tracking a student from the point of initial enrollment in college through degree completion to initial post-graduate employment. It is not enough for higher education to monitor students closely only through the first and second years of matriculation.

In meeting the needs of all students, the State should encourage and recognize improvements in institutional conditions that contribute to student success and create student-centered learning environments. Examples include programs and activities such as first-year experience/seminars, effective academic advising, counseling, peer mentoring, summer bridge programs, learning communities, living-learning centers, and undergraduate research. Of particular importance is institutional commitment to student success in all general education and introductory courses in majors. Course redesign, which promotes student achievement by implementing innovative instructional strategies, should focus on subject areas that tend to be barriers to first-generation college, low-income, and under-represented minority students.

The second-year retention rates for first-generation college, low-income, and under-represented minority students are far below those of the general student population. The six-year graduation rates for these same students are even lower. More specifically, the retention rate gaps between all first-time freshmen and African-American students ranged from 6 percentage points in 1989 to 8 percentage points in 2007. The six-year graduation rate gap in 1989 was 21 percentage points, and nearly two decades later in 2002 the gap separating these two groups of students had

not narrowed and remained at 21 percentage points. Again, early intervention, adequate academic support services, and effective mentoring are essential to helping students persist and complete their degrees. More effort should be made to systematically track student time-to-degree and to address and remove barriers to progress.

Completion

With sustained, fully engaged effort, Maryland can eliminate its achievement gap and so become significantly stronger—educationally, socially, culturally, and economically. Meeting the educational needs of all students is a starting point in addressing this challenge. At the same time, the State must encourage and support sustainable efforts that target specific segments of the first-generation-college, low-income, and under-represented minority student populations. For example, the six-year graduation rates of African-American males compared with white males in research institutions is 59 percent versus 71 percent. In comprehensive Traditionally White Institutions (TWIs), the rate is 37 percent versus 52 percent. Hispanic males also experience graduation gaps as compared with other population subgroups. This systemic problem demands strategic partnerships involving the State, the Maryland State Department of Education, the University System of Maryland, Morgan State University, St. Mary's College of Maryland, community colleges, and independent postsecondary institutions. Given these gaps, the State should consider associate and baccalaureate degree completion—and/or transfer from community college—as opposed to simply enrollment, as the principal metrics of the success of higher education in meeting the needs of the citizens of the State.

To make major inroads in addressing these four areas (access, preparation, participation, and completion), local school districts and the State need to collect much better data on the performance of low-income students and the programs that contribute to their success, including a significant expansion of data-gathering that captures first-generation college students in the application and admission processes. Sharing the analysis of these data can be useful in identifying and replicating practices that sustain and improve levels of student performance. This analysis can also proceed to the recruitment of increased numbers of high- achieving low-income students who complete associate and/or bachelor's degrees. Other aspects of these four domains that are critical to closing the achievement gap include expanding services to adults and other nontraditional students, increasing need-based financial aid, improving affordability, reducing costs, increasing productivity, and supporting and emphasizing student-learning outcomes.

Enhancing Historically Black Institutions (HBIs)

The State of Maryland has identified as a priority for higher education the goal of providing the funding necessary to ensure that its four public HBIs—Bowie State University, Coppin State University, Morgan State University, and the University of Maryland Eastern Shore—are comparable and competitive with the State's public TWIs. There is and has been ongoing discussion of precise indicators that would determine "comparable" and "competitive." This goal of comparability and competitiveness was included in the *2004 Maryland State Plan for Postsecondary Education* and was an integral part of the State's commitments in its 2000 Partnership Agreements with the Department of Education's Office for Civil Rights (OCR). The Commission to Develop the Maryland Model for Funding Higher Education recommends that

"additional resources are needed" for public HBIs in Maryland to compete with other institutions (15). The Panel on the Comparability and Competitiveness of Historically Black Institutions in Maryland, established by the Funding Commission, notes,

> *HBIs historically and into the future have a dual mission. They are committed to the traditional mission of any institution of higher education to provide a quality educational experience and guide students to the attainment of an undergraduate degree. HBIs in the State of Maryland also have as their mission to address the educational needs of students who come from families with traditionally less education and income and who are often under prepared as a result of their circumstances – not their abilities – for college level work. Helping these under prepared students earn a bachelor's degree is central to the HBI mission. This function for the HBIs is disproportionately more important than in the TWIs. Simply comparing the traditional indicators of capacity (funding levels, student-faculty ratios, etc.) poses the question: What kind of capacity is truly needed to carry out such a challenging mission? (98)*

Substantial additional resources are needed to ensure the State's public HBIs with their dual missions are comparable to Maryland's TWIs in their capacity to be competitive with respect to the following areas:

- Recruiting, retaining, and graduating an academically, racially, culturally, and ethnically diverse student body;
- Attracting and retaining quality faculty able to teach, conduct scholarly activities, and perform services consistent with each institution's mission;
- Generate external revenue by securing contracts and grants from Federal and State agencies that support instructional services and enhance institutional infrastructure and facilities; and
- Form partnerships with businesses and foundations that expand educational opportunities for students and that promote development in the communities proximate to the institutions.

Institutional Platform

The HBI Panel notes that the "institutional platform" includes university-wide operational as well as facility capacity indicators. According to the HBI Panel, the institutional platform "must provide students, faculty, and administrative staff with an attractive, safe, and administratively effective environment in which to live and work" (113). Strengthening the institutional platform is also a critical element in enhancing targeted doctoral programs at the public HBIs so that they achieve a very high level of excellence.

Although not addressed by the HBI Panel, another key aspect of the institutional platform that must be enhanced at public HBIs is the capacity to deliver information technology (IT) services, including distance learning, as well as administrative support, comparable to the IT services delivered at public TWIs. The lack of comparable IT services restricts the capacity of HBIs to compete in certain markets for students and to be competitive in the delivery of effective and efficient administrative services.

Access to Opportunity

The majority of instructional resources at HBIs are used to educate students who meet the regular admissions criteria established by the institutions, and who are educated consistent with their respective missions. Therefore, funding for HBIs must include resources necessary to enhance instructional services for regularly admitted, academically prepared students regardless of race and/or socioeconomic status. This fact notwithstanding, HBIs also enroll a disproportionate share of low-income students who are not academically prepared to successfully matriculate in college, and adequate funding is also required to enhance the access and success rates of these students.

In summary, the investment of substantial additional resources by the State needed to ensure that its public HBIs are comparable and competitive with its public TWIs refers to the sum total of resources needed to deliver on the HBIs' dual missions of educating high-achieving students as well as others who may require supplemental support, i.e., students from low-income households and underrepresented minorities.

Cultural Competence

Institutional and programmatic effectiveness in a diverse academic environment requires responsiveness to the dynamics of cultural difference. This is true not only in a diverse academic environment, but also in the workplace and communities. A culturally competent institution within the meaning of this goal is one that engages in a set of measurable activities designed to assist everyone at the institution in learning about and responding effectively to all the people it serves. Postsecondary educators also have a responsibility to prepare students to be culturally competent in settings beyond the campus. The operative terms in cultural competence are inclusivity and responsiveness. Being intentionally inclusive and responsive to cultural differences requires that institutions design well-planned and measurable strategies, with accountability components, to ensure that institutional programs and activities are operated in ways that are inclusive and equitable for the various cultural groups served.

Leadership at an institution of higher learning cannot achieve cultural inclusivity and responsiveness merely by ensuring that students, staff, and faculty on campus are culturally diverse. Institutions that are culturally inclusive and responsive go beyond hiring and training efforts and treat cultural diversity as a value-added resource. They create well-designed measurable goals and outcomes that ensure there are ways the daily activities of the institution promote cultural inclusivity and responsiveness at all levels--administration, faculty, and students. Some of the goals and activities that can be used to create and sustain a culturally inclusive and responsive institution include the following:

- Being intentional in recruitment, hiring, promotion and retention of diverse administrators and faculty (this must include ensuring that cultural diversity is reflected at executive and other decision-making levels of the institution);
- Being intentional in recruiting a culturally diverse student body;
- Investing in professional development about issues of culture, cultural competence, diversity, and equity;
- Ensuring attention to cultural issues in outreach, programming, and service delivery;

- Setting measurable expectations (with accountability factors included) to ensure that practices will be adapted to address the needs of the institution's diverse population;
- Institutionalizing the institution's commitment to cultural inclusivity and responsiveness by expressing its perspective in its mission statement, policies, and goals;
- Weaving or integrating cultural knowledge throughout the organization's work into every facet of the institution's daily operations; and
- Ensuring equitable respect for all cultures throughout the institution.

Given that the State anticipates significant growth in its non-traditional and minority student populations, its faculty and institutional administrators will need to achieve new levels of inclusivity and responsiveness. Similarly, the State's public colleges and universities are experiencing an increase in the number of students who possess a variety of physical and mental disabilities, which may be hidden or not properly diagnosed, and that challenge their successful academic achievement. Administrators and faculty will need to achieve new levels of inclusivity and responsiveness to accommodate students with disabilities, including fostering awareness of campus services and programs. Faculty and institutions will need to cultivate and adopt best practices continuously to maintain currency with a changing student population throughout the state.

