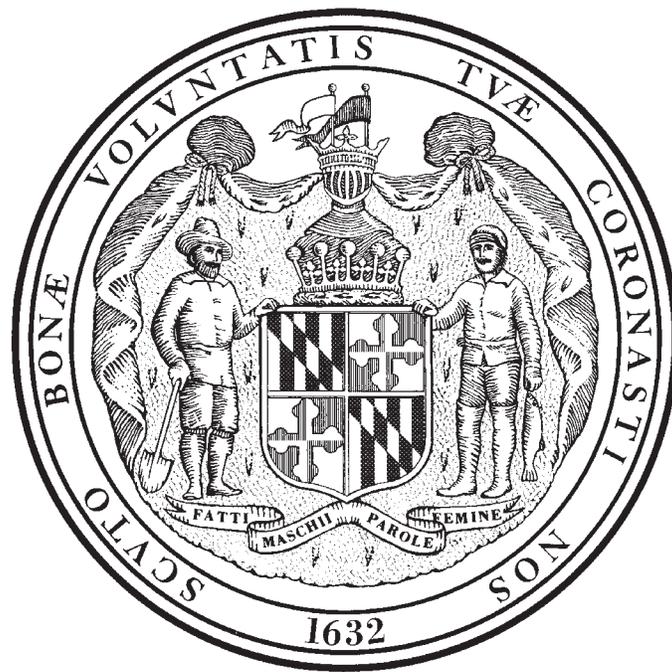


# COMMISSION TO DEVELOP THE MARYLAND MODEL FOR FUNDING HIGHER EDUCATION

## Final Report



ANNAPOLIS, MARYLAND  
DECEMBER 2008

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# **Commission to Develop the Maryland Model for Funding Higher Education**

**Delegate John L. Bohanan, Jr.**  
Chairman

**Mr. Norman R. Augustine**  
Vice Chairman

December 2008

The Honorable Martin O'Malley  
Governor  
State House  
Annapolis, Maryland 21401-1991

The Honorable Thomas V. Mike Miller, Jr.  
President of the Senate  
State House  
Annapolis, Maryland 21401-1991

The Honorable Michael E. Busch  
Speaker of the House of Delegates  
State House  
Annapolis, Maryland 21401-1991

Gentlemen:

On behalf of the Commission to Develop the Maryland Model for Funding Higher Education (commission), we respectfully submit the commission's final report. The report was adopted favorably by the commission's membership with one abstention.

The commission was established in 2006 and charged with three main objectives: (1) to develop an effective statewide framework for higher education funding; (2) to review options and make recommendations relating to the establishment of a consistent and stable funding mechanism 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 (3) to review options and make recommendations relating to the appropriate level of funding for the State's historically black institutions to ensure that they are comparable and competitive with other public institutions. Additionally, the commission was charged with a fourth objective in 2008 to examine the eight regional higher education centers operating in Maryland.

The commission's intensive work over a two-year period has culminated in a funding model and framework for funding higher education that is designed to ensure that Maryland and its citizens remain competitive in the global knowledge economy in which we now live. We believe we have made a strong case that investment in higher education is the best investment in

The Honorable Martin O'Malley  
The Honorable Thomas V. Mike Miller, Jr.  
The Honorable Michael E. Busch  
December 2008

the economic future of Maryland, even, or perhaps most importantly, in times of economic distress. At first glance, the cost of these recommendations might seem unachievable in light of the current economic downturn and fiscal situation of the State; however, the recommendations are set on a 10-year timeframe. The economy is certain to improve during that time, and when it does, these recommendations provide a roadmap for State investment in higher education. Additionally, there are numerous recommendations in this report that will improve the efficiency and productivity of the current system of higher education and these recommendations can be implemented using existing resources.

We would like to express our appreciation to the members who served on the commission. We are truly grateful for their willingness to engage in public service that will enhance higher education for years to come. We would also like to recognize the outstanding staff support provided to the commission.

Finally, on behalf of the commission, we would like to thank you for making higher education and workforce development one of the top priorities of the State. We look forward to working with you to implement the recommendations contained in this report.

Sincerely,

John L. Bohanan, Jr.  
Chairman

Norman R. Augustine  
Vice Chairman

JLB:NRA/RHH/mcp

## 2008 Membership Roster

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## Executive Summary

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If Maryland is to continue to provide a quality standard of living for its citizens it must be able to prosper in the global knowledge economy. No longer will our State's citizens compete for jobs with workers in New Jersey and New Mexico; our State's citizens will compete for jobs with workers in New Delhi and New Zealand. No longer will our citizens compete for jobs based on our manufacturing prowess; our citizens will compete for jobs based on their knowledge. Knowledge is now the coin of the realm. The quality of life of every citizen of our State will be fundamentally impacted by our collective ability to create knowledge through discovery, translate that knowledge into goods and services through leading-edge innovation, and be first to market with those goods and services through extraordinary entrepreneurship.

In 1950, one-third of the jobs in the Baltimore area were in manufacturing – today the fraction is less than 1 in 20. Fifty years ago, only 7 percent of Americans had attended 4 or more years of college. Today the figure is 28 percent – and the demand is steadily increasing. Over the next 20 years, at least 6 of the 10 fastest growing fields in Maryland will require a college degree. In the best-performing countries, 55 percent of the population has college degrees. In order to achieve this same proportion in Maryland by 2025, we must increase college degree production significantly.

Science and engineering are particularly important factors in Maryland's ability to compete in the global knowledge economy. Although scientists and engineers represent

only 4 percent of America's workforce, they disproportionately create jobs for the other 96 percent. Yet only 12 percent of Maryland baccalaureate degrees are awarded in the natural sciences or engineering. There are now at least 19 countries that produce more scientists and engineers than the U.S.

The problem is not so much that our State is regressing, but that others, particularly other countries, are getting better and fast. Unfortunately, one can lose a leadership position in the global knowledge economy very suddenly.

Maryland enjoys a relatively strong position in the knowledge economy, at least at the present time. Our State currently ranks 2nd among the 50 states in median family income, in large part because of the number of knowledge-based jobs created here in years past. But Maryland's current rankings in higher education investment and affordability are cause for concern as we look to the future. Maryland ranks 19<sup>th</sup> in higher education appropriations per full-time equivalent student; 21<sup>st</sup> in higher education appropriations per capita; and 34<sup>th</sup> in the fraction of the State's personal income devoted to higher education. Our State has the 16<sup>th</sup> highest overall rate of tuition and fees for public four-year institutions – and that reflects a significant improvement brought about by the recent three-year tuition freeze, before which Maryland ranked 6<sup>th</sup> most costly.

Although Maryland compares reasonably favorably with the average of other states in many economic and education metrics (for example, ranking 13<sup>th</sup> in higher

education participation among 18- to 24-year-olds), the lower income residents of our State are greatly underserved (for example, at the lowest quartile of income Maryland ranks 34<sup>th</sup> among the states in percentage college enrollment). Further, the fastest growing segments of Maryland's population are disproportionately represented within this underserved group. In the current year, 52 percent of the State's high school graduates are projected to be non-Hispanic white, whereas in 2019 the fraction will be 41 percent. By far, the greatest challenge Maryland must meet if it is to prosper in the global knowledge economy is to assure that our State's underserved citizens are afforded an opportunity for a quality education.

The Commission to Develop the Maryland Model for Funding Higher Education is proposing a higher education funding model that addresses the economic and demographic challenges facing Maryland founded upon the principle of providing a high quality education to every citizen of Maryland who seeks the opportunity. This requires relatively high State investment in higher education (to assure students a quality education along with a high graduation rate), moderate tuition (to avoid "sticker shock" and the resultant abandonment of hope for a college degree by the State's less wealthy students), and relatively high financial aid (to serve those students with more modest financial means). Ideally, any such funding model should be based upon the magnitude of investments needed to compete with institutions around the globe. Unfortunately, most foreign institutions do not disclose the data necessary to support such a model. The proposed Higher Education Funding Model for Maryland is therefore intended to assure that Maryland is

at least competitive with those U.S. states that Maryland most often encounters when seeking to attract employers – and the jobs they provide. In this regard the proposed model is not conservative.

The four primary legs upon which the Higher Education Funding Model for Maryland stands are as follows:

1. Maryland should set the per student investment in the State's four-year public institutions to match the 75<sup>th</sup> percentile of comparable institutions in the 10 states with which we principally compete to attract employers ("competitor states").
2. Maryland should set tuition and fees at the State's various public higher education institutions at or below the 50<sup>th</sup> percentile of comparable institutions in the competitor states.
3. Maryland should set investment in need-based financial aid per student to match the 75<sup>th</sup> percentile of such funding provided by the competitor states.
4. Maryland should carefully track results of the investments, especially graduation rate, to assure that enhanced funding is in fact producing enhanced results.

The funding model provides that the State's community colleges and private institutions be supported to an extent which is keyed to funding of the State's public four-year institutions, as is the case at present.

The State's historically black institutions' (HBI) funding under the model is set at the 80<sup>th</sup> percentile to accelerate

these universities' efforts to reach educational parity. The magnitude of the challenges faced by the HBIs is particularly great, especially at the undergraduate level, and will require special attention and consideration if they are to be satisfactorily overcome. The commission was assisted by a panel of experts in addressing the second major charge of the commission to study the needs of the HBIs to be comparable and competitive with other public institutions in Maryland. One particular challenge is that HBIs have a dual mission to provide regular collegiate programs and to provide strong developmental education for students, mostly underprepared students from low-income families, who otherwise would not have an opportunity to pursue a bachelor's degree. Therefore, in addition to funding HBIs at the 80<sup>th</sup> percentile, the commission recommends a supplement of approximately \$1,400 per student to underwrite remediation, mentoring, and other services to help offset the disparity in college preparedness of students entering the HBIs. The commission also made a number of other recommendations to address the needs of HBIs.

Realization of the enhanced educational opportunities offered by the funding model will require a substantial increase in investment by the State, with annual funding currently projected to need to increase by \$758 million (in present dollars). It is the view of the commission that few, if any, alternative investments provide a more attractive financial and societal return for the State's citizens than education.

On the other hand the commission's members are not unaware of the economic crisis being confronted around the globe – certainly including our State. But during

times of duress is exactly when investment in education is most important. Nonetheless, recognizing economic realities, as well as the time required to significantly modify the educational process, the proposed model calls for a ten-year phase-in period. This commission is not in a position to determine how much the State can *afford* for higher education. Rather, it is this commission's charge to determine what investment will be *needed* if our citizens are to compete successfully for jobs – and the concomitant standard of living thereby made possible. Importantly, the model provides specific measures by which the State can determine the adequacy with which it is addressing the standards that are established for State investment, tuition rate, financial aid, and graduation rate.

The commission's broad scope of study provided an opportunity to examine more than just how higher education should be funded. The commission also developed recommendations that will improve the efficiency and productivity of the current system of higher education in Maryland. Many of the recommendations capitalize on activities that have already begun but could be modified or emphasized to improve Maryland's higher education system. For example, the commission feels strongly that there should be a coherent, goal driven system of accountability as a means of examining the State's return on dollars invested in higher education and recommended that progress toward meeting the goals of the *State Plan for Postsecondary Education* should be assessed and reported on an annual basis. The commission has developed statewide guiding principles that it considers critical to the success of higher education in Maryland, such as a high student participation rate,

quality, affordability, and efficient articulation from K-12 to higher education. Along those lines, to decrease costs associated with remediation of lesser-prepared students, the commission recommends that the State develop common definition and measurement of college readiness so that regardless of which school or college they attend in the State, students are aware of, and encouraged to take, the courses they need at the secondary level to be prepared for college level work.

Today's young adult generation in America is the first to be less well educated than their parents. On our current path, it is likely that the subsequent generation will be the first to have a lower standard of living than their parents. By implementing the proposed Higher Education Funding Model for Maryland, the commission believes that a major step will have been taken to reverse these trends and assure a high standard of living for the citizens of our State in the years ahead.

## Summary Table of Recommendations

### Funding Model

Page	Recommendation	Fiscal Impact?	Bill Needed?	Responsible Agency
15	As a 10-year higher education funding plan, set State funding of public four-year institutions at the 75 <sup>th</sup> percentile of funding per student of a group of comparable institutions (“peers”) residing in states with which Maryland principally competes for employers, referred to as Maryland’s competitor states (PA, VA, NC, NJ, MA, OH, MN, NY, WA and CA). The historically black institutions will be the 80 <sup>th</sup> percentile of the same competitor states. State investment includes funding for community colleges and eligible private institutions through statutory formulas tied to per-student State funding of select public institutions.	Yes		MHEC (for peers)  DBM (for funding) and Governing Boards
15	Set (gross) in-state tuition and fees at or below the 50 <sup>th</sup> percentile of comparable institutions the above competitor states.	Yes		Institutions and Governing Boards
16	Set need-based financial aid per FTES at the 75 <sup>th</sup> percentile of such funding in the above competitor states.	Yes		MHEC
16	Annually assess progress in meeting specified Higher Education Funding Model for Maryland funding goals by displaying the “shortfall” in percent (positive or negative) of three parameters relative to the actual funding.			MHEC
18	The Higher Education Investment Fund should be reauthorized.	Yes	Yes	MHEC
19	Allocate funds to community colleges and eligible private colleges and universities using the current formula.	Yes		

Page	Recommendation	Fiscal Impact?	Bill Needed?	Responsible Agency
20	<p>Establish a Tuition Stabilization Program having the following elements:</p> <ul style="list-style-type: none"> <li>• Set as a goal to limit increases in tuition and fees in any given year to a percent not to exceed the increase in the three-year rolling average of the State’s median family income.</li> <li>• Create a Tuition Stabilization Trust Account within the Higher Education Investment Fund whereby in years of increasing corporate tax revenues, funds are deposited into the account and, in years of decreasing revenues, appropriate portions of the fund are applied to stabilize tuition.</li> <li>• Authorize one or two institutions, at their discretion and risk, to develop a pilot “true” tuition guarantee program that provides even greater predictability in tuition.</li> </ul>	Yes	Yes	DBM  Institutions and Governing Boards
21	<p>At a minimum, increase need-based aid each year to keep pace with tuition increases.</p> <ul style="list-style-type: none"> <li>• The maximum award for the Educational Assistance grant should be increased to \$6,000, and a graduated scale for awards based on Expected Family Contribution should be developed and implemented.</li> <li>• Eligibility for the Guaranteed Access grant, which covers 100% of need up to \$14,300 for students with family income of 130% of the federal poverty limit (currently \$27,560 for a family of four), should be increased to 150% of the federal poverty level (approximately \$31,800 for a family of four), with smaller grants available to students with family income between 150% and 200% of the federal poverty limit.</li> </ul>	Yes	Yes	MHEC
22	<p>Establish a “Maryland Covenant” that promises to cover 100% of need for low-income students (initially those students receiving Guaranteed Access grants) who satisfactorily complete a college preparatory curriculum and agree to complete a baccalaureate program in four years.</p>	Yes		MHEC Institutions
23	<p>Consideration should be given to developing a single application for students seeking State financial aid assistance that would simplify the process of selecting from among the 22 separate programs, including need-based, merit, workforce, and other programs, to which students may apply.</p>			MHEC

## Historically Black Institutions

Page	Recommendation	Fiscal Impact?	Bill Needed?	Responsible Agency
24	The commission strongly endorses the HBI Study Panel’s finding that undergraduate education should be the first funding priority and that graduation rate should be the primary indicator of performance.			
24	Recognizing the considerable remediation effort and continuing support demanded of the historically black institutions at the undergraduate level, a supplement should be provided to these institutions over and above the figure determined from the Higher Education Funding Model for Maryland. The supplemental funding should be spent only for this purpose and only for strategies and initiatives that have proven to be best practices in improving graduation rates.	Yes		MHEC
25	The commission supports the panel’s recommended process to determine the institutional platform and specific doctoral program needs at MSU and UMES, using the step-approach suggested by the panel to identify a few programs for priority and targeted development and strengthening the relevant universitywide infrastructure needed to develop the targeted programs. The panel also recommended capacity and outcome indicators to measure comparability and competitiveness, and that any new funding for doctoral-level programs at HBIs, and preferably all public institutions, should be targeted and monitored with the institutions held accountable for expenditures and specified expected outcomes. The commission agrees with this approach and recommends that it be followed recognizing Maryland’s budgeting structure.			Institutions
26	HBIs should review their capital priorities and ensure that they are aligned with the undergraduate needs and the institutional platform and targeted doctoral program needs. The State should accelerate funding for the HBI capital priorities, particularly those that build institutional capacity related to comparability and competitiveness.			Institutions
26	The commission also recommends appointing a committee to annually report to MHEC, the Governor, and the General Assembly on the progress of the State and HBIs on meeting the goals to ensure comparability and competitiveness.			