Action Recommendations

- To promote the comparability and competitiveness of its public Historically Black Institutions (HBIs) with its public Traditionally White Institutions (TWIs), the State of Maryland should adopt the following primary recommendations of the HBI Study Panel of the Commission to Develop the Maryland Model for Funding Higher Education:

    - The State should provide supplemental funding for initiatives to promote a higher level of academic achievement for all students at public HBIs.

      Implementation Measures/Strategies
      - By September 2009, report developed by MHEC in collaboration with the public HBIs that identifies best practices to improve the success rates of students at public HBIs
      - Increases in year-to-year retention and graduation rates of students attending public HBIs.
      - Increases in year-to-year retention and graduation rates of public HBI students who are required to take developmental courses upon entry.

    - The State of Maryland should develop the institutional platform at the public HBIs and identify doctoral programs for targeted development.

      Implementation Measures/Strategies
      - Development and submission to MHEC of strategic plans consistent with their mission and Carnegie classification by public HBIs designed to improve institutional platforms to make them comparable to a quality institution of the same Carnegie classification

- MHEC, in collaboration with the public HBIs, should develop capacity and outcome indicators to measure comparability and competitiveness of identified doctoral programs

- Accelerate funding for public HBI capital priorities that build institutional capacity related to comparability and competitiveness.

  Implementation Measures/Strategies
  - Increase in funding in the annual capital budget for HBI capital projects

- The State, working with the segments of postsecondary education, should focus further attention on closing achievement gaps where they occur and monitor progress on a regular basis.

  Implementation Measures/Strategies
  - Year-to-year reduction in the statewide graduation, retention, and remediation rate gaps that separate low-income, African-American, and Hispanic (where applicable) students from their peers, based on data availability

- The State should consider associate and baccalaureate degree completion—and/or transfer from community college—as opposed to simply enrollment, as the principal metrics of the success of higher education in meeting the needs of the citizens of Maryland.

  Implementation Measures/Strategies
  - Development and reporting of a statewide degree completion metric
  - Year-to-year increases in the statewide degree completion rate as measured by this metric

STUDENT-CENTERED LEARNING

Goal 4: Achieve a system of postsecondary education that promotes student-centered learning to meet the needs of all Marylanders.

Goal Four addresses "student-centered learning," defined here as educational practices focused on the learner and on learning, with faculty and institutions directing attention to the most effective ways to facilitate and maximize learning for each student. To be successful in delivering student-centered learning, faculty and institutions must direct attention and resources to student learning processes and how instruction and other services can most effectively respond to those processes. Within this context, postsecondary education must determine the best avenues for the delivery of expanding fields of knowledge in rapidly changing professions, including the profession of teaching itself.

A person's ability to learn increasingly complex knowledge is built on a solid foundation. Consequently, the teachers of this foundation, and those who teach the teachers, are vitally important in creating successful schools and students. Teachers of primary and secondary education are charged in this country with the creation of an educated citizenry, and such education itself is itself required by law. Postsecondary education is voluntary and yet crucial for individual and family opportunity, and for economic development as a State and nation. The solid foundation provided in the first years of higher education creates crucial building blocks for increasingly complex learning. Core competencies in such areas as critical reading, effective written and oral communication, and quantitative, visual, and information literacy make possible advanced undergraduate learning, which in turn paves the way not only to graduate study for an increasing number of Marylanders, but also to the workforce of a knowledge-based economy.

Student-Centered Learning System

Creating a student-centered learning system is an essential means of addressing differences among learners in manageable and effective ways. Faculty members want to address the learning needs of very different students and are to be applauded for their hard and creative work across the disciplines to advance and transmit knowledge. But all too often faculty have been left with only minimal public or institutional support for the pedagogical, student service, and faculty development tools they need to secure students' academic success and degree completion. A student-centered learning system should provide resources for teacher education and faculty development by sharing best practices among all Maryland institutions. Student-centered learning systems are developed when the following occur:

- Students are engaged as active participants in their learning;
- Overall learning goals and objectives (standards) are established while multiple paths to achieving these are facilitated;
- Learning can be/is individualized in pace, pedagogy/curricular design and content modules, and all learning styles are included and available;
- Learning is assessed in ongoing feedback loops that identify learning gaps as they occur;
- Because learning gaps are addressed as they occur, student achievement and success are maximized;

- There is a willingness to adapt and be flexible in addressing changes in student lives; and
- Attention is paid to lifelong learning.

A systematic approach to student-centered learning emphasizes core educational competencies for all students. These competencies become increasingly complex as students progress. Regular assessment during a course (i.e., formative assessment) helps identify learning gaps and weaknesses so adjustments can be made to ensure that a student's educational foundation is solid as he or she progresses. End-of-course or summative assessment is a foundation for determining the outcomes of student-centered learning and identifying adjustments at the student, faculty, or institution levels that can be made as needed. Such ongoing feedback for learners is essential to eliminate learning gaps that may result in subsequent and significant educational roadblocks.

In creating a systematic approach to student-centered learning in Maryland, there are opportunities and challenges:

- College and career readiness encompass both opportunity and challenge. Maryland has the opportunity to articulate clearly what is required of students entering higher education so secondary institutions know the benchmarks for college preparation, readiness, and success. Higher education professionals have the challenge to work collaboratively with secondary education colleagues on alignment and articulation.

- Maryland educators have the opportunity to focus more clearly on core competencies necessary for student engagement and success. The challenge is to define and measure these core competencies so as to develop curricula around them to capture and keep student interest in learning. An additional challenge is to develop these curricula and programs so that they address and quickly close learning gaps where the alignment between secondary and postsecondary education has not been achieved or where student learning has lagged.

- There is great opportunity to utilize national best practices and successful models to strengthen core competencies for all undergraduate students. Maryland is challenged to provide sufficient resources for faculty development, curricular design, and national leadership in educational accountability and workforce development. The State, like the nation, is challenged to add rigor to its educational systems to be competitive in the global economy.

- Finally, Maryland has the opportunity to align core competencies within higher education for the transitions of students from general study in the first years of higher education to their major fields of study in their subsequent years of undergraduate work. A strengthening of core competencies for all students affords them more opportunities with regard to choices of major and career and presents an opportunity to strengthen the preparation of workforce candidates in all fields, as well as helping to increase the numbers of people entering high-need fields. The challenge is to create curricula that lend themselves to addressing all learning styles. Knowing that students' cognitive abilities follow different paths to comprehension of educational material, it is important to address alternative cognitive approaches to keep all students on course to mastering the necessary core competencies for higher education.

Educational Transitions

Alignment

Maryland's preK-12 schools were recognized by *Education Week* (January 7, 2009) as first in the nation and received high marks for college preparation relative to other states. Even with this outstanding record, approximately 40 percent of Maryland high school students enter college without taking a college preparatory curriculum. Additionally, the percentage of students who take a college preparatory curriculum in high school but still need remedial assistance is rising. This situation is placing great pressure on postsecondary institutions, especially community colleges, to provide developmental education that will ensure academic success. Efforts of the Governor's P-20 Leadership Council to encourage alignment of high school curricula and postsecondary entrance requirements should be supported to decrease the need for developmental education of recent high school graduates. Alignment with workforce demands—a key element of P-20 Leadership Council efforts—also calls for students across the P-20 curriculum to engage in challenging and rigorous study. National efforts like the American Diploma Project and local efforts like the Maryland Scholars program of the Maryland Business Roundtable for Education call upon educators to recognize that to be career-ready after high school, students need preparation comparable to that required for being college-ready.

Alignment P-20 means that the educational system is structured and conducted to ease students' movement from one level of education to the next. Successful alignment work already done within the Maryland P-20 educational community since 1995 includes developing common community college placement tests and cut scores, English composition scoring ("C-paper" standards), bridge planning in mathematics, the development of the Associate of Arts in Teaching (AAT) degree, the development of the Associate of Science in Engineering degree (ASE), which adopted the same type of outcomes-based approach to articulation. These programs can be the model for other articulation agreements; both the AAT and the ASE were the first agreements of their kind in the nation. Higher education alignment efforts can also be informed by the expertise of the Career Clusters model of MSDE's Division for Career Technology and Adult Learning and the work of industry clusters through the Governor's Workforce Investment Board.

College- and career-ready students depend on high-quality teachers, and teacher education is a linchpin in the Maryland educational system to ensure that effective teachers are preparing high-quality preK-12 students for their postsecondary education. Maryland's teacher preparation policy known as the *Redesign of Teacher Education* emphasizes strong academic background, extensive preparation in clinical internships, ongoing performance assessment, and linkage with Maryland's preK-12 priorities. To expand upon the nationally recognized success of this policy, higher education, in collaboration with MSDE and MHEC, should review and update the *Redesign* to better reflect new research on multiple pathways to teacher certification and the importance of streamlined models for career-changers and others who did not major in teacher education as undergraduates. Other important areas for consideration in a 21st-century teacher preparation policy would be STEM-specific concerns and issues pertaining to global learning. Maryland's nationally acclaimed work with professional development schools (PDS) should continue to be supported for its effectiveness in preparing highly qualified and effective teachers

who—Towson research shows—are retained in teaching at higher rates than those not prepared in PDS.