## Accountability

Page	Recommendation	Fiscal Impact?	Bill Needed?	Responsible Agency
27	Develop statewide higher education accountability measures and benchmarks tied to the Maryland State Plan for Postsecondary Education.			MHEC
29	Create a coordinating group to oversee the periodic review of the reporting requirements for higher education institutions to reduce redundancy.			MHEC

## Additional Aspects of Funding Higher Education

Page	Recommendation	Fiscal Impact?	Bill Needed?	Responsible Agency
31	Expand the Distinguished Scholar Award to \$6,000 and double the number of such scholarships currently granted to 700 awards. Require that new recipients maintain a grade-point average at or above a 3.3. The commission recommends that the amount and number of Distinguished Scholar Community College Transfer Scholarship awards should be increased correspondingly.	Yes	Yes (mandate)	MHEC
32	All members of the Maryland National Guard, regardless of their residency, should be charged in-state tuition rates for all degree levels. Furthermore, eligibility for tuition benefits should be expanded to include nonresident members of the Maryland National Guard and graduate education.			
33	Create a specific State allocation to provide financial resources for special projects that meet important State or institutional goals.	Yes	Yes (if use HEIF)	MHEC

<b>Page</b>	<b>Recommendation</b>	<b>Fiscal Impact?</b>	<b>Bill Needed?</b>	<b>Responsible Agency</b>
36	To provide for a more equitable and consistent funding stream, the funding strategy for the six non-USM regional higher education centers should be implemented and funded.	Yes		MHEC
36	MHEC should review the governance structures of RHECs and examine best practices at the centers in order to establish a best practice for the governance structures of the centers. Before more RHECs are approved to operate in the State, an analysis should be performed to determine the educational needs of the surrounding area.			MHEC

### **Capital Needs of Higher Education**

<b>Page</b>	<b>Recommendation</b>	<b>Fiscal Impact?</b>	<b>Bill Needed?</b>	<b>Responsible Agency</b>
38	The commission recommends that MHEC, in collaboration with DBM and institutional and segmental representatives, develop a methodology to accurately estimate the cost to eliminate the academic space deficiencies. Current and projected space deficiencies should have equal prioritization weight in the capital planning process.			MHEC DBM
39	In order to optimize the use of existing space, incorporate night and weekend classes, encourage online class platforms, and further decrease time-to-degree. Monitor the progress of Towson University's Trimester Pilot Program and its impact on capital space needs.			Institutions
40	Capital planners should consider how to increase the programmatic and technological flexibility of space for use by multiple programs or courses to increase the usefulness of the space.			Institutions

<b>Page</b>	<b>Recommendation</b>	<b>Fiscal Impact?</b>	<b>Bill Needed?</b>	<b>Responsible Agency</b>
40	Require the community colleges and public four-year institutions to maintain a 10-year capital plan.			Institutions
41	Strongly encourage all institutions to adopt a policy to budget and spend 2% of the replacement value of capital assets at the institutions on facility renewal projects.	Yes		DBM Institutions
41	Institutions are encouraged to use the Facility Condition Index as an additional analytical tool for the capital budget process.			Institutions
42	The commission recommends the State increase the capital funding for the public four-year institutions as planned in the CIP.			DBM
42	The commission recommends the State increase funding for the community college capital grant as planned in the CIP.			DBM
42	Private colleges should continue to use State capital funds to support the State's needs.			DBM

### **Ensuring Efficiency in Higher Education**

<b>Page</b>	<b>Recommendation</b>	<b>Fiscal Impact?</b>	<b>Bill Needed?</b>	<b>Responsible Agency</b>
43	The commission recommends that the accelerated program approval process be modified to clarify that a new program can only be requested under the accelerated process if the institution can clearly demonstrate that the program can be started and sustained with existing resources. The existing statutory process for programs requiring additional resources would still be available for programs that cannot meet these criteria.			MHEC Institutions

<b>Page</b>	<b>Recommendation</b>	<b>Fiscal Impact?</b>	<b>Bill Needed?</b>	<b>Responsible Agency</b>
45	A statewide primary and secondary curriculum should be established that is aligned with global workforce and academic standards. Additionally, the commission shares the HBI Study Panel's interest in college readiness and strongly recommends that the State develop a common definition and measurement of college readiness so that regardless of which school or college they attend in the State, students are aware of, and encouraged to take, the courses they need at the secondary level to be prepared for college level work.			P-20 Council & STEM Task Force  MHEC  MSDE
45	Encourage participation of high school students in dual enrollment and provide scholarship funds through the Early College Access Grant and other institutional programs. Legislation should be introduced to continue the dual enrollment program that is set to expire in June 2009.	Yes	Yes	MHEC
46	Support current initiatives to develop more statewide articulation programs.			MACC Institutions
48	MSDE, Maryland higher education institutions, MHEC, Maryland Association of Community Colleges, Maryland Independent College and University Association, and other parties as deemed appropriate should work in partnership over the next 12 months to develop a plan for linking and/or integrating public postsecondary institutional data with PreK-12 data at the student level.			As listed (MHEC & MSDE primary)

## Workforce Development

Page	Recommendation	Fiscal Impact?	Bill Needed?	Responsible Agency
51	Continue to monitor the need for and supply of trained individuals in areas identified as having the greatest need for purposes of capital planning and training an adequate supply of employees for the new economy.			MHEC Institutions
51	Provide enhancement funds on a line-item basis to help mitigate costs associated with high-cost programs in critical needs areas. Provide enhancement funds for professional development for faculty who teach critical needs areas in order to create more highly qualified faculty in STEM areas.	Yes		
53	Every three years, continue to conduct surveys of alumni one year after graduation to assess graduate preparedness for employment and continuing education.			MHEC
53	The Maryland Higher Education Commission should issue a request for proposals for annual, statewide studies of employer perceptions and recommendations regarding the preparation of graduates for employment.			MHEC
54	Develop and fund broadly available loan forgiveness programs for students pursuing programs in critical need fields, such as the Janet L. Hoffman Loan Assistance Repayment Program.	Yes	Yes	MHEC
56	Endorse the recommendations in the <i>State of Maryland BRAC Action Plan Report</i> on education, infrastructure, transportation, and business needs and support actions to implement these recommendations.			MHEC

## Ensuring Future Progress

Page	Recommendation	Fiscal Impact?	Bill Needed?	Responsible Agency
57	The State should consider providing a specified percentage of capital project costs if the remaining can be raised through private donations.	Yes	Yes	MHEC (if PDIP)
57	All segments of higher education should explore other alternative funding sources for capital projects.			Institutions DBM
58	The feasibility of and the mechanism for creating a separate funding category in the <i>Capital Improvement Program</i> for research space should be examined.	Yes		DBM
59	The commission recommends that funds received under the funding guidelines should be used for public and independent university based startups, including programs such as entrepreneur in residence to provide resources to increase the creation of Maryland startup companies based on university research.	Yes		
60	The P-20 Leadership Council and the Life Sciences Advisory Board should develop and support consistent recommendations on the role of universities in innovation and technology transfer activities. Institutions should initiate a concerted and coordinated effort to advocate for the role of university research and development in innovation and economic development.	Yes		As listed Institutions
61	The commission concurs with USM's long-term goals for each comprehensive institution and endorses these recommendations for all segments of higher education. The commission also supports USM's plans for allocation of funds.			Institutions



# Framework for the Commission Recommendations

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## Purpose of Report

This document responds to a directive by the Governor and the General Assembly through legislation to recommend an appropriate model for funding higher education in Maryland. It addresses both the general appropriations for the various higher education institutions and the State's contribution to financial aid that will ensure a high quality, accessible and affordable education for academically qualified citizens. While prevailing economic conditions may at times preclude rigorously following the funding model, it is nonetheless deemed important to have a benchmark for measuring the adequacy of the State's long-term investment in higher education. The proposed Maryland funding model provides a road map for future investments that should achieve the goal of producing a well-educated citizenry. With this education, the individual would be capable of meeting workforce needs and thus contribute to growing the State's economy – thereby assuring a high standard of living for all citizens. While defining such a model is not an exact science, it is considered important to avoid arbitrary rules to the greatest extent practicable and to rely upon formulas and methodologies having a reasonable basis in logic.

## Impact of Higher Education

The standard of living of Maryland's citizens is highly dependent upon the availability of quality employment. Twenty-first century jobs demand an increasing level of education; indeed, the new global economy is referred to as the "knowledge" economy. This continues a trend wherein some 50 years ago 7 percent of adults in America had attended four or more years of college, but the corresponding figure even today is 28 percent. In 1950 one-third of the jobs in the Baltimore area were in manufacturing; today the fraction is 1 in 20. The median annual earnings of an individual in Maryland with less than a high school education are \$26,000. Individuals holding a bachelor's degree on average earn \$56,000, and individuals with a graduate or professional degree earn \$73,000. The correlation between educational attainment and personal income is extremely strong (0.83 correlation coefficient) across the various states – although there are clearly cause and effect ambiguities in the data. Maryland ranks first among the states in the fraction of professional and technical workers in the workforce, fifth in the fraction of the population ages 25 to 44 that possesses at least a bachelor's degree, and fourth in personal income per capita. It is Maryland's institutions of higher learning that produce much of the talent and perform much of the research underpinning the creation of new jobs in the State. A recent Kauffman Foundation report ranks Maryland as behind only Massachusetts and Washington in the U.S. in transforming into a global, knowledge-based economy.

Education has, of course, many virtues beyond preparing individuals for quality jobs. Learning is in many respects its own reward. While strongly acknowledging this truism, the

present document focuses on the former benefit, in large part because of its more tangible character and broad impact.

## **Global Competition**

In the twenty-first century, it matters less and less how Maryland's educational system compares with that of other states; what matters today is how it compares with the best of other nations, including China, India, Singapore, Japan, Ireland, and others. Unfortunately, there is a limited amount of comparable data regarding levels of investment, funding sources, and outcomes for foreign institutions of higher education. Thus, comparisons with selected U.S. peer states are often used as a proxy, but a proxy that must be interpreted with care. Available data show that 39 percent of the U.S. population between the ages of 25 and 34 hold college degrees; Maryland's comparable figure at 44 percent is above the national average. This compares with 53 percent for Japan, 51 percent for South Korea, 41 percent for Ireland, and 22 percent for Germany. Developing countries such as China and India generally evidence much smaller proportions of graduates in their population; however, because of the size of their population, the absolute numbers can be immense.

## **Role of Science and Engineering**

Over half the growth in the nation's gross domestic product in recent decades has been attributed to advances in science and engineering, as has two-thirds of the nation's productivity gain. Virtually all workers in the twenty-first century global economy will need to be math and science literate, and some will need extraordinary skills in these fields. Scientists and engineers comprise only 4 percent of the U.S. workforce; however, they disproportionately create jobs held by the other 96 percent. Corporations are increasingly establishing research and engineering facilities, and the jobs that go with those facilities, abroad – not simply because of low labor costs but also because of the availability of educated talent pools. The vice president of Intel has warned, not atypically, “We go where the smart people are. Now our operations are two-thirds in the U.S. and one-third overseas. But that ratio will flip over in the next ten years.”

The commission greatly benefited from the *Rising Above the Gathering Storm* report, which focused on energizing and employing America for a brighter economic future. The commission reviewed numerous statistics, such as the decline of communism has caused three billion people to enter the capitalism market and the United States now competes against people around the world for jobs; currently 60 percent of the patents issued by the U.S. Patent Office in the field of information technology originate in Asia; and in 10 years the United States has changed from a \$40 billion net high exporter of technology goods to a \$50 billion net high importer of technology goods.

A major factor for these statistics is that the cost of labor is much cheaper overseas; however, the United States also cannot compete because its students finish near last in the world in math and science tests. This is likely attributable to the fact that most fifth through eighth grade teachers are not certified to teach math and science. The United States ranks sixteenth and twentieth among nations for college and high school graduation rates, respectively; sixtieth in the proportion of college graduates receiving natural science and engineering degrees; and twenty-third in the fraction of gross domestic product devoted to publicly funded nondefense research. United States high school students rank near the bottom in science and math, as evidenced by the results of the 2006 Program for International Student Assessment which indicates that American 15 year olds test twenty-first among 30 developed countries on science literacy and twenty-fifth on math literacy. The number of U.S. citizens receiving Ph.Ds in engineering and the physical sciences has dropped by 22 percent in a decade.