Many prospective teachers, many other prospective baccalaureate holders, and many people seeking a technical career begin their work in Maryland community colleges. In fall 2007, enrollment at community colleges represented more than 50 percent of undergraduate enrollment in postsecondary education. In 2008, more than 8,600 Maryland community college students transferred to four-year colleges. Since more than a third of first-time, full-time Maryland community college students continue their education after two years, resources need to be available for the many students who choose to transfer to Maryland four-year schools.

Transfer

Many disadvantaged and lower-income students begin their college careers at community colleges because they are less expensive than four-year institutions. Students may also choose community colleges because they see value added in that environment, and they can remain living at home while attending college prior to transferring or taking jobs. One of Maryland's strengths in terms of access is its strong record of successfully articulated programs and its online transfer tools, including ARTSYS, which help students understand and make effective transitions when moving between colleges. Using its capacity as a P-20 educational community, Maryland should seek opportunities to develop additional articulated programs following the model of the AAT, and now the ASE, in which representatives from preK-12, community colleges, and four-year institutions agreed upon core content in a number of areas. These efforts should be continued and expanded to enhance articulation laterally and vertically across all higher education segments to create a seamless network that enhances student success.

Educational Longitudinal Data System

Measuring the attainment of a student-centered learning system will require data on individual students over time, from pre-K through postsecondary education. Better data can help in understanding student pathways, student preparation, and a host of other issues with strong policy implications. Such data might identify, for example, when students enter teacher preparation pathways and other career and technology pathways in high school and determine if those students follow those pathways past high school. The development of effective policies to eliminate the barriers to educational transitions, to ensure student persistence and success, to assist students in degree completion in a timely manner, and other policy areas require the examination of data from all aspects of the educational system. Accomplishing this task of developing a statewide educational longitudinal data system requires a serious commitment as the Data Quality Campaign reports that Maryland currently (as of January 2009) meets only three of ten essential elements of a K-12 longitudinal data system. For this and other reasons, the Commission to Develop a Maryland Model for Funding Higher Education recommended the construction of a P-20 educational longitudinal data system.

One way to track the college readiness of students is through such a longitudinal data system. In the higher education community, the longitudinal tracking of students is well established, both nationally and within the State. Maryland higher education institutions began developing enrollment and degree-tracking systems that collect data on individual students in the mid-1970's and have used similar systems to calculate retention and graduation rates since 1980. These data

systems were expanded during subsequent years to calculate performance data on recent high school graduates and community college transfer students, as well as to examine student financial aid information. Any future effort to create a longitudinal data system should take advantage of these higher education systems: Enrollment Information System (EIS), Degree Information System (DIS), and Financial Aid Enrollment System (FAIS). These systems use Social Security Numbers to identify and track students, and the data produced by them are currently used as basis for much of MHEC reporting, research, and accountability measures. In 2007, MHEC began an initial evaluation of the issue of linking preK-12 and higher education longitudinal data systems as part of an inter-segmental work group established to address data reporting changes required by the U.S. Department of Education for 2010.

Education leaders within Maryland recognize the need for the linkage and/or integration of data between preK-12 and higher education communities. Looking toward the future, tracking student performance across the State, P-20, will require the expansion of accountability throughout the entire education spectrum. The development of meaningful and useable accountability measures and the need to analyze student performance from those measures requires the use of detailed student-level data. These data need to be collected in a format that is useable and accessible across Maryland's education segments.

Student-Centered Education

General Education and Student-Centered Learning

The commitment to expanded college access needs to be anchored in an equally strong commitment to educational excellence in Maryland higher education. Student success in college cannot be defined only in terms of enrollment, persistence, and degree completion. While these metrics are necessary, they are not sufficient to ensure that students are actually achieving the kind of learning they need to be successful in the 21st century.

General education establishes an important foundation for students to succeed in higher education and in the workplace. The general education framework of an institution of higher education should define a set of educational learning outcomes that provide a sense of purpose and direction to guide student progress across the many different parts of the academic system. Clear communication between two-year and four-year institutions regarding competencies and expectations of core knowledge and skills is necessary to ensure that students receive the guidance they need. Defining and communicating benchmarks for critical reading, writing fluency, quantitative literacy, critical thinking, and problem-solving will help institutions ensure that their students are well prepared to be successful throughout their college experience and into the workforce. Students should have multiple opportunities within their college experience to acquire core competencies and appropriate academic support to work toward the intended outcomes so they can reach high levels of success.

Upper-level Education and Student-Centered Learning

Upper-level education provides students opportunity to move from basic, general study to the in-depth study of a limited number of topics that can move them into the workforce or graduate study. To meet the needs of educating students in the liberal arts and in professions, colleges and universities must appropriately staff and support high-needs employment areas, such as teacher

education, STEM fields, and nursing, while continuing to provide a solid core foundation of skills. Rigorous study in an environment of discussion and exploration helps students become both consumers and producers of research, a skill necessary for lifelong learning. Senior theses and portfolios are two examples of venues for critical thinking and problem-solving that require the use of writing, technology literacy, and often mathematics; furthermore, these culminating projects require synthesis and reflection, skills needed throughout one's personal and professional life.

As students progress from the core curriculum to more focused attention on their major areas of study, supports must remain in place for those who continue to struggle. Learning requires a change in behavior—one's knowledge base expands and one interacts with information in different ways at higher levels. These changes do not always occur in a linear fashion, nor do the changes happen the same in each area of study. The basic skills developed in the early college experience serve as a foundation for continued study of subjects of interest to the student. Some students continue to be challenged and require a continuum of support.

Additionally, opportunities should be available for students to become intentional learners in diverse learning environments. An intentional learner is purposeful and sets clear goals. Intentional learners understand the reasons for learning and their own learning processes and use many sources when making decisions. They have reasons for their actions and often make the hard choices as they apply the skills they learn in the classroom to solve problems in their own lives and in the larger community. Diverse learning environments include service learning, study abroad, and internships and externships that help bridge classroom lessons and real-life applications. Positive experiences in the broader community create opportunities to develop skills and relationships in settings where critical thinking and writing fluency, media and technological literacy, and quantitative literacy take place in authentic settings. Internships and service learning allow students to connect with society at large to apply their knowledge and skills for the common good. These opportunities allow students to take personal responsibility for workplace tasks, expand upon their knowledge of their topic of study, and learn more about themselves.

Upper-level education is the gateway to the workforce as a lifelong learner who has the skills to excel in jobs that have not yet even been invented. Beyond the core curriculum, advanced courses of study place students in an environment of content expertise, professional learning, and the quest for knowledge beyond their grasp—all needed for success in the work world. The transition from college to workforce can be supported through internships, mentoring of students by industry, case-studies, capstone projects, and industry-based research projects which place students in professional situations prior to graduation.

Support for Faculty Professional Development

For academic institutions, the core accomplishments are fostered by the faculty. Graduate education that prepares people to become leaders in their fields rarely provides much preparation addressed specifically to becoming an effective teacher, but effective teaching is critical to increasing graduation rates and achieving other student-centered goals. Increasingly, institutions are creating centers for faculty professional development that focus on teaching improvement

and excellence, and there are also a few professional associations and conferences that focus on teaching. However, none of this is yet sufficient to provide an appropriate level of professional development support for faculty to be maximally successful in creating and maintaining a student-centered learning system.

Maryland higher education could create a national model of collaboration by bringing together all of its leaders in teaching improvement and excellence from all segments to design and deliver ongoing professional development programs for faculty at regional locations such as the regional higher education centers. Comprehensive programs can be created by calling upon the substantial expertise within Maryland higher education. The important thing is to determine what professional development needs are primary for the creation and maintenance of a statewide student-centered learning system, and then to deliver high quality supportive programs on a regular basis at convenient locations.

To strengthen student-centered learning, faculty should be encouraged to develop classes that engage students with content in ways that address their learning needs, so they will need access to cutting-edge tools of industry, but also cutting-edge tools of instruction. Using current resources such as streaming technology and high-tech access to almost unlimited information, faculty will be able to meet the students where they are. Faculty can use these tools not only to improve instruction, but also to spark students' interest in the material and its applications.

Discussions of faculty professional development should be interpreted to include adjunct faculty in all activities. While the majority of faculty members at Maryland institutions are full-time, most institutions have a substantial minority of adjunct faculty who need this support and are as open as full-time faculty to expanding their knowledge and skills to become more effective in their ability to reach students and excel as educators.

Campus-based teaching and learning centers can provide support for planning, teaching, and assessing student success. Such centers encourage a culture in which faculty share successful strategies with each other to the improvement of all. Through course development workshops, faculty forums, brown bag lunches, and other means, centers can provide instruction, support, and dialogue around improving teaching and learning. Topics that may be addressed include syllabus development, learning and teaching styles, technology integration, mentoring students with various needs, differentiation of instruction and assessment, alignment of curriculum and assessments, using data to inform instruction, peer coaching, observations and site-visits to best practice locations, and managing internships in the community.

Resources will be needed to improve instruction, differentiate instructional materials, purchase state- of-the-art lab equipment, and innovative technology applications. By modeling lifelong learning, accessing and using current research on teaching and learning, and focusing on real life issues, faculty will become the 21st-century teachers needed by 21st-century students.

Professional Development Schools (PDS)

Another arena for improving teaching and learning involves collaboration between higher education and preK-12 education professionals. Professional development schools (PDS) utilize a partnership similar to that in a teaching hospital where interns and their mentors work together

to solve medical problems and improve the teaching and learning for all. Faculty and administrators from higher education and preK-12 schools expand their knowledge and skills as educators while participating in the learning of preK-12 students, the teacher interns, and the certified teachers in the PDS. PDS serve as sites to develop pre-service teachers, support the continual professional development of secondary and postsecondary faculty, and address school improvement needs of each site. PDS work is built on the alignment of teacher preparation with the reality of public schools.

Outcomes

Assessment for Continuous Improvement

Goals are created to provide guideposts for academic progress and achievement; they should be measured. Measured goals and objectives link general education, majors, and overall learning outcomes. Measuring provides information on individual students, on courses, on majors, on faculty, on student cohorts, and on institutions. Measurement is undertaken to provide crucial information about which teaching and learning endeavors work and which endeavors need to be improved. Assessment is conducted to facilitate continuous improvement in higher education's knowledge of curricular development and pedagogy. Assessment for continuous improvement is integral to a student-centered learning system. With the information gained from assessment, changes can be made to improve student learning.

Formative and summative assessment should both be used for systemic improvement. While individual student performance assessment is important, it is the institutional application that makes possible continuous improvement. Additionally, implementation of the longitudinal data system will help the State to collect, analyze, and utilize information to improve both instruction and learning. Such a system can facilitate for institutions and for the State measuring for accountability.

Time-to-Degree, Retention, and Graduation

The traditional thinking that a student will earn a degree in four years is not reflective of current practice. According to the May 2009 *Retention and Graduation Rates at Maryland Public Four-Year Institutions* report by the Maryland Higher Education Commission, of new first-time undergraduates who enrolled at Maryland four-year public institutions in 2002, 38 percent graduated in four years, 59 percent in five years, and 64 percent in six years. Independent institutions also have significant percentages of students who need more than four years to complete a baccalaureate degree, and community college students who earn associate degrees commonly take more than two years to do so. Barriers to earning an associate degree in two years or a bachelor's degree in four years include weak student preparation, changes of and/or delay in selecting a major, transfer between schools, and dropping or repeating courses. Institutional factors that can contribute to extended time to degree include student-advising problems, cost and/or availability of financial aid, and course availability.

In a student-centered learning system, the focus should be on creating an educational environment that facilitates as timely a degree as possible given a student's unique circumstances. The policies created to address time-to-degree should promote efficient use of

resources while not penalizing those students who may not fit the traditional time frame of enrollment.

While the graduation rate of students at Maryland's four-year colleges reached a historic high in 2006, the percent of first-year college students who returned for their second year dipped below 80 percent for the first time in ten years and could signal the end of the positive trend. The second-year retention rate for all full-time, first-time undergraduates at Maryland public institutions dropped from a high of 82.6 percent for the cohort of 2001 to 79.8 percent for the 2005 cohort. The second-year retention rate for African-American students, 72.2 percent, was its lowest in eighteen years (MHEC, June 2007). Clearly, retention is a significant issue for Maryland.

Vincent Tinto, a scholar known for his work on student retention, argues in "Taking Student Retention Seriously, Rethinking the First Year of College" *(NACADA Journal,*19[2]) that students are most likely to persist and graduate in settings that take advising seriously, that provide support—academic, social, and personal—and that involve them as valued members of the institution. The University System of Maryland has received national recognition for shortening time to degree through the Effectiveness and Efficiency Initiative. According to the USM *Report on the Fiscal Effects and Implementation Strategies for Efficiency Initiatives*, "in FY 2007, student time-to-degree was shorter (8.9 semesters) and 4-year graduation rates were higher (39%) than at any time since the numbers were first systematically tracked in the early 1980's."

Maryland has come far in its endeavor to give students the opportunity to accelerate their time to degree and to increase the postsecondary system's capacity to accommodate more students. Work should continue to develop policies and programs that facilitate student degree completion in a timely manner, particularly for minority and first-generation college students. Further effort should be expended in developing and systematizing alternative modes of course delivery that will allow students more choices and flexibility, e.g., distance education, trimester programs, summer bridge programs for remedial work, freshmen connection programs, and online courses.

Action Recommendations

- In support of alignment issues, a partnership of the Maryland Higher Education Commission, the Maryland State Department of Education, Maryland four-year and two-year public institutions of higher education, school districts, and other parties as deemed appropriate will work over the next year to develop a plan for linking and/or integrating postsecondary institutional data with preK-12 data at the student level.

  Implementation Measures/Strategies
  - A workgroup charged with developing a plan for creating a longitudinal data system will be formed in FY 2010, with final report and recommendations forwarded to policymakers within 9-12 months of the workgroup's formation

- As the coordinating body for higher education in Maryland, MHEC will work with all higher education segments to support and disseminate best practices in the formative

assessment of general education competencies with particular attention to the critical areas of reading, writing, mathematics, and the sciences.

Implementation Measures/Strategies

- An intersegmental workgroup with institutional representatives will create an inventory of best-practice models in formative assessment of general education competencies to be shared and disseminated to institutions via the higher education segments

- MHEC will work with the higher education segments to launch a collaborative statewide initiative focused on creating and enhancing faculty development efforts for full-time and adjunct faculty in support of a student-centered learning system.

  Implementation Measures/Strategies

  - Creation of an inventory of best-practice models, including professional development schools (PDS) for teacher education and centers for teaching and learning excellence, that support the development of effective pedagogical techniques and emphasize formative assessment of student learning

- MHEC, in collaboration with MSDE, will coordinate the review and appropriate revision of the *Redesign of Teacher Education* to meet the needs of a diverse population.

  Implementation Measures/Strategies

  - Create a task force with higher education and MSDE representatives to coordinate the review and appropriate revisions of the State's teacher education policy
  - Task force to be charged with paying special attention to the skills needed to prepare all students for college, especially those student populations underrepresented in higher education, and to increasing the flexibility of teacher education programs to expand the pipeline into teaching
  - Task force recommendations for the development of a stable, predictable funding strategy to support PDS appropriate to role of PDS within State policy

- Institutions of higher education should work collaboratively with MSDE, the Maryland Department of Disabilities (MDOD), and other appropriate organizations to establish programs and services to assist students transitioning from high school to postsecondary education. Programs and services should foster an environment that encourages students with hidden disabilities to more readily utilize available resources and encourage students to obtain appropriate documentation to receive services.

  Implementation Measures/Strategies

  - Increase in the number of students seeking and receiving assistance as reported by the institutions' student services offices

ECONOMIC GROWTH AND VITALITY

Goal 5: Promote economic growth and vitality through the advancement of research and the development of a highly qualified workforce.

The advancement of knowledge, the development and implementation of technology, and the expansion of a highly trained workforce are essential to Maryland's economic vitality, especially in times of economic and environmental change. An educated citizenry that has the ability to adapt to the changes in the global market has become the number one resource in attracting new businesses and in maintaining a healthy economy. Maryland has been fortunate in that its proximity to the nation's capital and numerous federal agencies has resulted in a workforce that is among the most highly educated in the world. But as other industrialized nations are now raising the educational levels of their citizens beyond the educational attainment levels of U.S. citizens (*Education at a Glance*, OECD 2007), Maryland needs to take action to retain this competitive advantage. Maryland relies upon universities, colleges, community colleges, and private career schools across the state to meet changing workforce needs.

The Advancement of Research

Attracting research funding and commercializing research are vital activities for Maryland's growth in the global economy. Innovation, invention, and the commercialization of intellectual properties are important products of university research. Maryland universities collaborate with Federal research centers and private industry to develop, evaluate, and transfer technology into economy-building industries. Through such efforts, Maryland has become internationally renowned for research and development in areas such as genomics, biotechnology, aerospace engineering, the physical and environmental sciences, medicine, and software engineering. According to the Milken Institute's 2008 *State Technology and Science Index*[1] ,Maryland ranks second overall, behind only Massachusetts, in its technology and science capabilities (up from fourth place in the 2004 *Index*). Because Maryland increasingly competes not only with other states, but also with other regions of the world for jobs and workers, the State cannot afford to let its focus drift from efforts to enhance research and development.

Maryland's challenges in the advancement of research are to build on existing research and development success, expand this success by attracting more individuals with the ability and interest to pursue advanced research, and promote entrepreneurial activity to enhance economic vitality. For example, opportunities exist to expand international trade through further collaborations among Maryland's higher education institutions, the Maryland Department of Business and Economic Development (DBED), and the Maryland Technology Development Corporation (TEDCO). Internationally, nationally, and regionally, Maryland universities advance science and technology through work on their campuses, in research centers, and at permanent instructional sites abroad, as well as through foreign faculty exchange agreements and the recruitment of highly qualified graduate students. Research and technology transfer such as that conducted by the University System of Maryland, Morgan State University, and the Johns

[1] The *State Technology and Science Index* takes inventory of the technology and science assets that can be leveraged to promote economic development in each state. It factors in 77 individual indicators that comprise five equally weighted major composites.

Hopkins University invite worldwide interest and collaboration. Still, according to the National Science Foundation (NSF), technology transfer from Maryland research institutions has been less robust than their overall research leadership.