As stated in the *Rising Above the Gathering Storm* report, “America is in substantial danger of losing its economic leadership position and suffering a concomitant decline in the standard of living of its citizens because of a looming inability to compete in the global marketplace.” To ensure the United States remains an economic leader in a global economy, the nation must ensure that its citizens have strong skills in science, technology, engineering, and math.

## **Attracting Students**

Maryland is a net-exporter of student talent; *i.e.*, more Maryland students receive their higher education out of state than students from other states receive their higher education in Maryland. Approximately two-thirds of Maryland students who leave the State for their higher education do not return. This trend has been partially offset by Maryland’s ability to attract degreed talent by virtue of its substantial existing corporate presence, medical centers, and proximity to the federal government. Hence, Maryland today is a net importer of degrees. Three out of four Maryland residents possessing a bachelor’s degree or higher were born in some other state. A primary reason that such individuals move to Maryland is that there are quality jobs to be found in Maryland, a presumption that will be sustained only if the State continues to invest in education and thus remain competitive. This is particularly true in the high-tech world, where business sectors appear and disappear with a regular frequency. That is, one cannot survive solely on the efforts of others.

## **Enrollment**

Maryland’s diverse higher education system includes 13 public colleges and universities, 2 public research institutes, 31 private degree-granting institutions, 16 community colleges, and 176 private career schools. Over 326,000 individuals are currently enrolled in higher education in the State. Of these, 45 percent are attending public four-year institutions, 38 percent are

enrolled in community colleges, and 17 percent in private institutions. Within the context of current available resources, over the next decade headcount is expected to increase at a rate of approximately 2 percent per year.

## Quality

Although there are no accepted absolute measures of educational quality, substantial differences in rankings by independent organizations probably do have significance. Maryland's legally designated "Flagship Institution," the University of Maryland, College Park (UMCP), is ranked eighteenth among public national universities in the most recent *U.S. News and World Report* assessment. Overall, among all public and private national universities, UMCP is ranked fifty-third. Johns Hopkins University appears on this list as well, ranked fifteenth overall among all national universities. In the same category of universities, the University of Maryland Baltimore County was recently named one of the top five "Up and Coming" national universities based on a survey of college presidents and provosts.

At the University of Maryland, Baltimore (UMB), the State's public academic health center, the School of Medicine ranked seventh in research funding among public medical schools by the American Association of Medical Colleges. UMB also has four professional schools ranked in the top 20 of all public and private universities or programs by *U.S. News and World Report*.

With regard to historically black institutions, Morgan State University is ranked ninth among public historically black institutions nationally (nineteenth overall among public and private historically black institutions) and University of Maryland Eastern Shore is ranked sixteenth (twenty-seventh overall). Among public liberal arts colleges, St. Mary's College of Maryland is ranked fourth (and eighty-fourth overall, including private colleges). Two of the State's private colleges are also ranked in this category: Washington College at ninety-fourth and Goucher College at one hundred-eleventh among public and private colleges.

The State has two public universities ranked in the northern master's universities category. Salisbury University is ranked seventh among public universities in this category (thirty-fifth among public and private institutions overall) and Towson University is ranked eighth (fortieth overall). Several of Maryland's private colleges rank in this category among public and private institutions as well, including Loyola College of Maryland at second, Hood College at nineteenth, Mount Saint Mary's University at twenty-sixth, and the College of Notre Dame at thirtieth. Finally, Stevenson University (formerly Villa Julie College) is ranked fifteenth among northern baccalaureate universities.

While the State's institutions continue to evidence improvement, the overall rankings of Maryland institutions cannot be considered acceptable in the global knowledge economy in which Maryland now finds itself competing for jobs and standard of living.

## Input to Higher Education Systems

According to the College Board, Maryland ranks second in the nation in the fraction of graduating high school seniors who have passed at least one advanced placement (AP) examination and first in improvement over the past five years. As is the case in all other states, African American students in Maryland are still severely underrepresented among those passing AP examinations. For many students, the gap between qualifying for a high school diploma and readiness to undertake college work remains large. Overall, 56 percent of the students who enroll in Maryland public higher education institutions are in need of remedial assistance before they are judged prepared to pursue the academic programs offered by those institutions. In the cases of community colleges and historically black institutions, the corresponding figures approach 72 percent. (It is noteworthy that 70 percent of incoming undergraduate students needing remedial attention had “B” or above high school grade averages.) This shortfall imposes a substantial additional financial burden on institutions of higher education, prolongs the educational process, and leads to discouraged students who drop out of the educational pipeline.

Seventy-four percent of Maryland ninth graders attending public high schools graduate from high school four years later (the U.S. average is 68 percent). Of graduates from Maryland public high schools, 48 percent were awarded a bachelor’s degree within six years. (The U.S. average is 52 percent.)

## Importance of Output Measures

While there are abundant measures of “input” to higher education institutions, there are only limited generally accepted measures of “output.” The latter include institutional rankings by independent organizations, graduation rates, refereed articles in research journals, peer judgments, and technology transfer successes. Further analysis and a strengthened data base are needed to address this shortcoming because it is output, not input, that is the ultimate measure of an educational system. Nonetheless, it is common, in efforts such as the present one, to focus on “inputs” (*e.g.*, investment per student) and to assume that a monotonic relationship exists between input and output. The veracity of this assumption depends, of course, in large part upon the quality of management. While it seems clear that there is not a simple linear relationship between investment and quality, to assume anything other than a monotonic relationship would be an indictment of higher education management in its entirety.

In terms of outputs, as previously stated above, 39 percent of the U.S. population between the ages of 25 and 34 hold college degrees; therefore, at 44 percent Maryland is above the national average. However, Maryland achieves this level by importing graduates from other states. Data from the National Center for Higher Education Management Systems indicate that in order for Maryland to reach the best-performing countries or to reach international competitiveness by 2025, at least 55 percent of its population must hold a college degree. However, including Maryland college graduates and graduates who migrate to Maryland, current

projections show that only 48 percent of Maryland's population will have achieved that level of educational attainment by 2025. In order to reach the 55 percent goal by 2025, Maryland will need a 40 percent increase in annual associate and bachelor's degree production in the public higher education institutions or 33 percent increase in degree production when private institutions are included. In other words, Maryland must dramatically increase its outputs in order to reach international competitiveness.

## **Maryland Demographics**

Maryland is the nineteenth largest state by population. The State excels, by overall U.S. standards, in such measures as median family income (ranking second) and overall participation in higher education (ranking thirteenth among states in the fraction of 18 to 24 year olds). However, within these averages enormous disparities exist. At the lowest quartile of income, Maryland is ranked thirty-fourth in college enrollment. While 41 percent of whites (non-Hispanic) in the State age 18 to 24 are enrolled in college, the corresponding figure among non-whites is 29 percent.

Thus, although Maryland compares favorably in many national educational metrics at the median, the less wealthy and/or minority members of the populace are severely underserved. Demographic trends suggest an increase in this disparity if corrective actions are not taken. For example, what are now minority elements (currently 35 percent black and 7 percent Hispanic) are forecast to be the fastest growing elements of the population in the State (52 percent of high school graduates in 2009 are projected to be white; however, in 2019 the white fraction is projected to decline to 41 percent. By 2025 the minority population of Maryland under age 18 is forecast to increase by 170,000, while the number of white, non-Hispanic citizens in the same age cohort will decline by 33,000.) This imbalance in opportunity and outcomes can be considered to be the State's most serious higher education challenge.

## **Limitations of "Goals"**

It is generally accepted that it is important to establish goals for the State's higher education system, such as goals for accessibility, affordability, and completion rate. Unfortunately, "goals" are just that: goals. For example, it is generally not practicable to set absolute, uncompromising commitments for future State support of education since the State has no certain way of estimating future revenues. This circumstance often leaves education vulnerable to the exigencies of the economy and occasionally raises questions as to why goals should even be established. Whatever their shortcomings, the existence of standards is an important factor in measuring and strengthening the State's higher education system and places a spotlight on deviations from the State's own declared objectives.

An alternative to simply setting goals is the approach used in the State's K-12 system and its community and private colleges. The latter provides funding according to pre-established mandatory formulas but provides an escape that can be implemented by joint action of the Governor and the General Assembly.

## **Complexity of Current Goals**

The Maryland higher education system is extraordinarily complex. Not only does it involve a large number and variety of institutions, but those institutions vary greatly in terms of their relationships to the State. Some have associations with particular counties, some do not. Some are private, most are not. Some belong to the University System of Maryland, others do not. There are 22 separate State programs for awarding financial aid. There are at least three different, independent sets of goals currently used for determining the appropriate level of state investment in higher education, each potentially contradictory with the others. These include (1) contributing a fixed percentage (15.5 percent) of State revenues to higher education; (2) contributing funds equivalent to the fiftieth or seventy-fifth percentile of a set of peer institutions selected based on educational similarity; and (3) tailoring State contributions such that they equal a specific fraction of the total cost of education – for example, as in the case of (most but not all) community colleges, one-third from the State, one-third from the student, and one-third from the county.

## **Formulas Keyed to Competitor States and Institutions**

One formula currently in use for most of the State's four-year public universities, known as the funding guidelines, sets a State investment goal at a specified percentile of support of a comparator group of peer institutions across the country. The peer group is defined as institutions of similar size, academic program makeup and demographics, and provides a funding target that recognizes through a factoring system the diverse characteristics of institutions – for example, a medical school at University of Maryland, Baltimore (UMB) or engineering programs at several Maryland institutions. In the case of most of the institutions, the target has been set at the seventy-fifth percentile; however, several institutions, such as UMCP and UMB, have different individual targets.

No state, certainly not Maryland, wishes to be “average.” However, if all states set their investment target at the seventy-fifth percentile, the “Lake Woebegone effect” causes investment demands to gradually approach infinity. Similarly, it arguably makes no sense to set Maryland's goals based on the average investment policies of all the other 49 states, since Maryland competes with a unique, highly excelling group of states for jobs – as well as for students. Thus, various select comparator groups of states have on occasion been considered to be justified. It should be noted that the use of a standard above the fiftieth percentile may be appropriate while a state is in a “catch-up” or “move-ahead” mode, but in the longer term is not sustainable – unless

other states dramatically under-invest. Thus, any standard above the fiftieth percentile should be periodically reexamined in the context of progress made towards academic leadership. This is readily accomplished in the funding model proposed herein simply by adjusting the matching percentile. Similarly, it should be recognized that the use of comparator groups in establishing funding could suggest a redirection in investment during difficult economic times when other states react to those exigencies.

## **Historically Black Institutions**

Maryland has a strong representation of historically black institutions (HBIs). The magnitude of the challenges faced by these institutions is particularly great, especially at the undergraduate level and will require special attention and consideration if they are to be satisfactorily overcome. HBIs have a dual mission to provide regular collegiate programs and to provide strong developmental education for students, mostly from low-income families, who otherwise would not have an opportunity to pursue a bachelor's degree. Additionally, a disproportionate share of working students comprise the student body at HBIs. Today, entering SAT scores are lower by over 200 points, and graduation rates are approximately 25 percentage points lower than at the State's traditionally white schools. In the past, funding decisions for these historically black institutions have largely sought to recognize these needs through negotiations and judgmental decisions.

To assist the commission in studying the needs of the HBIs to be comparable and competitive with other Maryland public institutions, a panel of experts was engaged to study this issue and develop recommendations for consideration by the commission. The HBI Study Panel submitted its final report in November 2008. (See **Appendix 2** for the full report and **Appendix 3** for more information on the HBI Study Panel.)

## **Accountability**

Accountability is setting performance goals and measuring the results. The commission reviewed the work of several national commissions in developing its recommendations on accountability. The federal Commission on the Future of Higher Education (*i.e.*, Spellings Commission) has made the creation of more robust systems of accountability and transparency a top recommendation. The guiding principle of a second commission, the National Commission on Accountability in Higher Education, is that the purpose of accountability is to achieve better results. The basic assumption underlying this approach is that the motivation to excel is the most powerful force available for improving results. This approach seeks to take advantage of higher education's competitive nature, the diversity of missions evident among its institutions, and its decentralized governance structure as a means of collectively and creatively addressing state priorities.

The following are the key components recommended by the National Commission for an accountability system that achieves high performance levels: 1) agreement on a limited number of fundamental statewide priorities that serve as a framework for state investments, public policies, and state and institutional goals; and 2) development of a meaningful division of responsibilities for addressing state priorities. The responsibilities should be divided up in the following way: State policymakers are responsible for identifying broad public priorities and addressing them through budgets, programs, and policies; institutional boards and leaders are responsible for creating the conditions by which their campuses can excel in carrying out their particular missions, commensurate with the resources available to them, in the pursuit of critical State priorities; and faculty are responsible for teaching, research, and service; students, for learning.

## **State Plan for Postsecondary Education**

The Maryland Higher Education Commission (MHEC) is required by statute to submit a quadrennial review of the *State Plan for Postsecondary Education* (State Plan) that establishes statewide goals. The work of the Commission to Develop the Maryland Model for Funding Higher Education is an outgrowth of the 2004 State Plan in that the overarching recommendation called for the development of a postsecondary education model addressing the linkage of tuition policy, State support to institutions, and institutional and State financial aid.

While the State Plan was originally due July 1, 2008, MHEC is submitting legislation to delay the submission of the State Plan to July 1, 2009, to allow for the consideration of the final report from the Commission to Develop the Maryland Model for Funding Higher Education. The process of drafting the *2009 State Plan for Postsecondary Education* began in fall 2008. Because the higher education constituencies expressed overwhelming support of the five goals contained in the 2004 State Plan, the 2009 State Plan will be an update of the five goals: quality and effectiveness, access and affordability, diversity, student-centered learning, and economic growth and vitality. Many of the recommendations in this report are directly related to these five goal areas. It is anticipated that those appropriate ideas and strategies contained in this final report will be incorporated into the State Plan to ensure that Maryland higher education continues to move forward in a synergistic and cohesive manner.

The final State Plan will represent a collaborative effort with input from many stakeholders including educators, legislators, business persons, and members of community and professional organizations. It is anticipated that the State Plan will be finalized by June 2009.

## **Capital Needs of Higher Education**

Access to higher education is critical in order to achieve the State's education goals. A critical component to access is the quantity and quality of the space on an institution's campus.

Academic facilities ought to enhance the teaching and research activities and not detract from them. Currently, Maryland's public and private institutions have over \$3.1 billion in facility renewal needs in total and face significant academic space deficits. For example, Maryland public institutions have an academic space deficit of 3.4 million net assignable square feet (NASF) including research lab space, which accounts for 56 percent of this deficit. As enrollment grows, the problem will only increase. By 2016, Maryland is projected to have a space deficit of 5.3 million. Having adequate facilities at Maryland's institutions of higher education will greatly impact Maryland's competitiveness with other states and, in turn, ensure the State's economic health.