Stimulating Growth

One means of stimulating economic growth in Maryland is for the State and higher education institutions to sustain and build upon their success in securing Federal and private funding for research and development. Increased sponsored research funding translates into a broader knowledge base, greater innovation, and more jobs, both at the research stage and as research leads to industry development. According to the NSF Division of Science Resources Statistics (FY 2005 data), Federal obligations for research and development at Maryland universities and colleges totaled approximately $1.4 billion, fourth highest in the U.S. Additionally, NSF found that the Maryland science and engineering industry supports close to 5.6 million jobs worldwide. For maximum impact, current resources need to be leveraged and increased. Maryland can do this through continuing to develop university-based technology research parks and expanding its Maryland Industrial Partnerships (MIPS) program, which jointly funds collaborative research and development projects between companies and University System of Maryland faculty. The State should continue to encourage, promote, and support cooperation among campuses, industry, and government research laboratories in developing products and providing services that have commercial, environmental, and social utility. Multi-institutional collaboration is necessary to successfully compete for large-scale scientific projects such as those identified by the President's Council on Science and Technology in areas including life sciences, renewable and sustainable energy and the environment, nanotechnology, and information technology.

Facility Demands

As noted above, Maryland currently has research space deficits. Increasing the number, size, and quality of research facilities in the state would foster interdisciplinary research and intra- and inter-institutional collaboration. Research institutions and faculty should continue to be supported to pursue patents, licenses, and start-up businesses, benefiting from guidance and funding from organizations like TEDCO. While Maryland is currently home to 21 business incubators, more technology incubator space and research park space for companies and allied research efforts are needed to maximize the potential of academic research to impact the State economy. With the support of TEDCO, these 21 incubators are offered shared resources, access to state-of-the-art equipment and facilities, and business assistance. Although most of these incubators are technology-based, some offer general business assistance and opportunities for growth. Continued State investment of infrastructure dollars and other resources can expand the growth of all business incubators and assist with the infrastructure needs of existing incubators.

Attracting Researchers

Maryland cannot grow its research and development efforts without people who have the science, technology, engineering, and mathematics (STEM) proficiencies necessary to conduct complex research at the university level. Universities planning to expand these efforts need to enhance their means of attracting, cultivating, and retaining these individuals. The State, industry, and higher education are challenged with the need to wage an aggressive campaign to encourage more Maryland students to prepare for rewarding careers in research by pursuing STEM fields from elementary school through graduate school. Simultaneously, colleges and

universities should continue to recruit and retain foreign students, even while competition for these students intensifies internationally, both as they enter baccalaureate and graduate programs and as they enter the workforce upon graduation. Analyses should be performed to identify barriers to recruitment of out-of-state students and employees, such as residency status or tax responsibilities that may dissuade them from living in Maryland. According to MHEC trend data, in 2007 there were more than 13,000 foreign students attending undergraduate and graduate programs in Maryland, a 33 percent increase since 1999. This compares to a 22 percent increase in overall enrollment for the same period.

The Development of a Highly Qualified Workforce

Maryland postsecondary education should be poised to meet changing basic workforce needs to assure a vigorous and competitive State economy. It is not enough to have more students entering Maryland's postsecondary institutions, however. According to the Bureau of Labor Statistics, by 2014, seven out of ten jobs will not have existed in 2004, while 90 percent of all new jobs will require some type of postsecondary education or training beyond high school. Today's graduates will have an average of five different occupations in their lifetime and will need to be able to adapt and take on new training. To be able to address critical qualified worker shortages with appropriate training, such shortages must be accurately anticipated. The challenges are to proactively identify projected high-demand fields and qualified worker shortage areas and then to develop effective, flexible strategies to meet the identified needs. Strategies should be implemented to ensure ongoing alignment of educational and business needs to meet the demand for qualified graduates at all educational and training levels, from middle-skills technician training to post-doctoral education and research. Resources of varying kinds will be needed to implement strategies and to provide broad access to programs for all Marylanders, including untapped workforce populations such as the unemployed, underemployed, disabled and ex-offenders. According to the 2008 Maryland's Workforce Indicators published by the Governor's Workforce Investment Board, these populations account for approximately 286,000 potential employees.

Changing Workforce

To enable broad access to postsecondary education and workforce readiness, the State must effectively address Maryland's changing demographic makeup and the impact of these shifts on workforce needs. Several important workforce changes are occurring: the influx of Base Realignment and Closure (BRAC)-related personnel and positions will alter the type and distribution of occupations within the State; an aging workforce will either retire and leave hard-to-fill positions or re-enter the workforce and potentially require substantial re-training; and a growing immigrant population with diverse skill and education levels will increasingly hold important positions in the economy. Maryland's economy is based on its highly educated workforce, but substantial portions of this workforce have migrated from out-of-state to take advantage of professional opportunities. According to a 2008 Annie E. Casey Foundation report, *The Integration of Immigrants and Their Families in Maryland: The Contributions of Immigrant Workers to the Economy*, 35 percent of native-born Marylanders hold at least a bachelor's degree compared to 43 percent of individuals who have moved to Maryland from another state or country. For Maryland to have the workforce it needs, higher education must more effectively educate more in-state students. Furthermore, with a population that is increasingly minority, and with STEM industry opportunities stretching to more areas of the state, Maryland must ensure

that under-represented demographic groups have access to high-quality educational opportunities and participate in much greater numbers in STEM fields. Unfortunately, the costs for education and training that provide the appropriate preparation to address many workforce needs are significantly higher than other college-level courses and programs; financial aid strategies must be thought of as economic development tools.

Qualified Worker Shortages

Workforce needs are acute for a number of occupations, and the demand for well-trained instructors to adequately prepare the emerging workforce is a high priority. Only through an increase in the quantity and preparedness of Maryland's teachers can a workforce be grown and stimulated to meet current and emerging workforce needs. Although August 2008 saw half as many unfilled public education teacher positions as in August 2007, there were still over 400 unfilled slots, a gap that reflects national challenges of recruiting and retaining people in teaching and the State challenge of graduating enough Maryland-trained teachers to meet demand. The Maryland Teacher Shortage Task Force Report (2008) and the Governor's Workforce Investment Board Education Industry Sector Report (2008) recommend steps that can be taken to increase the number of individuals entering teaching, especially in shortage areas. Non-competitive compensation packages along with working conditions issues do not help with teacher recruitment into much-needed STEM disciplines when STEM discipline graduates can choose more highly paid careers in the private sector. As a result, there are critical shortages in STEM fields, as well as in special education, English for speakers of other languages, and career and technology education.

Additional critical workforce needs occur throughout STEM-related occupations, including the health care industry. These occupations include nursing, physicians (general practice and many specialties), information technology, aerospace, bioscience, and numerous allied health fields. Considerable demands continue to exist in hospitality/tourism, construction, and manufacturing with additional fields being identified in public service and electronics. It is essential that newly emerging fields like energy/renewable energy and green technology also be addressed. Postsecondary education in Maryland should continue to strive to mitigate and adapt to changing environmental and energy needs, maintain the State's leadership role in healthcare, prepare for BRAC, and support STEM workforce initiatives. Capacity in training programs is an issue for some fields, including nursing. Although nursing enrollments have increased, according to the 2005 *Nursing Faculty Shortage Report* of the Maryland Statewide Commission on the Crisis in Nursing, 1,850 *qualified* candidates were not admitted to Maryland's colleges and universities in 2004 because the nursing programs were full. Projections show that in the next 10 years, there will be a 40 percent increase in the need for nurses compared to a six percent growth in the supply of nurses.

Collaborative Efforts

To respond effectively to changing workforce needs, educational institutions need to continuously monitor the data landscape of existing qualified worker shortage areas and emerging high-demand occupational fields and industries. The continued development of timely and accurate State and regional workforce data would support this effort. Collaborative data collection and reporting efforts between education, business, and government should continue to be fostered, reinforced and improved. All postsecondary education segments should be included

in these efforts, along with Maryland Higher Education Commission, the Maryland State Department of Education, the Department of Labor, Licensing and Regulation, and private sector research and data collection entities. Additionally, the State must continue to adopt effective strategies to increase the supply of qualified graduates in high-demand fields and qualified worker shortage areas, such as is currently being done by the Advisory Council on Workforce Shortage. This should be done while taking into consideration the demographic changes occurring in Maryland.

To maximize the effectiveness of limited available resources, instructor availabilities, equipment, and laboratory and clinical facilities, it is critical that Maryland address workforce needs in a coordinated manner that fully engages employers, postsecondary education institutions, and State, local, and regional agencies. Continued high-level participation is imperative in coordinated efforts such as the Governor's Workforce Investment Board, the BRAC Subcabinet, the Governor's P-20 Leadership Council of Maryland, and the Maryland Business Roundtable for Education. High-level boards and councils such as the aforementioned provide a forum for education, business, and government to bring together all the required elements for success. Active involvement of all postsecondary institutions in coordinated efforts is to be encouraged.