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**Findings and Recommendations  
of the Commission to Develop  
the Maryland Model for Funding  
Higher Education**

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# **Findings and Recommendations**

## **Funding Model**

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### **Investment in Higher Education**

Although Maryland ranks second in median family income and, on a per capita basis, fourth among the 50 states in personal income, it ranks twenty-first in higher education appropriations per capita, thirty-fourth in the fraction of state personal income devoted to higher education, and nineteenth in higher education appropriations per FTES. The State now ranks twelfth in need-based undergraduate grant dollars per undergraduate FTES. Increased funding that began in fiscal 2005 for need-based aid has improved Maryland's standing in this regard from its previous twenty-third place. However, as a percentage of higher education operating expenses, Maryland is ranked twenty-ninth in total grant funds. It also ranks below the median in need-based financial aid as a fraction of tuition.

The above comparisons include all 50 states; however, Maryland, because of the nature of its business-base and the State's geographical location, must compete with a much more select group of states and institutions for the creation and retention of jobs. According to the Maryland Department of Business and Economic Development, Maryland primarily competes with the following 10 states on a regular basis for new businesses and jobs: Pennsylvania, Virginia, Massachusetts, North Carolina, New Jersey, and New York in the East coast/mid-Atlantic region; and on a national basis, California, Minnesota, Ohio, and Washington state.<sup>1</sup>

### **Sources of Funds and Funding Models**

The cost of a student's higher education is generally funded from one or more of three often unequal primary sources: (1) state allocations; (2) family contributions, including tuition, student employment and loans; and (3) financial aid (federal, state, and institutional). In academic circles this is referred to as the "three legs of the stool." In the case of community colleges, counties usually represent another source of contribution. It is worthy of note that over the longer term, endowed institutional scholarships could represent an increasingly important resource. Various options exist with regard to the above sources of funding, with each option having unique benefits as well as liabilities.

It is common practice to categorize higher education funding models of various states according to the extent of state support, tuition level, and financial aid each on a scale of high, moderate, or low. Obviously, only certain combinations of these parameters can result in a viable education system, and all possess inherent advantages and shortcomings. The issue thus

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<sup>1</sup> Several methodologies for selecting "competitor" states were examined, all of which produced generally comparable results. The states listed here were selected based upon input from the Department of Business and Economic Development.

becomes one of finding the best overall compromise to support the needs of Maryland's citizenry.

Maryland, in the past, would likely be judged as embracing a moderate State support/high tuition/moderate financial aid model. Recent tuition freezes have begun to produce a significant shift in this strategy. Obviously, the choice has important implications. For example, high State investment increases the burden on taxpayers; high tuition coupled with high need-based aid essentially represents a resource transfer from those students and their families with more financial resources to those with lesser resources; and combinations such as low State investment/low tuition almost certainly result in an inferior education for those participating in the system.

One set of goals for use in creating a funding model for higher education in Maryland is to (1) assure a quality education for all students; (2) assure access (space and affordability) for all qualified students wishing to pursue a higher education; and (3) provide, insofar as is practicable, reasonable predictability of cost to students and their families. The implications of meeting goals can be summarized as follows:

<b>GOAL</b>	<b>IMPLICATION</b>
Quality	High State support and/or high tuition
Access	High tuition and high financial aid, or low tuition
Predictability	Risk of unforeseen cost increases shifts from student/family to State (taxpayer)

## **A Higher Education Funding Model to Support a Prosperous Maryland**

*Underlying Principle: "Education Is Among the Soundest Investments a State Can Make On Behalf of its Citizenry"*

Any funding model for higher education must be premised on a recognition that the State's ability to meet the conditions of the model will ultimately depend upon the availability of revenues and reserves. Nonetheless, it is vital to have a benchmark against which to measure the State's progress, irrespective of the amount of funds that can be dedicated in any given year. The Higher Education Funding Model for Maryland (HEFMM) proposed herein seeks to avoid arbitrary choices and adopts as goals high quality, extensive access, and reasonable cost predictability. This requires balancing the various considerations raised in the above discussions through providing relatively high State investment, moderate tuition, and high financial aid.

The recommended Higher Education Funding Model for Maryland, to be implemented within a 10-year period, has three main goals that should be implemented collectively in order to achieve the overall goal of relatively high State investment, moderate tuition, and high financial aid for Maryland higher education:

- **State Investment:** Set State funding of public four-year institutions at the seventy-fifth percentile of funding per student of a group of comparable institutions (“peers”) residing in states with which Maryland principally competes for employers, referred to as Maryland’s competitor states.<sup>2 3</sup> The goal is set at the eightieth percentile for HBIs to recognize that additional resources are needed for them to compete with other public institutions. Additional recommendations addressing HBIs are contained further in the report. A threshold below which Maryland’s educational position would be judged as deteriorating and unsatisfactory would be represented by the fiftieth percentile of the competitor states peers. In addition, State investment includes funding for community colleges and eligible private institutions through statutory formulas tied to per-student State funding of select public institutions. (See Appendices 1.1 through 1.3)<sup>4 5</sup>
- **Tuition and Fees:** Set (gross) in-state tuition and fees at or below the fiftieth percentile of comparable institutions in the above competitor states in order to provide an appropriate level of funds for education without unduly creating “sticker shock” and thereby discouraging students from applying. Community colleges should also aim, collectively, for the fiftieth percentile of community college tuition in Maryland’s competitor states, recognizing that exceptions will necessarily occur

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<sup>2</sup> The list of principal competitor states was provided by the Maryland Department of Business and Economic Development: Pennsylvania, Virginia, North Carolina, New Jersey, New York, Massachusetts, Ohio, Minnesota, Washington, and California.

<sup>3</sup> The funding guideline for each institution is calculated by determining the seventy-fifth percentile of the sum of State appropriation and tuition and fee revenue per FTES of the competitor states peer institutions. The resulting per student rate is multiplied by the institution’s projected enrollment and projected institutional tuition and fee revenue is subtracted. The remainder represents the State investment. The reason for selecting the seventy-fifth percentile (rather than, say, the fiftieth percentile) is because Maryland’s institutions overall are broadly considered to still have “catching-up” to do with institutions in many of the states with which Maryland competes for employers (and thus jobs). Hopefully the point will be reached, as progress is assessed annually, wherein the Maryland higher education system is so highly ranked and so efficient that further financial augmentation is not needed; however, few would argue that is today’s reality.

<sup>4</sup> Historically black institutions are set at the eightieth percentile to ensure that no institution would receive lower funding than they currently receive in the current funding guideline; similarly, HBIs would be held harmless at the lower-limit fiftieth percentile.

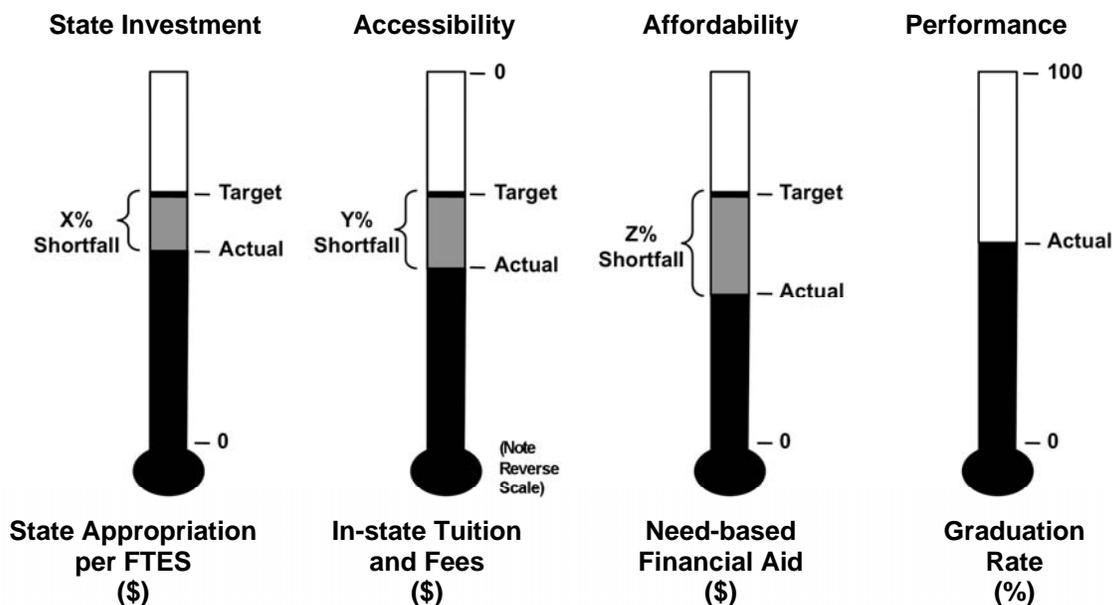
<sup>5</sup> “Peer institutions” are defined as having similar academic scope, comparable size, and a somewhat similar student financial profile. For consistency, schools in the same Carnegie classification have been considered wherever possible. For UMCP, an Association of American Universities (AAU) school, other AAU schools in the competitor states have been used; and for UMB, other research high institutions with medical schools or free-standing medical centers have been selected.

because the community colleges must balance the extent of both State and local government support in setting tuition rates.<sup>6</sup> (See Appendices 1.4 through 1.6)

- **Financial Aid:** Set need-based financial aid per FTES at the seventy-fifth percentile of the competitor states—necessitating a significant increase in need-based financial aid. (See Appendix 1.7) This is particularly important to assist those would-be students from low-income families.

The fourth component of the model is accountability. To annually assess progress in meeting the HEFMM funding goals, a set of thermometers has been developed as a prototype to display the “shortfall” in percent actual funding (positive or negative) associated with meeting each of the three primary HEFMM goals and a fourth to represent performance using graduation rate as the measure. (See Appendix 1.8) This assessment should be conducted on an institution-by-institution basis as well as in the aggregate for the State (see figure below). Time histories of these measures should also be maintained and displayed in the proposed Maryland’s Higher Education Return on Investment report card discussed in the Accountability section of the report in order to highlight trends.

### Assessing Progress Toward the Funding Model



<sup>6</sup> In-state tuition and fees would be compared at the State level and also at the institution level, using peer institutions for the public four-year institutions.

## Cost of Adopting the Funding Model

The estimated annual steady-State incremental total cost (relative to current investment) to fully implement the Higher Education Funding Model for Maryland is \$758.3 million. Most of this cost, approximately \$666 million, is associated with investing to an extent that permits Maryland to function above the median of states with which Maryland primarily competes to attract employers and thus create jobs. This incremental cost includes \$470 million simply to fund the State's existing guidelines (which have not been met) and an additional \$196 million to implement the new competitor states funding guidelines under the Higher Education Funding Model for Maryland. Due to the State's existing funding structure for higher education, which ties community college and eligible private institution funding to State funding of public four-year institutions, these segments of higher education would also be affected by HEFMM. Meeting the HEFMM over the next 10 years would require an annual increase of approximately \$85 million over inflationary growth.<sup>7</sup> At present Maryland is approximately \$261 million underinvested even to meet the "floor" (fiftieth percentile) of the competitor states peers. It should again be noted that the funding guidelines are tied to funding for higher education in the competitor states and as such are a moving target that could increase or decrease over time. The ultimate success in achieving the funding model should be measured not only by the funding inputs, but by the outcomes achieved as displayed in the *Higher Education Return on Investment*. The benefits to the State of Maryland and its residents from a highly educated and productive workforce will compound as we seek to fulfill the goal of 55 percent of State residents holding a post-secondary degree by 2025.

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### Estimated Cost to Fully Implement HEFMM\* (\$ in Millions)

Funding Guidelines at 75 <sup>th</sup> percentile of peers in competitor states**	\$665.8
2008 update of guidelines	\$469.5
Increase associated with using peers in competitor states only	196.3
Tuition Stabilization Account to assist in setting tuition at 50 <sup>th</sup> percentile of competitor states (also achieved through higher State funding of institutions)	15.0
Need-based aid per FTES at 75 <sup>th</sup> percentile of competitor states	70.1
HBI Supplement for Undergraduate Education***	7.4
<b>Total</b>	<b>\$758.3</b>

\*Annual cost in 2010 dollars, to be phased in over 10 years, compared to fiscal 2009 working appropriation

\*\*HBIs are at 80<sup>th</sup> percentile. Does not include impact on funding formulas for community colleges or eligible private institutions. See Appendix 1 for per institution and per student funding impacts.

\*\*\*Assumes existing \$6 million State funding for Access and Success is absorbed into new program for a total cost of \$13.4 million based on \$1,400 per student needing supplemental services.

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<sup>7</sup> Fiscal 2009 appropriation and fiscal 2010 funding guidelines were both adjusted for the Higher Education Price Index and projected enrollment growth to represent inflationary growth; 4 percent annual increases in tuition rates are also assumed.

Recognizing the current economic and fiscal environment that the State is facing, it is emphasized that the funding model represents a goal to guide State investments in higher education. It is intended to be implemented as quickly as possible within a 10-year period. While the intent of the funding model is to provide predictable and stable funding for higher education, recent events illustrate the cyclical nature of the economy. No reasonable model can predict or fully counter the roller coaster nature of the economy or the extent of State revenues available for higher education. Ultimately, higher education institutions must manage both the upside and the downside of financial conditions. However, over a 10-year timeframe, the elements of the model, if implemented, can permit higher education to better manage both aspects of the economic cycle and provide assurance to all Maryland students and their families that an accessible, affordable, and high quality college education is within their reach.

### **Higher Education Investment Fund**

The Higher Education Investment Fund (HEIF) was created during the 2007 special session to provide revenues dedicated to higher education. The source of revenue for this fund is one-half of the increase in the corporate income tax that was also adopted during the special session. The HEIF was authorized for fiscal 2008 and 2009 only. During these two years, the HEIF was estimated to receive approximately \$70 million. Three uses were established for the HEIF: to supplement general fund appropriations to the public four-year institutions, to fund capital projects for the public four-year institutions, and to fund workforce development initiatives administered by MHEC. Currently, the law provides that HEIF will expire after fiscal 2009. Therefore, legislation would be required to reauthorize HEIF for fiscal 2010 and beyond.

One approach to dampening the impact of transients in the economy on the availability of funds for higher education is to establish a contingency (“rainy day”) fund. Such a fund would require that in years of strong revenues the State would place in reserve (trust) some amount of funds that could then be allocated to offset the impact of reduced revenues in times of financial duress. Such an approach requires considerable self-discipline. However, there are a number of examples of states and countries adopting this practice (usually for more general purposes) and doing so with considerable success. Maryland has such a fund—the Revenue Stabilization Fund, known as the “Rainy Day Fund” – to moderate the overall impact of sudden growth or decline in State revenues. This fund, although occasionally used for higher education purposes, is not specifically prescribed for that application. HEIF could also act as a reserve fund specifically for higher education. Individual Maryland educational institutions also accrue their own reserves in their fund balances, which are in general applied at the discretion of each institution.

**In order to help achieve the proposed HEFMM and to provide a reserve fund for higher education, it is recommended that the dedicated revenue established in the Higher Education Investment Fund be made permanent.**

## **Interlocking Formulas for State Investment**

Maryland has elected to determine its financial contribution for community colleges and for the State's eligible, nonprofit private institutions by factoring the State's corresponding per-student contribution from the prior fiscal year to select public four-year institutions. This has the merit of simplicity and, from a cohesiveness perspective, places disparate constituencies in "the same boat." It has the disadvantage that individual institutions generally have unique needs that are not recognized by rigorous application of such formulas. The general consensus is that this is an effective approach. The State should consider the appropriateness of a similar approach to funding public four-year institutions in the future.

**The commission recommends that funding for community colleges and eligible private institutions should continue to be allocated using the statutory formulas based on State appropriations per FTES to a specified set of four-year public institutions.** That is, State appropriations per FTES for the prior fiscal year at the degree-granting public four-year institutions except UMB, UMUC, and UB is multiplied by a factor currently codified in State law. For the community colleges, the factor was enhanced in 2006 legislation that phases in a 5 percentage point increase over six years; in fiscal 2010 the factor is 27 percent, increasing to 30 percent in fiscal 2013 for the locally operated community colleges. Baltimore City Community College's formula is also increasing 5 percentage points to 71 percent in 2013. Eligible private institutions receive 16 percent of the State appropriation per FTES under current law.

## **Tuition and Predictability of the Cost of Education**

The increase of gross and net (after financial aid) tuition at U.S. universities has for several decades far exceeded both the inflation rate and the growth of median family income. Unfortunately, Maryland is no exception in spite of the very positive effect of the tuition freeze imposed for the past three years. Relative to other states, Maryland's tuition in fall 2007 was still 30 percent above the average of all states for comprehensive universities (seventh highest) and 16 percent above the average for flagship universities (nineteenth highest). However, Maryland's ranking in average tuition and fees at public four-year institutions improved from seventh highest in 2005, before the tuition freeze for in-state undergraduates, to sixteenth highest in 2008, as calculated by the College Board. Correspondingly, Maryland's average community college tuition is ranked sixteenth highest in the country in 2007.

Not only is the absolute tuition level of concern to students and their families, but so too is the predictability of tuition – an essential ingredient in college financial planning, particularly for those of lesser means. Students must be able to afford to embark on a college degree but also to graduate, as the cost of college increases while a student is enrolled. Tuition has tended to increase significantly, and unexpectedly, during economic downturns when State funding is limited.

A number of states have experimented with “tuition guarantees,” *i.e.*, guaranteeing tuition over a two-year or four-year period. This typically results in a higher initial tuition than would be the case without such guarantees (reflecting an “insurance premium”). Depending on the type of guarantee, the cost-of-education risk shifts from the student and student’s family to the state (taxpayer). The risk of providing tuition certainty in an environment of tax revenue uncertainty has generally led to a tendency to set tuition rates very conservatively and produced results that at best can be characterized as highly problematic.

**To further address these issues, the commission recommends a Tuition Stabilization Program<sup>8</sup> that has the following elements:**

- **Set as a goal to limit percentage increases in resident tuition and fees in any given year to a percent not to exceed the increase in the three-year rolling average of the State’s median family income – a policy that would link tuition increases to a measure of affordability for families.** This complements the HEFFM funding goal to set tuition at the fiftieth percentile of competitor states by limiting annual tuition increases that could exceed the fiftieth percentile over time. Community colleges should also aim, collectively, to limit community college tuition and fee increases, recognizing that exceptions will occur because the community colleges must balance both State and local government support in setting in-county tuition rates. Each institution should report on progress towards achieving this goal each year, in the context of the State’s revenues and higher education contribution. Institutions that can demonstrate their resident tuition and fee level is currently below what the market suggests, *i.e.*, below what students can and will pay, could make one-time adjustments to resident tuition and fees outside of this policy goal. (See **Appendix 1.9**)
- **Create a Tuition Stabilization Trust Account within the Higher Education Investment Fund whereby in years of increasing corporate tax revenues, funds are deposited into the account and, in years of decreasing revenues, appropriate portions of the fund are applied to stabilize tuition. The intent and expectation is that these funds are to be used only for this purpose under fiscal exigencies and are prohibited from any other use by higher education institutions or any other State agencies.** For example, funds equal to 1 percent of tuition revenues each year – approximately a \$15 million contribution in fiscal 2009, and building to a maximum balance equivalent to 5 percent of current tuition revenues. The State’s higher education institutions should also be encouraged to save a portion of tuition revenues in their fund balance during favorable economic conditions to be applied in the inevitable periods of hardship.

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<sup>8</sup> Considerable effort was devoted by the commission to structure a rigorous tuition guarantee program. Although highly attractive in principle, the experience of other states that have attempted such programs has been, at best, mixed. The Tuition Stabilization Trust Account proposed herein, backed by a strong need-based scholarship program, represents a compromise version of a tuition guarantee designed to ease financial planning needs of students with the exigencies inherent in the State’s ability to project tax revenues.

- **Authorize one or two institutions, at their discretion and risk, to develop a pilot “true” tuition guarantee program that provides even greater predictability in tuition.** The proposed pilot program(s) should be reviewed and approved by the institution’s governing board and the Maryland Higher Education Commission before being implemented.

## **Need-based Financial Aid**

To produce an educated workforce for the jobs of the twenty-first century, all students, regardless of their financial status must have the opportunity for a higher education – and to have such an opportunity, education must be affordable. The State offers need-based scholarships to full- and part-time, graduate and undergraduate students. However, these programs have not kept pace with increases in tuition and fees. The State’s largest need-based program, the Delegate Howard P. Rawlings Educational Assistance Grant, a component of the Educational Excellence Award Program, provides a maximum grant of \$3,000, a figure that has not increased since it was established in State law in 1991.

MHEC recently began collecting data from Maryland higher education institutions that enable financial need analyses at the individual student level. These data show that with all sources of financial aid combined (State, federal, and institutional), community college aid recipients with the lowest expected family contribution (EFC) had the highest amount of unmet need, even if they undertook loans. Similarly, at the public four-year institutions, Pell-eligible aid recipients had the highest level of unmet need, even if they took out loans. The fraction of Maryland students with education-derived debt is greater than in most other states. This trend needs to be reversed to ensure that lack of funding or high debt is not undermining a needy yet qualified student’s opportunity for a higher education. Recent significant increases in financial aid by some of the nation’s more highly endowed institutions have further increased the pressure on Maryland and the other states. For example, a family with an income of \$80,000 can now send two children to Harvard or three to Yale for the cost of sending one without financial aid to the University of Maryland, College Park.

**To complement the HEFMM goal to achieve the seventy-fifth percentile of need-based aid per student, the commission recommends the increased funding be allocated so that, at a minimum, need-based aid should be increased each year to keep pace with tuition increases. Student awards should also increase annually to offset inflation and avoid losing ground in either the number of awards or the percent of college costs that are covered. Maximum award amounts should also be increased to recognize higher tuition and greater unmet need since the State’s need-based programs were established nearly 20 years ago.**

**Below are recommendations specifically for the Educational Excellence Award Program. Other need-based aid programs, including part-time grants and graduate and professional scholarships, should adopt corresponding increases in State need-based aid.**

- **The maximum award for the Educational Assistance grant should be increased to \$6,000, and a graduated scale for awards based on Expected Family Contribution should be developed and implemented.**
- **Eligibility for the Guaranteed Access grant, which currently covers 100 percent of need up to \$14,300 for students with family income of 130 percent of the federal poverty limit (currently \$27,560 for a family of four), should be increased to 150 percent of the federal poverty level (approximately \$31,800 for a family of four), with smaller grants available to students with family income between 150 percent and 200 percent of the federal poverty limit. (It is estimated that increasing the family income limit to 150 percent would cost the State approximately \$6 million, whereas adopting a threshold of 175 percent or 200 percent of the federal poverty limit would require an additional \$3.5 million or \$6.9 million, respectively.)**

**The commission also recommends establishing a Maryland Covenant that promises to cover 100 percent of need for low-income students (initially those students receiving Guaranteed Access grants) who satisfactorily complete a college preparatory curriculum and agree to complete a baccalaureate program in four years.** The program would be a voluntary partnership between the State and higher education institutions that agree to participate, with the State maximizing eligibility for existing federal and State aid and the institutions providing the balance with institutional aid. The University of Maryland, College Park recently created a similar program, as has North Carolina, which has provided an opportunity and an incentive to prepare for college and graduate in four years to students who may not otherwise have been able to afford to attend college. Based on College Park's experience and the cost of current Guaranteed Access grants, the funding gap that institutions would need to fill under the program, if they choose to participate, would be \$1.0 to \$1.5 million for all USM institutions and \$800,00 to \$900,000 for all community colleges, in total.

**Consideration should also be given to developing a single application for students seeking State financial aid assistance that would simplify the process of selecting from among the 22 separate programs, including need-based, merit, workforce, and other programs, to which students may apply.**

## **Findings and Recommendations Historically Black Institutions**

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The Panel on the Comparability and Competitiveness of Historically Black Institutions in Maryland (HBI Study Panel) made numerous funding and policy recommendations pertaining to HBIs in the final report submitted in November 2008 (the full report is included as Appendix 3). The commission's charge to the HBI Study Panel was to seek expert advice as the commission addresses its own charge to make funding recommendations that ensure that HBIs are comparable and competitive with other public institutions. The State committed to this effort in its 2006 response to OCR, following the expiration of the 2000 Partnership Agreement in December 2005, when the State indicated that it had met the commitments contained in the agreement but that determining whether HBIs are comparable and competitive with traditionally white institutions (TWIs) is not simple, and expressed its intent to develop measurable indicators of parity among HBIs and TWIs. As the HBI Study Panel notes in its report, they know of no other state that has committed, on its own initiative, to defining the meaning of these standards. Further, Maryland is the first state to seek to define both comparable, which the panel relates to capacity, and competitive, in terms of outcomes and results.

The commission wishes to thank the HBI Study Panel for undertaking this extremely important and difficult charge and for its extraordinary efforts to assist the commission and the State of Maryland in addressing this issue that has challenged the State and its public higher education system for decades. Although this will likely not be the last word on the topic, the HBI Study Panel's findings and recommendations have provided the commission and the State with working definitions and indicators of comparability and competitiveness among the State's HBIs and TWIs and an assessment of how HBIs and TWIs measure up. The panel also recommended processes for determining the kind and level of capacity that is needed to produce competitive outcomes at HBIs relative to undergraduate and doctoral education.

### **HBI Study Panel Recommendations**

The HBI Study Panel focused on undergraduate and doctoral education at HBIs. The panel recommends that the overall goal for HBIs should be to ensure capacity that enables each institution to achieve competitive results. In both undergraduate and doctoral education, the HBI Study Panel found that HBIs are not comparable and, therefore, are not competitive.

The panel noted that on traditional capacity indicators such as funding per student and student-faculty ratios, HBIs and TWIs are more similar than different. However, the panel found differences in both the kinds of students served, *e.g.*, higher percentages of underprepared students many of whom are from low-income families, and the outcomes achieved by HBIs and TWIs. The panel concluded that HBIs need a different form and level of capacity because, unlike TWIs, HBIs have a dual mission to provide regular collegiate programs and to provide

strong developmental education for students, mostly from low-income families, who otherwise would not have an opportunity to pursue a bachelor's degree and that HBIs are not funded appropriately to carry out both missions at once. With regard to undergraduate education, the panel noted that it should be the first priority of HBIs and all State universities and that earning a bachelor's degree should be the key measure of success. Therefore, one of the panel's main recommendations is that graduation rate should be the primary criterion used to determine competitiveness in HBI outcomes for undergraduate education and that comparable capacity should provide the opportunity to raise graduation rates to be comparable to those of TWIs.

The panel emphasized the ambitiousness of this goal and its strong belief that increasing the undergraduate education capacity of HBIs should be the first priority for additional State support. To determine the appropriate funding needed to achieve this goal, the panel recommended that MHEC coordinate a group of HBIs and experts to outline the programs and services needed to ensure that students who are less-prepared for college eventually graduate. The panel noted that the Access and Success Program, a State-funded program to improve graduation rates at HBIs since 2001, does not have common or specific criteria and appropriate goals and accountability. The panel also recommended additional need-based aid to increase affordability for low-income students, which would disproportionately affect HBIs and their students.

**The commission strongly endorses the panel's finding that undergraduate education should be the first funding priority and that graduation rate should be the primary indicator of performance. Recognizing the considerable remediation effort and continuing support demanded of the historically black institutions at the undergraduate level, a supplement should be provided to these institutions over and above the figure determined from the Higher Education Funding Model for Maryland.**

**Preliminary estimates from several HBIs suggest that \$3 million to \$4 million in annual total funding is needed for these services at each institution, a supplement of about \$1,428 per FTES, using math remediation rates as a proxy for students needing the additional support services.<sup>9</sup> Information from two other institutions, California State University – Los Angeles and Towson University, suggests funding of approximately \$400 to \$450 to primarily support increasing access, retention, and academic excellence of lower-prepared students, many of whom are low-income and/or first-generation college. Specialized programs such as summer bridge programs and learning communities cost more per student, approximately \$1,000 to \$2,000. As this estimate is refined with additional data, the magnitude of the supplement will need to be adjusted appropriately as well as annually for inflation.**

**The supplemental funding should be spent only for this purpose and only for strategies and initiatives that have proven to be best practices in improving graduation**

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<sup>9</sup> Institutions other than the historically black institutions are not included in this adjustment. Although some have major remediation challenges of their own, none face as low graduation rates as HBIs.

rates. The existing Access and Success programs at HBIs should be replaced by the new program, and existing State funding (\$6 million) and institutional support for the former efforts should be transferred to the new program. The specific programmatic and funding needs for each HBI should be developed based on a process similar to that proposed by the HBI Study Panel. The institutions receiving such supplemental funding should provide measurable goals (*e.g.*, graduation rate) and report results against those goals yearly. The need to continue or revise such funding should be addressed periodically, considering possibly diminished need for such augmentation, the extent of program success, and other factors.<sup>10</sup>

**The proposed HEFMM goal related to need-based aid and specific recommendations to increase State need-based aid awards address the panel's recommendation and will disproportionately benefit institutions serving greater numbers of low-income students including HBIs.**

In its recommendations on graduate education, the HBI Study Panel focused on the doctoral programs at Morgan State University (MSU) and the University of Maryland Eastern Shore (UMES). The panel acknowledged that while Bowie State University and Coppin State University have a few applied doctoral programs, and all four HBIs offer master level programs, it focused on the broader research mission associated with doctoral level programs. The panel found a substantial lack of comparability both in terms of the institutional platform upon which doctoral programs are built and specific programs offered by MSU and UMES. The panel recommended that MSU and UMES should each develop a detailed strategic plan designed to improve its institutional platform to make it comparable to a quality doctoral institution. The panel recommended submission of the strategic plan to MHEC, which would subsequently provide recommendations to the Governor and the General Assembly that would establish a comprehensive program and provide the resources to make each university comparable to a quality doctoral institution. Additionally, the panel recommended that the institutions and the State should begin by agreeing to target a few existing doctoral programs and appoint a panel of experts for each selected program to determine the threshold support and capacity needed for each of the targeted programs.