The Maryland Higher Education Commission and postsecondary institutions must provide leadership and active participation in State and regional efforts to prepare a highly qualified workforce in Maryland. It is important that all segments of postsecondary education contribute to provide skills-based experiential learning through internships and global engagement to help meet this need. Segments should collaborate on developing more coordinated movement from secondary to all levels of postsecondary education. Clear, articulated pathways are extremely important for students to move from secondary education to, through, and between levels of postsecondary education, including career and technical education that addresses middle-skills workforce needs and "2+2+2" models. The Maryland State Department of Education's career clusters and suggested career pathway models, particularly regarding Career and Technical Education (CTE), serve as examples of career-related education that may align and articulate to postsecondary programs. Examples include Project Lead the Way (PLTW) Engineering, PLTW Biomedical Sciences, Homeland Security, the Academy of Information Technology, the Teacher Academy of Maryland, and the Cisco and Oracle programs.

Increased employer participation in joint efforts with postsecondary education is essential for Maryland to meet shifting workforce needs. Employer support should be encouraged in education, research, and workforce training to increase experiential learning through internships and other hands-on job-related activities. Strong employer participation is also necessary to provide valuable insight to GWIB advisory counsels, to understand and address the workforce requirements of BRAC, and to aid in the identification of employer needs linked to an aging workforce and increased reliance on an immigrant population.

The BRAC process occurring at Fort Meade, Fort Detrick, and Aberdeen Proving Grounds (APG) greatly impacts Maryland's postsecondary education and workforce systems. Personnel who are relocating are highly educated but also will continue to require training and education for upgrading skills. It is therefore anticipated that to support the BRAC influx, more middle- and high-level technically skilled workers must be recruited or trained. Additionally, Federal agencies located within Maryland, such as the National Security Agency (NSA), are anticipating

active growth. To meet current and anticipated demands related to these changes, Maryland postsecondary education should take proactive steps now to provide an adequate delivery system at or near these facilities. An example underway is the effort by the Higher Education and Training Center (HEAT) in Aberdeen to initiate capital investment in the purchase of land and construction of facilities.

Action Recommendations

- The Maryland Higher Education Commission, working collaboratively with research segments of higher education and appropriate State agencies, should develop a plan to leverage additional resources to promote public policies that support and enhance academic research and development efforts, including recruiting and retaining qualified researchers and research students. Such a plan should include a concerted and coordinated State effort to publicize and advocate for the role of university research and development in innovation and economic development.

  Implementation Measures/Strategies
  - Benchmarks developed for measuring the expansion of the amount of research and development performed at Maryland institutions
  - Increase in the amount of academic research space
  - Increase in the number of university-based business start-ups
  - Increase in the development and implementation of effective virtual online centers of excellence or industry portals for in-demand and emerging areas

- MHEC, working collaboratively with the segments of higher education, the Department of Labor, Licensing and Regulation (DLLR), the Governor's Workforce Investment Board (GWIB), and others as needed, should continue to provide and improve quality and access to centralized collaborative data required by State postsecondary institutions, government agencies, and industry clusters to respond effectively to shifting workforce needs.

  Implementation Measures/Strategies
  - By FY 2011, standardized annual collection and reporting of GWIB Industry Cluster enrollment and graduate/completer data for biennial comparison against DLLR occupational demand data
  - By FY 2012, implementation of institutional triennial graduate surveys to assess preparedness for employment and further education
  - By FY 2011, incorporation of out-of-state and continuing education graduate data in MHEC annual data collections

- To meet workforce training demands, the number of highly qualified instructors in STEM-, emerging-, and in demand-related fields must be increased at all levels of education. To this end, all segments of secondary and postsecondary education, MHEC, the Maryland State Department of Education (MSDE), and other agencies and private sectors as needed should investigate and adopt additional professional development strategies for incumbent tenured and adjunct instructors, as well as current and retired

industry professionals who are transitioning into teaching. Such professional development should include skills training for teaching untapped and at-risk populations.

Implementation Measures/Strategies

- Increase in the number of STEM-qualified teachers transitioning from retirement and current industry professionals
- Increase in the number of higher education graduates in STEM fields with teaching credentials who are prepared to teach on the postsecondary level
- Increase in funding available for professional development for instructors who teach in high-demand fields, for those who teach English language learners and untapped populations, and for those current or retired workforce professionals who are entering education to become instructors

- In collaboration with all segments of postsecondary education, MHEC, DLLR, GWIB, MSDE, MDOD, and other agencies and private sectors as needed, should develop and adopt occupation-specific strategies to increase the supply of qualified graduates and completers in identified high-demand fields and qualified worker shortage areas. Areas on which to focus should include developing strategies to address increased costs associated with career and technical education programs, and allocations into the BRAC Higher Education Investment Fund for programmatic initiatives that meet the educational needs of BRAC.

  Implementation Measures/Strategies

  - Increase in the number of fast-track training programs
  - Increase in the number of Maryland residents who return to work in Maryland in high-demand fields after completing an out-of-state postsecondary educational program, as data availability and data-mining costs allow
  - Increase in the number of non-Maryland residents working in high-demand fields who remain in Maryland after completing a Maryland postsecondary educational program, as data availability and data-mining costs allow
  - Increase in the funding percentage provided in the State budget from one fiscal year to the next for career and technical education programs
  - Increase in BRAC Higher Education Investment Fund allocations

- MHEC should work to increase postsecondary education's participation in and support of Maryland's workforce development initiatives. This should include efforts such as increasing participation in State and regional workforce programs, promoting utilization of the GWIB industry clusters and MSDE career clusters as common frameworks and nomenclature for workforce development throughout the State, expanding current communications between military installations and postsecondary education institutions to ensure educational needs of BRAC installations are identified, and encouraging and coordinating the development of more aligned statewide articulation programs, and multi-institution articulation agreements and consortia, to make movement from secondary education to and through postsecondary programs or institutions more seamless and less expensive.

Implementation Measures/Strategies

- Increase in representation of postsecondary institutions on GWIB and other statewide workforce development initiatives
- Increase in the number of articulation agreements and consortia between secondary and postsecondary institutions to include the development of additional Statewide articulation agreements
- Development of a statewide template for articulation agreements between or among secondary and postsecondary institutions
- Increase in percent of joint educational initiatives between BRAC installations and postsecondary institutions.

SUMMARY OF PROGRESS
on the
2004 Maryland State Plan for Postsecondary Education

To develop the *2004 State Plan*, the Maryland Higher Education Commission (MHEC) worked collaboratively with the six segments of postsecondary education and with various stakeholders in the community to study current and future demographic changes, ongoing and emerging workforce needs, and how Maryland postsecondary institutions can best serve the needs of the state and the nation in an efficient and effective manner. As a result of this collaborative process, five goals were determined to be of paramount importance. The *2004 State Plan* also offered an overarching goal that a framework be developed to guide decisions related to postsecondary education in Maryland. This overarching goal was framed as preface and umbrella to the ensuing five goals, and it was accompanied by two recommendations: (1) MHEC should initiate a comprehensive process to develop a postsecondary education model to address the linkage of tuition policy, State support for institutions, and State and institutional student financial assistance with regard to access and the needs of the State and (2) this model should be the foundation for a ten-year growth plan for Maryland postsecondary education.

To address the *2004 State Plan* recommendations, MHEC selected a consultant group led by Gordon Van de Water to study how higher education is funded in Maryland and in several peer states and to make recommendations for consideration by Maryland policy makers. As a next step to develop appropriate funding levels for higher education, Senate Bill 959 was passed in the 2006 General Assembly Session and established the Commission to Develop the Maryland Model for Funding Higher Education. One element of the Funding Commission was a panel to study the comparability and competitiveness of Maryland's four historically black institutions (HBIs), which are all public institutions, as compared with the State's public traditionally white institutions. The Funding Commission released its final report in December 2008.

The remainder of this progress report briefly summarizes activities undertaken by Maryland postsecondary education to act on the other recommendations in the *2004 Maryland State Plan for Postsecondary Education*. During the past four years, information was solicited from all segments of postsecondary education about their steps to implement the *State Plan* goals. More detailed reports of actions taken to implement the *State Plan* were made available by the Commission in 2006. This summary progress report is divided by the goals laid out in the *2004 Plan*, and each section identifies progress made and challenges that remain.

Goal 1: Quality and Effectiveness

Maintain and strengthen a preeminent statewide array of postsecondary education institutions recognized nationally for academic excellence and effectiveness in fulfilling the educational needs of students, the State, and the nation.

Progress Made

Maryland continues to enjoy the benefits of an outstanding set of complementary postsecondary education institutions. More than 325,000 students who attend higher education institutions in

Maryland are fortunate to be able to choose from an array of public and independent colleges and universities, each of which makes a unique contribution to higher education. Thousands of additional students are enrolled in Maryland's 175 accredited private career schools, which prepare students to enter the workforce and which provide job placement assistance. Regional higher education centers (RHECs) offer high-demand programs and convenient access for students who might not otherwise be adequately served. RHECs coordinated by MHEC are now supported through a State funding formula, although they have not yet been fully funded under this formula. The two RHECs administered by the University of Maryland (USM) continue to be funded through the USM budget.