**The commission supports the panel's recommended process to determine the institutional platform and specific doctoral program needs at MSU and UMES, using the step-approach suggested by the panel to identify a few programs for priority and targeted development and strengthening the relevant universitywide infrastructure needed to develop the targeted programs. Institutions would be expected to submit their strategic plans to their governing boards for approval before submission to MHEC. The panel also recommended capacity and outcome indicators to measure comparability and**

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<sup>10</sup> The supplemental amount has been calculated by examining the estimated cost of individual supporting activities at various existing institutions and compiling them into an integrated overall remediation and sustaining program. On a per student basis, the amount assumes students needing remedial courses before taking college-level courses would be the students served by the program.

**competitiveness, and that any new funding for doctoral-level programs at HBIs, and preferably all public institutions, should be targeted and monitored with the institutions held accountable for expenditures and specified expected outcomes. The commission agrees with this approach and recommends that it be followed recognizing Maryland's budgeting structure.**

Finally, the panel found that while there were significant facility needs at all of the HBIs and TWIs it visited, the facilities at HBIs lag behind those at TWIs. The panel recommended that HBIs review their capital priorities through fiscal 2013 based on the physical capacity that will be needed to become comparable and competitive and, if warranted, priorities should be reordered to align with the goals of comparability and competitiveness. The panel further recommended that the State accelerate funding for the capital priorities of HBIs to close the gaps with TWIs as quickly as possible.

**The commission acknowledges the capital improvement needs throughout higher education and specifically at HBIs, even with the State's investment of approximately \$2 billion since 1999 for capital projects at public higher education institutions, including \$624 million at the four HBIs. Once HBIs have developed the recommended undergraduate and doctoral plans, HBIs should review their capital priorities and ensure that they are aligned with the undergraduate needs and the institutional platform and targeted doctoral program needs. The State should accelerate funding for the HBI capital priorities, particularly those that build institutional capacity related to comparability and competitiveness.**

**The commission also recommends appointing a committee to annually report to MHEC, the Governor, and the General Assembly on the progress of the State and HBIs on meeting the goals to ensure comparability and competitiveness.**

## Findings and Recommendations

### Accountability

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#### Accountability Measures

The commission believes that a coherent, goal driven system of accountability means examining the State's return on dollars invested in higher education. Progress toward meeting the *State Plan for Postsecondary Education* goal attainment should be assessed on an annual basis and reported to provide policymakers and the public with important information on the progress of the higher education commitments in a user friendly format. The commission has developed statewide guiding principles that it considers critical to the success of higher education in Maryland. These included a high student participation rate, quality, affordability, efficient articulation from K-12 to higher education, and efficiency of the institutions in achieving their mission.

**The commission recommends that statewide higher education accountability measures and benchmarks be developed that are tied to the Maryland State Plan for Postsecondary Education. MHEC should report annually through the *Return on Investment* on the progress made on meeting the goals for higher education. This progress report should use a succinct format that is easily understood by lay audiences, builds on current reporting systems in order to minimize additional reporting burdens to the institutions, and aligns with emerging state and national accountability reporting trends (such as Integrated Postsecondary Education Data System (IPEDS), Voluntary System of Accountability, National Association of System Heads, and the University and College Accountability Network initiatives). An online format (as suggested in the prototype below – *Maryland Higher Education's Return on Investment*) should be used to report progress toward State Plan goals on an appropriate web site. The report should also be available in paper copy but emphasis is placed on a user friendly online reporting format to improve access to and transparency of performance. The report should include indicator(s) with established benchmarks based on aggregated data at the State level (data may be disaggregated and reported by segment where needed or appropriate), commentary on overall progress toward the State Plan goals, and links that provide contextual information for each measure/goal, detailed data definitions and the formula for computing each measure. See Appendix 1.10 for further information.**

**MARYLAND HIGHER EDUCATION'S RETURN ON INVESTMENT**  
As of December 1, 2009

STATE FUNDING MODEL <a href="#">Commentary</a>		Goal	FY 2009	Progress Toward Goal
State Investment		<a href="#">Definition Metric</a>	100	↑
Accessibility		<a href="#">Definition Metric</a>	100	↑
Affordability		<a href="#">Definition Metric</a>	100	↑
<b>STATEWIDE MEASURES</b>		<b>Goal 2013</b>	<b>Percent Goal Attainment</b>	<b>↑ / ↔ / ↓ Change from Prior Year</b>
<b>Quality &amp; Effectiveness</b> <a href="#">Commentary</a>				
1	Student Success	<a href="#">Definition Metric</a>	100	↑
2	National Eminence	<a href="#">Definition Metric</a>	100	↔
3	Graduate Satisfaction and Employment	<a href="#">Definition Metric</a>	100	↑
4	Licensure Exam Pass Rate	<a href="#">Definition Metric</a>	100	↑
5	Employer Satisfaction	<a href="#">Definition Metric</a>	100	↔
<b>Access and Affordability</b> <a href="#">Commentary</a>				
6	High School Graduate Participation Rate	<a href="#">Definition Metric</a>	100	↔
7	Adult Resident Degree Attainment	<a href="#">Definition Metric</a>	100	↓
8	Affordability	<a href="#">Definition Metric</a>	100	↔
9	Unmet need	<a href="#">Definition Metric</a>	100	↓
10	Academic Space	<a href="#">Definition Metric</a>	100	↓
<b>Diversity</b> <a href="#">Commentary</a>				
11	Minority Access	<a href="#">Definition Metric</a>	100	↔
12	Minority Student Success	<a href="#">Definition Metric</a>	100	↔
13	Success/Achievement Gap	<a href="#">Definition Metric</a>	100	↑
<b>Teacher Preparation/Student-Centered Learning System</b> <a href="#">Commentary</a>				
14	K-12 Teacher Production	<a href="#">Definition Metric</a>	100	↔
15	Student Learning Assessment	<a href="#">Definition Metric</a>	100	↔
<b>Economic Growth and Vitality</b> <a href="#">Commentary</a>				
16	Research support and competitiveness	<a href="#">Definition Metric</a>	100	↔
17	Research commercialization/technology transfer	<a href="#">Definition Metric</a>	100	↔
18	Workforce development	<a href="#">Definition Metric</a>	100	↑
19	Graduates employed in Maryland	<a href="#">Definition Metric</a>	100	↓

The [Commentary](#) link provides background and explanation of environmental conditions and factors for the related measure.

The [Definition](#) link provides detailed information about the data source and the measure's meaning.

The [Metric](#) link provides a technical explanation of the computations for the related measure.

↑ positive progress toward goal over prior reporting year

↔ same level of progress toward goal as prior reporting year

↓ decline in progress toward goal over prior reporting year

In all cases, most recently available data are used. Data collections may be collected annually or triennially. Refer to the [Definitions](#) link for each measure for a detailed explanation of the data source.

## Reporting Requirements of Higher Education

Ensuring efficiency is an important aspect of accountability. One aspect of ensuring efficiency is to ensure that existing data reporting requirements are not redundant and overburdensome to the institutions. Maryland's institutions of higher education are subject to a wide array of accountability-related reporting and data submission requirements. An inventory shows that 85 reports are currently required. Depending on whether they are public or private, two-year or four-year, the State's colleges and universities may be required to submit data or reports to more than a dozen State, federal, and private agencies and organizations. These reports range from multi-paged, detailed analyses of how well the institutions are meeting their strategic goals and objectives to more basic "flat" files that provide the latest information on the number of applications received, students enrolled, credit hours generated, degrees awarded, financial aid awarded, and faculty and staff employed. Many of these reports are required to be produced annually, some must be submitted biannually, some are required on a multi-year cycle, and some are requested only once or on an as needed basis. All involve extensive data collection, analysis, and review that impact the workload of both the institutions and the agencies that receive them.

**In the interest of efficiency, the commission recommends that a coordinating group be established to oversee the development and periodic review of the data reporting process. To ensure that Maryland has a statewide accountability process that is coherent, matches the State's goals for its higher education institutions and system, and satisfies the data needs of the State and its citizens, while at the same time not overburdening institutions with redundant or unnecessary requirements, MHEC should convene a group of agency, institutional, and segmental representatives to meet periodically to review and assess the State's higher education accountability processes. This should include reviewing and approving any needed modifications to the existing processes. As a first phase, the group would seek to carry out the following:**

- **Identify and eliminate overlap and redundancy.** The group should conduct a review of current accountability reports with the goal of determining both whether overlap and redundancy exists and whether those issues could be eliminated without harming the amount and quality of information coming to the State. This might include eliminating accountability reports that are redundant or no longer used (*i.e.*, "orphan" reports).
- **Standardize indicators and definitions.** The group should also review issues associated with standardizing commonly used indicators and their definitions across existing reports and should make recommendations as appropriate.
- **Resolve calendaring issues.** The group should review issues associated with the reporting calendar with the goal of streamlining work processes and due dates so that they do not unreasonably add to institutional and agency workloads.

Once the group has completed the reviews cited above, it also should be charged with the responsibility for the following:

- **Reporting.** Report to the Governor, President of the Senate, Speaker of the House of Delegates, chairs of the appropriate education and budget committees, and secretaries of the major oversight agencies on the findings from those reviews, including specific recommendations for follow up actions and a timeline for implementing those actions.
- **Continued Monitoring.** Carry out subsequent reviews of the accountability process, including any newly required reports and data submissions, at the half way point of each State higher education plan cycle (this would allow time for recommendations from the review to be considered in the State planning process).
- **Development of Recommendations.** Develop recommendations to the Governor and the General Assembly related to accountability reporting requirements in the interim between accountability reviews, particularly in the event agencies fail to agree upon or follow up on prior recommended actions in a timely fashion.

## **Findings and Recommendations**

### **Additional Aspects of Funding Higher Education**

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#### **Merit-based Financial Aid**

If the State is to fully benefit from its potential talent base it is important that the opportunity for a quality higher education be available to all qualified individuals throughout the entire spectrum of the State's citizenry. This accessibility must include the ability to attract some of the State's most talented students to Maryland institutions, irrespective of their personal financial circumstances. Maryland currently offers scholarships based on exceptional talent and merit. However, the proportion of students who are finalists in the State's Distinguished Scholar Program (thus offered an academic award) who elect to attend a Maryland college or university has declined to approximately 30 percent. Similarly, of the approximately 6,000 Maryland high school students who annually score above 1,300 on their SAT, two-thirds elect to attend college out of the State.

The amount of the individual awards, \$3,000, provided under the State's merit programs has not increased since 1989 (the amount would equate to approximately \$5,300 in today's currency). These highly qualified students often have the opportunity to attend a college that may be offering substantially greater financial assistance than Maryland. Yet, these are often the very students who one day could provide the scientific and other breakthroughs and the entrepreneurial leadership that creates new jobs for large numbers of the State's residents, irrespective of the extent of the latter's educational attainment. It is important, insofar as is practicable, that a significant share of this group of highly talented students from throughout the economic breadth of the State's citizenry be retained in Maryland. Although the State has been effective at attracting members of the existing high-tech workforce, this will not necessarily continue to be the case as new technologies emerge if the State does not retain prominence in new fields. **Therefore, the commission recommends increasing the Distinguished Scholar Award to \$6,000 and doubling the number of such scholarships granted to 700 awards. Recipients should be required to maintain a 3.3 or above grade-point average.**<sup>11</sup>

Many students begin their college career at a community college, some because most such institutions are less expensive than four-year institutions. However, resources need to be available for these students to transfer to a four-year college or university to complete a bachelor's degree. The State currently offers the Distinguished Scholar Community College Transfer Scholarship to assist students with paying the higher cost of education at a four-year institution. All funds are currently expended for this program, with a current waiting list of 364 students. **The commission recommends that the amount and number of Distinguished Scholar Community College Transfer Scholarship awards should be increased correspondingly to the Distinguished Scholar Award.**<sup>11</sup>

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<sup>11</sup> Grandfather current merit scholarship recipients to the existing 3.0 grade-point average.

## **Veterans**

The commission's work on financial aid and the public hearing exposed some opportunities to provide more comprehensive education benefits to military veterans who serve Maryland and the United States. Maryland has several State programs that provide some sort of tuition assistance to active duty and veterans of military service who are Maryland residents. However, there are some gaps in the coverage that came to light specifically regarding the Maryland National Guard troops. Of the approximately 7,000 members of the Maryland National Guard, approximately 300 are not residents of Maryland but are residents of neighboring states. The commission learned that out-of-state soldiers may serve in Maryland's National Guard due to the specialties of its troops. When a Maryland National Guard troop is called to active duty all members, including those from out-of-state, are activated. However, when the troops return home and wish to pursue a higher education degree, the out-of-state members are generally not eligible for the same tuition benefits that current law provides to Maryland resident members. Additionally, several of the existing programs limit the tuition benefits to undergraduate level courses. However, Maryland's National Guard troops tend to be well educated and may wish to pursue graduate level coursework.

**The commission recommends that all members of the Maryland National Guard, regardless of their residency, be charged in-state tuition rates at Maryland's public institutions of higher education for all degree levels. Furthermore, the Veterans of the Afghanistan and Iraqi Conflict Scholarship eligibility should be expanded to include nonresident members of the Maryland National Guard and graduate education. All of Maryland's current tuition benefit programs should similarly be modified. This includes the community college student residency policy, the Military Department's Tuition Assistance program, and the Edward T. Conroy Memorial Scholarship program, among others. MHEC should review the amended federal GI Bill to ensure Maryland is taking full advantage of federal education benefits for veterans.**

## **Incentive Funding for Special Projects to Achieve the State's Goals**

When additional funds can be made available for higher education, the question arises whether those funds should be allocated to high-performing institutions to assist them in reaching aspirational goals, both the institutions' and the State's, or whether those funds should be allocated to underperforming institutions to assist them in meeting basic goals. Basic goals could reflect those set out in the Maryland State Plan for Postsecondary Education as well as those set out in each institution's mission statement. Aspirational goals could include an institution's effort to scale-up its research activities through the use of a special opportunity fund that would provide start-up costs for new research ventures of faculty or even for start-up companies located in university research parks. Funds for both can be provided as a special State allocation.