Despite a prolonged period of economic constraints, the State's commitment to postsecondary education remains strong, and the Governor and General Assembly created the Higher Education Investment Fund to provide dedicated funding for higher education into the future. Appropriation to higher education for FY 2008 was $1.5 billion. Funding guideline attainment for four-year public institutions was 81 percent overall, with four institutions at or above 90 percent and three or more institutions at 80 percent or higher. In FY 2008, independent institutions received slightly over $56 million through the Joseph A. Sellinger program, and community colleges received over $241 million. Baltimore City Community College saw a 7.5% increase over FY 2007. Private Donation Incentive Program funding continued for FY 2007 (at $2.5 million) and FY 2008 ($2.3 million appropriated). The Final Report of the Commission to Develop the Maryland Model for Funding Higher Education, and legislation introduced in 2009 to support it, point the way for Maryland to meet its higher education goals through a ten-year funding plan that uses a peer states model.

To make the most of precious funding resources, postsecondary institutions have used several strategies to identify and implement best practices that provide cost-effectiveness. Both public and independent institutions use cooperative purchasing agreements that cut costs for such items as technology, insurance, and energy. Institutions are also using technology to improve both administrative processes and pedagogy.

Challenges

Some of the key challenges facing higher education over the past four years have been budget constraints, rising costs, and expanding enrollment. These challenges are expected to persist through the next four years. As with other institutions across the country, Maryland institutions are being tested now and into the foreseeable future to provide a quality education despite economic challenges. Measures such as cost cutting, cost containment, and increased accountability will be used as institutions focus on fulfilling their missions. Finding creative solutions that maximize institutions' strengths will be necessary to ensure excellence in all segments of postsecondary education. Maryland postsecondary education will be reviewing and addressing the recommendations of the Commission to Develop the Maryland Model for Funding Higher Education, as well as responding to any legislation that develops from the work of the Commission.

Goal 2: Access and Affordability

Achieve a system of postsecondary education that promotes accessibility and affordability for all Marylanders.

Progress Made

Over the past four years, the State has made significant progress in the areas of access and affordability. MHEC, working closely with postsecondary institutions and the Department of Budget and Management, examined the capital planning process and implemented recommendations to improve the process and utilization of space at two- and four-year institutions. Working specifically with the community colleges, best practices for space utilization were examined and recommended, and utilization data were collected to calculate actual utilization rates rather than applying "space standards." This approach will also be applied to the four-year public institutions.

Delivery of instruction by alternative methods and new and revised use of technology to supplement classroom instruction were reviewed. The funding strategy for the six regional higher education centers was adopted and implemented. To achieve efficiencies, institutions improved recycling programs, decreased energy use, increased faculty workload, and collaborated with other institutions on joint procurements and partnerships in the licensing of software and hardware.

To address affordability and thereby increase access, Maryland provided funds to freeze tuition for in-state undergraduate students at the University System of Maryland institutions and Morgan State University for the period 2006-07 through 2009-2010. Institutions reported increases in available institutional need-based aid, and some have set specific goals to set aside a fixed percentage of tuition revenue for need-based student financial aid. At the State level, need-based aid has more than doubled, which in turn increases award funds for all students. Maximum student financial assistance awards and the percentage of need covered by programs increased, and the amount of living expenses used in the formulas has increased to treat students more equitably.

Challenges

Maryland continues to face challenges pertaining to higher education facilities, regional higher education centers, use of technology, tuition policy, and financial aid programs. Consistent and reliable data collection and analysis systems are needed to accurately determine institutional space utilization, including room-hour usage and occupancy. Ongoing revisions to space guidelines and facility planning policies are needed.

Although a funding strategy was developed for the six regional higher education centers, they have not been fully funded by the State, which affects their operations. Freezing undergraduate resident tuition at public institutions has made college more affordable, an approach that cannot be continued indefinitely. Steps need to be taken to moderate tuition over the longer term, especially as the number of students needing assistance and the amount of unmet need is increasing. The challenge will be to increase the need-based aid available and to change

awarding criteria to assure that the neediest Marylanders will have access to quality and affordable education without incurring debt.

Goal 3: Diversity

Ensure equal educational opportunity for Maryland's diverse citizenry.

Progress Made

Maryland postsecondary institutions continue to address the importance of diversity and ensuring equal opportunity through coordinated activities and events to attract, enroll, retain, and graduate a diverse pool of students. Institutions have developed retention programs designed to maximize opportunity for multicultural students to be successful, including through mentoring and through increased financial aid for students who are academically talented or have financial need. At the University System of Maryland, need-based financial assistance increased to $31 million in FY 2008 from $19 million in 2006. Within member institutions of the Maryland Independent College and University Association, more than 95 percent of first-time degree seeking students applied for and received financial assistance in fall 2006. Underscoring the commitment to diversity, some institutions require all students to complete course work on that subject.

Because Historically Black Institutions (HBIs) award a high percentage (45 percent) of the degrees earned by Maryland minority students and a relatively high percentage of their graduates are first-generation college students, one important aspect of ensuring equal opportunity for a diverse Maryland student population is to provide enhancement funding to HBIs. As part of their dual missions, HBIs are charged with providing access to academically well-qualified students and also a significant percentage of under-prepared students. Responding to the needs of poor and under-prepared students, requires academic and support services tailored to their needs. Enhancement funding through Access and Success grants ($6 million per year) have helped support such services at Maryland HBIs. At the same time, State matching contributions through the Private Donation Incentive Program have helped support broader needs of HBIs.

In addition to funding, the State has provided legislation to support equal opportunity. Legislation passed in 2008 requires the Office of Minority Health and Health Disparities to work collaboratively with universities, colleges, and health care professional training programs to develop courses with cultural competency, sensitivity, and health literacy, designed to address the problem of racial and ethnic disparities in health care access, utilization, treatment decisions, quality, and outcomes. State legislation from 2008 also requires each non-public institution of higher education eligible for State aid to submit a report to MICUA, which in turn reports annually to MHEC. The reporting is to identify programs to promote and enhance cultural diversity and to provide an analysis of best practices used by non-public institutions of higher education for the purposes of promoting and enhancing cultural diversity on their campuses. This legislation requires public institutions of higher education to develop and implement a plan for a program of cultural diversity with a timeline for meeting the goals within the plan. MHEC is required to submit a report on the extent to which colleges and universities have complied with the diversity goals of the *State Plan for Postsecondary Education.*

C**hallenges**

While MHEC concluded in its final report to the United States Office for Civil Rights that the State met its commitment in providing enhancement funding to HBIs, MHEC found it extremely difficult to determine whether the funding provided to HBIs made them "comparable and competitive" to traditionally white institutions. One difficulty has been that the terms of the December 2000 *Partnership Agreement between the State of Maryland and the U. S. Department of Education Office for Civil Rights* did not provide sufficient benchmarks for this particular assessment. One recommendation was for the Commission to develop measurable indicators on key areas to achieve parity among the institutions based on recommendations from the Commission to Develop the Model for Funding Higher Education (the Funding Commission). The Funding Commission appointed and charged an HBI Study Panel to define "comparable" and "competitive" and to identify performance indicators or benchmarks that would compare Maryland's HBIs with the State's Traditionally White Institutions (TWIs).

The Report of the Panel on the Comparability and Competitiveness of Historically Black Institutions in Maryland, which is included in the Final Report of the Funding Commission, identifies a number of challenges to ensuring that the State's four public HBIs are comparable to and competitive with TWIs. Among the challenges cited by the HBI Panel that the State must address to meet the needs facing its HBIs are the following:

- Lack of state-of-the-art science and technology laboratories;
- Aging physical plants and lack of consistent funding for maintenance;
- Poor retention and graduation rates as compared to TWIs; and
- A large number of low-income and educationally underserved students in need of financial assistance and other support services.

The Panel also indicated that the State will need to provide "substantial additional resources" to create a comparable institutional platform to support doctoral and graduate education at the HBIs, in particular at Morgan State University and the University of Maryland Eastern Shore.

To ensure equal opportunity for all students, continued attention to providing appropriate services and resources for all students will be needed so historically underserved students have access to and succeed in postsecondary education. Changes in the demographics of high school graduates over the next 10-15 years in Maryland present challenges to the State and institutions of postsecondary education as the fastest-growing groups of students are the ones that traditionally have been the least advantaged educationally and economically. African-American enrollment is expected to be stable, but white enrollments are expected to decline, while Hispanic enrollments grow. Population changes also mean Maryland will need to educate more students with limited English proficiency.

Goal 4: A Student-Centered Learning System

Strengthen and expand teacher preparation programs and support student-centered, preK-16 education to promote student success at all levels.

Progress Made

In 2002, Maryland made a renewed commitment to educational reform when the Maryland General Assembly passed the *Bridge to Excellence in Public Schools Act* to ensure adequacy and

equity in Maryland's public schools. The Act increased funding to local school systems in exchange for improved student performance. Maryland colleges and universities are beginning to feel the impact of this additional funding. Despite the decrease in high school enrollment that began in fiscal 2007, the growth in full-time, first-time college-going students increased last year. The number of Maryland high school graduates enrolling in postsecondary education is at an historic high and is projected to continue to increase through the decade.

Student-centered learning has been supported through efforts to improve articulation and transfer processes, expanded outreach for college and financial assistance information, and continued work on alignment through such PreK-20 initiatives as the English Composition Task Force and the American Diploma Project. According to the 2007 USM-MACC report on transfer policies, *Effective Transitions and Efficient Systems*, the number of students transferring from community colleges to four-year USM institutions has increased. The State and individual colleges continue to expand outreach efforts to improve college readiness among middle and high school students and to help them and their families become aware of financial assistance programs. As part of this effort, MHEC provides information for parents in English and Spanish. Mentoring programs have been implemented by many colleges and universities with the common purpose of enhancing student success. At some colleges, access to online programs has been expanded, and technology is being used in innovative ways to improve instruction so students have more ways to receive the assistance they need to succeed.