**The commission recommends the creation of a specific State allocation to provide financial resources for special projects that meet important State or institutional goals, such as goals outlined in the State Plan for Postsecondary Education, encouraging cross-institutional initiatives, and enhancing the competitiveness of Maryland's institutions. This incentive funding should be a special allocation from the State in addition to base funding (perhaps through HEIF) each year.** For example, equal to approximately 1 percent of the State funds for higher education or about \$15 million in fiscal 2009. Projects should be proposed by MHEC or individual institutions and selection from among those projects be made by MHEC supported by an independent group of qualified advisors if appropriate. One factor in the selection process should be a previously demonstrated capacity to excel in improving or sustaining high academic performance, thus rewarding high achievement and recognizing special opportunities.

## **Funding the Regional Higher Education Centers**

A regional higher education center is a facility operated by an institution of higher education in the State that has the participation of two or more institutions, offers multiple degree levels, and consists of a variety of program offerings. Regional higher education centers (RHECs) are designed to ensure access to higher education in unserved and underserved areas of the State by extending the existing program resources of higher education to those areas. RHECs provide baccalaureate and graduate programs in areas of the State in which students do not have access to these programs due to geographical distance, commute time, or the limited capacity of local four-year institutions. RHECs offer the State an opportunity to address workforce needs in high-demand areas, particularly for nontraditional students, and to support State, regional, and local economic and workforce development goals.

There are a total of eight RHECs in Maryland. Two are governed by USM: the Universities at Shady Grove and USM at Hagerstown. Six centers fall under the coordinating responsibility of MHEC and each center has its own governance and organizational structure.

- Anne Arundel Community College (AACC) Regional Higher Education Center at Arundel Mills
- Eastern Shore Higher Education Center
- Higher Education and Conference Center at the Higher Education and Applied Technology Center (HEAT) in Harford County
- Laurel College Center
- Southern Maryland Higher Education Center

- Waldorf Center for Higher Education

The 2008 *Joint Chairmen's Report* required the commission to examine the eight RHECs operating in Maryland, including an examination of the funding strategy developed by MHEC, how RHECs are meeting regional needs for educational programs, and the extent to which RHECs are leveraging other resources.

Representatives of the commission visited three RHECs located in different parts of the State to learn about the structure, program offerings, workforce initiatives, and challenges associated with each center. At the first meeting held at the Universities at Shady Grove, USM at Hagerstown and the Universities at Shady Grove had an opportunity to present. The second meeting, held at the Southern Maryland Higher Education Center (SMHEC), provided the opportunity for SMHEC, the Waldorf Center for Higher Education, and the Eastern Shore Higher Education Center to present. At the third meeting, held at AACC, AACC, the Laurel College Center, and the Higher Education Conference Center at HEAT presented.

Prior to these meetings, the commission was provided with an introductory overview of these centers, how they are funded through the operating and capital budget process, and a funding comparison of the USM centers and the six centers under MHEC's statutory authority. Revenue and expenditure data were also requested to draw a more direct comparison.

The two USM centers are funded as line items in the USM Office operating budget. The other six centers are funded by a grant through the MHEC operating budget. State capital funding for the USM centers is a part of USM's capital process. The other six centers' capital requests are handled on a case-by-case basis.

Over the course of the last eight years, there have been a series of legislative actions related to regional higher education center funding policy. These actions have attempted to guide policy, mission, strategic planning, and operating and capital budgets for the centers. They have also made recommendations regarding the centers' roles, providing access in underserved areas, and overcoming barriers to program delivery. Specifically, an application process for designation as a RHEC has been instituted. The application process consists of the following: (1) a signed approval by the chief executive of the submitting institution(s) that will operate the RHEC; (2) a mission statement; and (3) a strategic plan. All six non-USM centers were created prior to the establishment of the application process.

Additionally, in 2005, the General Assembly charged MHEC with developing an equitable, consistent, and ongoing funding strategy for the non-USM RHECs. The funding strategy developed by MHEC contains the following components:

- *Base allocation* for each center (\$200,000);

- *Incentive funding* for target full-time equivalent students (FTES) (2+2 lower division, upper division, and graduate) tied to the inflation adjusted fiscal 2005 general fund appropriations per FTES at the Universities at Shady Grove;
- *Lease funding* for centers with leased space that have not received State capital funding support; and
- *Special funding* for one-time projects or startup costs.

The funding strategy was implemented beginning with fiscal 2008 budget requests but has not been fully funded to date. RHECs received a total appropriation of \$10.2 million in fiscal 2008. **Appendix 1.11** shows the State operating funding per estimated FTES for each center in fiscal 2008. The average State funding per FTES in fiscal 2008 at the USM centers was \$4,993 compared to \$778 at the non-USM centers. However, if the funding strategy had been fully funded in fiscal 2008, the average State operating funding per FTES at the non-USM centers would have been \$5,093. The fiscal 2009 budget included an increase of \$800,000 for the non-USM centers to begin to address the funding inequity, although the amount has been reduced by \$200,000 as a result of cost containment.

To provide a comprehensive comparison of operating dollars, revenue and expenditure data was collected for each center. Total revenue includes State and county appropriations, institutional subsidies, fees and usage income, transfers from fund balances, and in-kind support. Overall funding per FTES in fiscal 2008 is \$6,377 at the USM centers compared to \$3,271 at the six non-USM centers. As evidenced in the presentations and financial data on usage fees collected from corporate/nonprofit organizations, RHECs are working with businesses and the communities to provide programs in demand in each center's representative region.

After examining this data, the commission concluded that funding has been lower and less consistent to the centers outside of USM. Although an equitable funding strategy has been developed for the six non-USM centers it has not been funded to date. For fiscal 2010, it would cost \$3.95 million to fully fund the funding strategy.

Additionally, the six non-USM RHECs have different governance structures ranging from independent boards, community college advisory boards, and intersegmental governance. Unlike the USM centers, affiliated entities are not governed by the same body; therefore, participation in the centers is sometimes difficult. For example, several of the non-USM centers have expressed difficulty in working with institutions to locate certain demand programs at the center. Also, each center works with its partner institutions to develop articulation agreements with local community colleges and several of the non-USM centers have expressed some difficulty in the development of these agreements.

The commission also concluded that even though centers are defined to have a specified purpose, the overall role of these centers is not clearly defined; therefore, each center operates

differently and provides different types of courses. For example, some centers provide upper division and graduate level courses, while others are mostly lower and upper division. Some centers provide all three levels, lower and upper division, and graduate.

**The commission recommends that the funding strategy for the six non-USM centers should be implemented and funded in order to provide for a more equitable and consistent funding stream. Incentive Grants, which are currently a component of the funding strategy, should be made available to RHECs to assist with program development, offset costs of a new program, and to promote the articulation of programs between the two- and four-year institutions represented at the center.**

The six non-USM RHECs have different governance structures ranging from independent boards, community college advisory boards, and intersegmental governance. Since affiliated entities are not governed by the same body, like the USM centers, participation in the centers is sometimes difficult. **MHEC should establish a group to examine and recommend best practices that each center should adopt that provide level ownership for all partners or an incentive to offer programs at the centers. Additionally, because the role of RHECs is not clearly defined or articulated, before more RHECs are approved to operate in the State, an analysis should be performed to determine the educational needs of the surrounding area. The analysis should include what role the RHEC will play in meeting these needs, whether some or all of the needs are being met through existing means, and if not, whether a RHEC is the best way to meet them. Also, RHECs should be encouraged to be entrepreneurial to raise revenue through businesses and other functions to supplement operations of the center. This will allow the centers to offer more services and programs to area businesses and the community. Finally, all RHECs should proactively reach out to the local community colleges within their jurisdictions or region for the development of articulation agreements and to encourage students to transfer to their campuses.**

## **Findings and Recommendations**

# **Capital Needs of Higher Education**

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Part of the commission's charge was to study access to higher education. In order to provide access, institutions must have the capacity to provide a quality educational experience for students. The issue of capacity is greatly impacted by how much academic space an institution has, how the space is used by an institution, and the functionality of that space. While the costs of the recommendations in this section may appear high (for instance, there is a total facility renewal backlog of \$3.1 billion), the cost of not addressing these issues will be even higher. The lack of action could cause significant irreparable harm to Maryland's future competitiveness and economic health.

### **Academic Space Needs**

Construction at public four-year institutions has improved the space inventories in some types of academic space. Despite construction at community colleges, space deficiencies have worsened over the past several years. For both segments, space deficits are projected to worsen in the future as enrollment grows. The four categories of academic space are classroom, class laboratory, faculty office, and research lab. Public four-year institutions currently have deficits in all types of space, and this is expected to continue and worsen by 2016. Maryland research institutions have a significant deficit in research lab space now and in the future. Of particular concern are the deficits at the University of Maryland, College Park (UMCP) and the University of Maryland, Baltimore (UMB). Community colleges currently have a small surplus in classroom space that is expected to remain in 2016. However, deficits are expected in the other types of space. Of particular concern, is a deficit in teaching lab space, which is an integral part of educating students particularly for workforce needs. **Appendix 1.12** shows the detail of inventory by type of space for fall 2006 and projected inventory for fall 2016.

Recognizing that research space is a critical academic component and economic development driver for the State, the commission examined this type of space in detail. Maryland has four public research institutions: UMCP; UMB; University of Maryland Baltimore County; and Morgan State University. Of the four research institutions, all currently have a research lab space deficit and all will have a greater deficit by 2016. Most notable are UMB and UMCP, which have significant research space deficits now and in 10 years. UMB's research lab space deficit is projected to remain just under 1 million net assignable square feet (NASF). UMCP's research lab space deficit is projected to increase from slightly less than 800,000 NASF in 2006 to over 1 million NASF by 2016. **Appendix 1.13** shows the degree of the research lab space deficits at all public four-year institutions.

Although Maryland gathers significant data on academic space deficiencies, there is no standard methodology for estimating the cost of eliminating the deficiencies. One issue is that

space deficiencies are reported in net assignable square feet, but the per square foot construction costs are typically reported for gross square feet. This disconnect makes it problematic to develop a simple methodology. However, the commission recognizes the importance of being able to reliably estimate the dollar amount required for reducing the academic space deficiencies.

**The commission recommends that MHEC, in collaboration with the Department of Budget and Management and institutional and segmental representatives, develop a methodology to accurately estimate the cost to eliminate the academic space deficiencies. The commission recommends that current and projected space deficiencies should have equal prioritization weight in the capital planning process. An analysis of academic space needs at each public four-year institution and community college should be considered in all stages of the capital budget planning process beginning with the institution's capital request. There is significant data to inform this analysis, though the ultimate decision regarding project selection is, in many cases, up to a governing board. The institutions and the State should consider giving priority to projects that target the identified areas of significant academic space deficits at each campus. This could perhaps be accomplished with a thermometer similar to those recommended to measure HEFMM funding progress and displayed in Maryland's *Higher Education Return on Investment* report card.**

Two other aspects impact the need for space: the efficient use of existing space and graduation rates. Although these are more operational in nature, they directly impact the capital needs of an institution. An important aspect of space deficiencies and surpluses is the space utilization rates. This measures how efficiently an institution uses the existing space on its campus and impacts the space deficiency and surplus. For instance, if a campus is efficiently using its existing space (i.e., has a high utilization rate), this can lower the need for additional space and should decrease the deficiency.

The State established the Workgroup to Study Maryland's Capital Improvement Planning Process and Capital Facilities Space Guidelines for Higher Education to review the space standards and guidelines that are used to plan higher education facilities. There are national standards for utilization rates. The workgroup, led by MHEC, has studied the standards and guidelines at the public four-year institutions and the community colleges. The study found the utilization and occupancy standards of Maryland public colleges and universities to be consistent with guidelines and standards used in other states. Currently, the State is continuing the study and examining utilization rates. Efforts are underway to develop and gather consistent, reliable data regarding utilization rates. However, this effort has only just begun. For further information regarding the State's work in this area please refer to the *Maryland Capital Improvement Planning Process and Capital Facilities Space Guidelines for Higher Education Report*. This report can be found on MHEC's web site at <http://www.mhec.state.md.us/publications/finance/MDCipCapFacRep.pdf>.

One current effort to use existing space more efficiently is Towson University's Trimester Pilot Program. Towson has created a trimester program to increase the utilization rate of class lab space, which is typically a more expensive type of space to construct and a type of

space that is in great demand. The trimester program began in summer 2008 and annual reports on the program will be submitted by Towson University to the University System of Maryland Board of Regents.

Another operational impact on the use of existing space is the time-to-degree for students. The longer it takes for a student to graduate, the less space is freed up for another student to enter a program. Maryland's overall average six-year graduation rate is at an all time high (64 percent) and has been increasing each year for the past seven years. However, the individual graduation rates at four institutions have declined over this time period. Six-year graduation rates at the public four-year institutions range from 84.1 percent to 20.7 percent. Four-year graduation rates are also measured and range from 71.8 percent to 5.2 percent. It is, however, important to note that Maryland's average six-year graduation rate has been consistently higher than the national average.

**The commission encourages all institutions to optimize two existing practices. First, institutions should optimize the use of existing space by incorporating night and weekend class schedules as well as using online class platforms whenever practicable. Second, all institutions should work toward decreasing time-to-degree (increasing the graduation rate). This will decrease the need for new space. Recent institutional efforts to increase the graduation rates have proven successful at most institutions. Institutions should maintain these efforts and strive for further improvements. Additionally, the progress of Towson University's Trimester Pilot Program should be monitored.**

## Quality of Space

Although space deficits are an important aspect of capital needs, an analysis of the quality of existing space is necessary for a full understanding of the issue. While some institutions might have small deficits or even surpluses of certain types of space, this does not reflect the quality of existing space. For instance, an institution may have a surplus of space, but the quality of that space may render it unusable. The quality of existing space can be broken down into two components: programmatic quality and physical quality. Programmatic quality pertains to the suitability of existing space to adequately serve the function of a particular building. This could include a building being too small, building features or design not being up to modern standards, or other functional issues. Building system quality pertains to whether systems such as heating, ventilation, and air conditioning; electrical; roofing; etc. are adequate and functional. Both types of quality are critical to the overall functionality of existing space.