Student–centered learning within the context of teacher education has been addressed through scholarships and loan-forgiveness programs, increased mentoring for beginning teachers, the development of new certificate and degree programs and regulations, and programs specifically designed to address the middle school learner. Through statewide cooperation, the number and type of Associate of Arts in Teaching (AAT) degrees offered have expanded; the AAT allows the transfer of the degree, rather than courses, into a teacher preparation bachelor's degree. Since 2006, AAT degrees have been approved in English and in the critical shortage areas of Spanish, mathematics, physics, and chemistry. Degree numbers are still small, but enrollments are growing. To help students who are career-changers become teachers, MSDE, local school systems, and higher education have partnered to develop more Maryland Approved Alternative Preparation Programs. USM and MSDE have worked with school districts to develop teacher academies, which offer introductory teacher preparation to students in high schools. Despite funding challenges, since 2004 Maryland teacher preparation programs have received national acclaim for the quality of their work, including for internships and professional development provided through professional development schools (PDS).

Challenges

Student success at secondary and postsecondary levels remains challenged by alignment and articulation issues, despite considerable work done on both fronts. Outreach efforts have consistently grown at the State and postsecondary institution level, but nearly a third of students entering Maryland colleges from Maryland high schools are still enrolling in remedial or developmental courses in mathematics, with many students not taking as challenging a curriculum as is needed to be college and career-ready. In addition to working on alignment to address this problem, postsecondary education must respond more proactively to students' needs. Maryland's goal of increasing access to postsecondary education must be paired with adequate

student-centered strategies to ensure success for all students. Improving retention and completion rates is a critical part of building a strong postsecondary education network. For this reason, the Goal Four working group for the *2009 State Plan* has revised the wording of this goal to reflect the broader goal of addressing student learning.

It has been difficult in Maryland to evaluate the effectiveness of different pathways into postsecondary education because of data gaps. Maryland faces the challenges associated with linking a higher education data system with a new K12 data system. A few states now have P-20 educational longitudinal database systems, and many others are engaged in developing one. Data gaps also impede the evaluation of pathways into teaching.

The most pressing challenge with regard to teachers is that Maryland, like other states, still experiences staff shortages of principals, special educators, specialists in English language acquisition, and of teachers in most STEM fields, technology, and certain foreign languages. Shortages are most common in high-poverty schools. Maryland preparation programs graduate slightly more students than they did in 2004, but more first-time hires are brought in from out of state than are hired out of Maryland colleges, and more teachers voluntarily leave teaching every year than are hired from out of state. Joint efforts to improve preparation and retention must continue because recruiting alone will not resolve the shortages.

Goal 5: Economic Growth and Vitality

Promote economic growth and vitality through the advancement of research and the development of a highly qualified workforce.

Progress Made

Maryland's advancement in research, workforce, and economic development over the past four years can be attributed to collaboration and implementation of best practices among postsecondary education institutions and various organizations like the Department of Business and Economic Development (DBED), Maryland Technology Development Corporation (TEDCO), and the Governor's Workforce Investment Board (GWIB). Significant initiatives have been reported to support the transfer of technology from universities to commercial applications. For example, TEDCO is bringing innovations from universities and federal labs into the State's economy, and Research Parks Maryland (RPM) has been formed to help the State realize its full potential.

Since 2005, MHEC, the Department of Labor, Licensing, and Regulation (DLLR) and GWIB have worked together to provide industry-led, sector-based workforce reports and data on the industries of healthcare (in conjunction with DHMH), aerospace, hospitality and tourism, education, manufacturing, construction, bioscience, energy, information technology, transportation-warehousing, and on supply and demand in STEM areas. The Advisory Council on Workforce Shortage has developed a data-driven model to identify workforce shortages to direct State workforce scholarship programs. Also, the Maryland State Department of Education, Division of Career Technology and Adult Learning's (MSDE/DCTAL) Career Cluster Framework and over 50 career schools and technology programs of study were designed to ensure a systematic approach to providing employers with a well prepared workforce in high demand fields.

Challenges

While significant progress has been made in research advancement and meeting demands for a qualified workforce, the gap between the output of graduates and occupational demand remains a concern. Expanded competition limits funds for research and job-readiness training while stretching available resources. Maryland has several outstanding public and independent universities that favorably compare with institutions in competitor states in garnering external support for research; however, Maryland's institutions have historically been less successful in transferring research discoveries to the marketplace. Current Maryland programs to encourage and support the creation of startup companies do not provide sufficiently for the technology transfer efforts of Maryland's research-intensive public and independent universities.

In Maryland and across the country, there is a growing realization that an insufficient number of students, teachers, and practitioners are being prepared in the areas of science, technology, engineering, and mathematics. Maryland is challenged to (1) ensure that rigorous STEM teaching and learning is accessible to all learners at all levels of education; (2) increase the number of degree-holders and program- completers trained in STEM fields; (3) include strategies to synergistically link education, workforce creation, research, and economic development; and (4) include measurable goals, benchmarks, and the resources required to implement actions in this Plan.

Finally, Maryland has increasingly become a bi-modal State with a well-to-do populace at one end of the spectrum and a relatively large and growing underclass, primarily minority and/or immigrant, whose members do not or cannot participate in the technology economy or the State's economic mainstream. More must be done to reach out to and train underprepared residents for entry-level employment within in-demand occupations and to enhance the skills of technicians currently in the workforce.

APPENDIX

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Lou Fields, Greater Baltimore Black Chamber of Commerce
Gail Fink, University System of Maryland
Paula Fitzwater, Maryland Higher Education Commission
James V. Foran, Maryland State Department of Education
Anthony Foster, University System of Maryland
T. Eloise Foster, Department of Budget and Management
Howard Freedlander, Office of the Treasurer
John Giancola, DeVry University
Jade Gingerich, Department of Disabilities
Irwin Goldstein, University System of Maryland
Nancy S. Grasmick, State Department of Education
Richard E. Hall, Department of Planning
Diane Hampton, Maryland Independent College and University Association
Ronald Hansen, Lincoln Technical Institute
Anwer Hasan, Maryland Higher Education Commission
Natasha Herbert, Department of Budget and Management
Theresa Hollander, University System of Maryland

Danette Gerald Howard, Maryland Higher Education Commission
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Luwanda W. Jenkins, Maryland Office of Minority Affairs
David Jorgenson, Maryland Higher Education Commission
Leronia A. Josey, Maryland Higher Education Commission
Jody Kallis, Maryland Association of Community Colleges
Yesheva Kelly, Department of Disabilities
Dean Kendall, Maryland Higher Education Commission
Nancy King, State of Maryland Senate
Courtney S. Kiphart, Student Advisory Council of the Maryland Higher Education Commission
W. E. Kirwan, University System of Maryland
The Honorable Nancy Kopp, Office of the Treasurer
The Honorable Gloria G. Lawlah, Department of Aging
Maryse Levy, Education Affiliates
James E. Lyons, Sr., Maryland Higher Education Commission
Andrea E. Mansfield, Maryland Higher Education Commission
Linda Martinak, University of Baltimore
William Meagher, Maryland Chamber of Commerce
Mark Millen, TESST College
Teri Morris, Higher Education and Conference Center, Aberdeen
Gareth Murray, Maryland Higher Education Commission
Kristen Neville, Maryland Higher Education Commission
Geoff Newman, Maryland Higher Education Commission
J. Margaret O'Brien, St. Mary's College of Maryland
Kevin M. O'Keefe, Maryland Higher Education Commission
John A. Olszewski, Jr., State of Maryland House of Delegates
Emmett Paige, Jr., Maryland Higher Education Commission
Robert Parker, Maryland Higher Education Commission
Ben Passmore, University System of Maryland
George Payne, Montgomery College
Thomas E. Perez, Department of Labor, Licensing, and Regulation
Acres Ricardo Perry, Morgan State University
Brad Phillips, Maryland Association of Community Colleges
Virginia Pilato, Maryland State Department of Education
Paul Pinsky, State of Maryland Senate
Joan Poor, St. Mary's College of Maryland
Mel D. Powell, Southern Maryland Higher Education Center
Sharon Proutt, College of Notre Dame of Maryland
Catherine A. Raggio, Department of Disabilities
Curt Rainey, St. Mary's College of Maryland
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Tanya Rush, Morgan State University
Mindy Schaffer, Chesapeake College

Bret Schreiber, Maryland Independent College and University Association
Eric Seleznow, Governor's Workforce Investment Board
Nancy Shapiro, University System of Maryland
Catherine M. Shultz, Office of the Attorney General
Kathy Snyder, Maryland Chamber of Commerce
Donald Stabile, St. Mary's College of Maryland
John Stephenson, Maryland Higher Education Commission
June E. Streckfus, Maryland Business Roundtable for Education
Maurice C. Taylor, Morgan State University
April Todd, Somerset County Public Schools
Sandra Ugol, TESST College
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Patricia Welch, Morgan State University
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