The age of buildings is another way to measure the quality of existing space. This is considered important since the age of buildings on a campus will impact the extent of needed maintenance and the possibility of replacement buildings. The age of campus space was analyzed by looking at the number of gross square feet in several age categories. Current industry standards provide that building systems can be expected to last between 25 and 35 years before they will need major renovations or replacement. The building itself, however, is

expected to last at least 50 years. **Appendices 1.14 through 1.17** show the details of the age of space for each institution. The majority of space at community colleges and the public four-year institutions is under 27 years old. However, there are significant space inventories over that age. For instance, 37 percent of the space at the public four-year institutions, and 25 percent of space at community colleges, is over 27 years old.

**The commission recommends the institutions and the State consider giving priority to projects that address the programmatic quality and building system quality of existing space. Additionally, capital planners should consider how to increase the flexibility of space for use by multiple programs or courses to increase the usefulness of the space. Planners should also consider how to increase the flexibility of space to accommodate changing needs and technology for the specific programs and disciplines for which the building is designed.**

**The commission also recommends requiring the community colleges and public four-year institutions to maintain a 10-year capital plan as is the current practice. This would improve the predictability of the process and indicate the priority of the projects over the long term. The predictability of capital planning will ensure a systematic and long-term effort to reduce the space deficiencies and increase the functionality of existing space.**

## **Funding Facility Renewal**

Maintaining and renovating existing facilities on each campus so that the quality of the space remains high is of critical importance to the State. Maintaining buildings now will reduce the future fiscal impact of having to replace a building after a couple of decades of use due to significant deterioration. This is an issue of adequately funding the facility renewal needs of Maryland's institutions. Facility renewal is defined as the planned renovation, adaptation, replacement, or upgrade of the systems of a capital asset during its lifespan such that it meets assigned functions in a reliable manner. Maryland uses this term to describe a wide range of projects from small system upgrades to large system renovations or, if necessary, building replacement. This term also incorporates what national literature may refer to as "deferred maintenance."

The public four-year institutions report having a significant backlog of facility renewal needs. Specifically, the University System of Maryland (USM), Morgan State University (MSU), and St. Mary's College of Maryland report a \$1.6 billion backlog, \$8.5 million backlog, and \$15.0 million backlog, respectively. The Maryland Independent College and University Association (MICUA) reports a backlog of \$631.0 million, and the Maryland Association of Community Colleges (MACC) reports a backlog of \$850.0 million. In total, Maryland higher education has \$3.1 billion of facility renewal needs. In 1992, the USM Board of Regents began a policy that required each institution to allocate 2.0 percent of the value of capital assets to be

used on facility renewal needs. USM set the goal at 2.0 percent because this represents the industry standard for adequately maintaining building facilities. Over time, this goal was not met. USM recently developed a policy to systematically increase each institution's facility renewal budget until the 2.0 percent goal is reached. In fiscal 2009 USM has reached 1.7 percent which approximately equates to \$86 million. More recently MSU also established a long-term goal of reaching 2.0 percent with a short-term goal of reaching 1.0 percent. The use of this policy at USM has resulted in a slight reduction of the backlog. It will take many years of focusing on this problem before significant reductions are made. However, it is critical that reducing the State's facility renewal backlog remain a priority over the long term.

Currently, institutions measure their facility renewal needs in terms of the amount of money needed to fix the problems. This is important because it represents the scale of need for which capital budgets are established to meet. Another useful way to represent the need for facilities renewal is to compare this dollar amount of need to the overall value of the buildings. The Facility Condition Index (FCI) is expressed as a ratio of the cost to fix the problems and the replacement value of the assets. Expressing facility renewal needs as a percentage can assist in the evaluation of how severe a problem is and would assist in capital planning. For instance, a building with an FCI of 5 percent may represent a generally good condition rating, and an FCI over 10 percent may represent a poor condition rating. Additionally, it can be expected for every institution to always have some level of facility renewal needs. The important issue is identifying when the needs have reached a level which requires action. Without some type of relative scale such as an FCI, it can be difficult to assess what dollar amount of facility renewal backlog is acceptable and when action is required. A relative scale will also assist in prioritizing facility renewal projects. The FCI is most useful in comparing needs of individual buildings and the dollar amount of needed renewal adds perspective to the overall campus problem. Thus both measures are useful analytical tools in the budgeting process.

**The commission strongly encourages all institutions to adopt a policy to budget and spend 2.0 percent of the replacement value of capital assets at the institutions on facility renewal projects. Currently, USM is requiring its institutions to incrementally reach the 2.0 percent operating spending target and to use these funds to maintain its facilities. Additionally, all public institutions should annually report the progress toward reaching this goal. If a private institution requests State funding for a project that is primarily facility renewal related, the private institution must report its facility renewal budget practices and policy.**

**The commission also encourages each institution to use the Facility Condition Index as an additional analytical tool for the capital budget process. This should be used in addition to the dollar amount of facility renewal backlog that has accrued. Combined, these two tools would assist in measuring and understanding the facility renewal problem at institutions of higher education.**

## Capital Funding

On average, approximately 30 percent of the State's total capital budget is spent on higher education projects. **Appendix 1.18** shows the capital budget from all funding sources for the public four-year institutions from fiscal 2006 through 2013. Since fiscal 2006, the State has allocated \$823 million to the public four-year institutions. The data for the public four-year institutions include nonbudgeted funds, which are typically funds from the institutions including any private donations. Appendix 1.18 shows a steady increase in anticipated funding from fiscal 2008 through 2011. In total, \$1.2 billion is expected to be allocated to capital projects from fiscal 2010 through 2013 as planned in the fiscal 2009 five-year *Capital Improvement Program* (CIP).

**The commission recommends the State increase the capital funding for the public four-year institutions as planned in the CIP.**

**Appendix 1.19** shows the capital funding for all community colleges. Funding for capital projects at community colleges is shared between the State and the local government. Recently, the State has increased the amount of capital funding for the community college capital grant. For the fiscal 2009 capital program, the State has provided the community colleges with \$81 million for capital projects, roughly a 30 percent increase over the prior year. The State intends to continue this higher level of funding for at least the next five years. Also, the increase in State funding leads to an increase in the local contribution for capital projects. When including the local funding, the fiscal 2009 budget is close to \$150 million, roughly a 45 percent increase over the prior year. It should be noted that the community college capital grant does not include capital projects for Baltimore City Community College (BCCC) as this college is operated by the State and receives State capital funding separately from the community college capital grant. Including capital projects at BCCC and the community college capital grant, \$628 million is expected to be allocated from fiscal 2010 through 2013 as planned in the CIP.

**The commission recommends the State increase funding for the community college capital grant as planned in the CIP.**

Finally, it should be noted that the State provides capital funds (approximately \$9 million annually) to eligible, nonprofit private colleges and universities in recognition of the role that they play in educating Maryland's students.

**The commission recommends that State funding for capital projects at the private institutions should continue to be used for buildings that support the State's needs.**

## **Findings and Recommendations**

### **Ensuring Efficiency in Higher Education**

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The commission's broad scope of study provided an opportunity to study more than just how higher education should be funded. The commission also developed recommendations that would improve the efficiency and productivity of the current system of higher education in Maryland. Many of the following recommendations capitalize on activities that have already begun but could be modified or emphasized to improve Maryland's higher education system. Areas that would improve the efficiency of Maryland's current educational system include program approval and college readiness.

#### **Program Approval**

The HBI Study Panel commented on the lack of State-level coordination between institutional missions, new program approvals, and available funding and noted that it contributed to the confusion and concern about current funding levels. The panel recommended that approved institutional missions be more clear and explicit and that the new programs should only be approved contingent on the availability of State funding and that funding should be earmarked. The commission notes the significant increase in programs approved by the governing boards/MHEC over the past 10 years that indicate no need for new resources since a second, accelerated approval process was established for new programs that could be implemented with existing resources. Institutions have used the accelerated process for programs that may not need new resources to start up but require additional resources in order to sustain the program.

**The commission recommends that the accelerated program approval process be modified to clarify that a new program may only be requested under the accelerated process if the institution can clearly demonstrate that the program can be started *and sustained* with existing resources. The existing statutory process for programs requiring additional resources would still be available for programs that cannot meet these criteria.**

#### **College Readiness**

To determine the preparedness of students entering postsecondary education, the commission examined relevant data from MHEC, including the 2006 *Student Outcomes and Achievement Report* and the 2008 *Data Book*. For the ninth consecutive report, students who took a college preparatory course of study did better than their counterparts on every measure of college achievement. With a few exceptions, students who took a college preparatory curriculum outperformed the students who did not regardless of where the college preparatory students attended high school, the specific college or university they selected, or on the basis of

gender or race. Further, students who took a college preparatory curriculum were more apt than their counterparts to attain a community college credential or transfer to a public four-year campus within four years or to earn a baccalaureate degree within six years. However, approximately 40 percent of Maryland high school students enter college without taking a college preparatory curriculum. Additionally, the percentage of students who took a college preparatory curriculum in high school but still needed remedial assistance in math in college has risen steadily in the last four reports from 26 to 30 percent. The data for college preparatory students needing remediation in math, English, and reading is 30 percent, 12 percent, and 15 percent, respectively. The comparative data for noncollege preparatory students needing remediation in math, English, and reading is 41 percent, 21 percent, and 24 percent, respectively.

### **Preparedness of Students for College and the Importance of STEM**

Additionally, the commission focused on the college readiness of students in the areas of science, technology, engineering, and mathematics (STEM) because STEM is an essential element in addressing Maryland's competitiveness and workforce needs. STEM is an area of focus in Maryland and across the country because of a growing concern that an insufficient number of students, teachers, and practitioners were being prepared in the areas of science, technology, engineering, and mathematics. The National Governor's Association has emphasized the importance of STEM because "the global economy has flattened the world in terms of skills and technology. A new workforce of problem-solvers, innovators, and inventors who are self-reliant and able to think logically is one of the critical foundations that drive a state economy's innovation capacity." Given the importance of STEM education, the Maryland State Department of Education has "committed to promoting a STEM education policy agenda by supporting a rigorous STEM education to a broader set of students, thereby increasing opportunities for young people and meeting pressing workforce needs."

The commission also recognized the important foundation of primary and secondary education in preparing students for college so the commission examined education efforts from P-20. P-20 refers to a system of education that encompasses preschool through graduate studies and ensures that students from an early age are learning the necessary skills for a competitive workplace. In recognition of the importance of collaboration in education from P-20, the Governor initiated the P-20 Leadership Council of Maryland in October 2007. The council's charge is to investigate ways to improve education, advance workforce creation, and thereby make the State more competitive in securing and maintaining business and economic development.

The P-20 Leadership Council has also recognized the importance of STEM and formed a STEM task force in 2008. The task force's charge is to create a statewide STEM action plan aimed at ensuring Maryland's workforce of the future and ensuring that its research and development infrastructure can sustain a nationally preeminent and globally competitive knowledge-based economy. Specifically, the task force was asked to develop an action plan that will (1) ensure rigorous STEM teaching and learning is accessible to all learners and 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 the plan.

As the data indicate, many high school graduates are not considered “career and college ready,” meaning that they are unprepared to directly enter into college or the workforce. Currently, 30 percent of students who take a college preparatory curriculum in high school still need remediation in math in college. More needs to be done to remediate and capture these students, thereby increasing the available pool of educated, skilled, and talented workers.

**The commission encourages the efforts of the P-20 Leadership Council and the STEM task force for Maryland to remain competitive in the global economy. Through the work of the council and the task force, a statewide primary and secondary curriculum should be established that is aligned with global workforce and academic standards. The curriculum should have a strong emphasis on STEM; should provide a seamless transfer into postsecondary education; and should include a definition of standards for reading, writing, mathematics, and science. Additionally, the commission shares the HBI Study Panel’s interest in college readiness and strongly recommends that the State develop a common definition and measurement of college readiness so that regardless of which school or college they attend in the State, students are aware of, and encouraged to take, the courses they need at the secondary level to be prepared for college level work.**

## **Dual Enrollment**

Although there are some high school graduates who are not prepared for college, other students are college ready while still in high school. Dual enrollment allows high school students to enroll in college courses for credit prior to high school graduation. Dual enrollment has numerous benefits such as enabling students to transition easily from high school to college; providing students with a wider range of courses enabling them to explore more fields before declaring a major; and enabling high school students to accumulate college credits prior to officially entering college allowing them to graduate from college early or on time.

In 2007, the legislature established the Dual Enrollment Grant Program, which was renamed the Early College Access Program and is scheduled to expire in June 2009. The Early College Access Program, implemented in fiscal 2008, is a State program that provides aid to students taking college courses while in high school. This program is viewed as a way to shorten the time-to-degree and to provide an incentive for students who may otherwise decide not to go on to college. Limited funding has been provided for this program.

**The commission believes that the goals of Maryland’s new policy for dual enrollment should be furthered by encouraging participation of high school students in addition to providing scholarship funds through the Early College Access Grant and other institutional programs to ensure success is afforded to all who qualify and are interested**

**despite their economic standing. Legislation should be introduced to continue the dual enrollment program that is set to expire in June 2009.**

### **Articulation**

In addition to students being college ready, another way to shorten time-to-degree is to ensure that credits are not lost when students transfer between institutions. If some credits do not transfer when a student transfers to another institution, the amount of time for that student to obtain a degree is likely to increase and the cost of higher education for that student is likely to increase as well.

The reason that some credits do not transfer between institutions is because of differences in the curriculum and coursework of the sending and the receiving institutions. Although Maryland has provided principles and guidance for the development of individual articulation and transfer agreements between higher education institutions, ultimately the acceptance of the coursework is left to the receiving institution.

One solution to this problem is the development of statewide articulation programs such as the Associate of Arts in Teaching (AAT). The AAT is a degree that recognizes a mastery in teacher education which meets certain specific requirements and which transfers in total without further review by Maryland public and private four-year institutions. Currently, the Joint Leadership Council Transfer and Access Committee, which is comprised of faculty and staff from the University System of Maryland and the Maryland Association of Community Colleges, is working along with Morgan State University and Maryland private institutions on a statewide articulation agreement for the Associate of Science in Engineering (ASE) modeled after the AAT process, and the estimated completion date is fall 2009.

**The commission supports current initiatives to develop more statewide articulation programs like the Associate of Arts in Teaching and encourages more multi-institution articulation agreements, with the intent to make the movement of students through and between higher education institutions more seamless and less expensive.**

### **Linking Data**

Another way to track the college readiness of students is through the longitudinal tracking of students. 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-1970s and have used similar systems to calculate retention and graduation rates since 1980. These data systems were expanded during subsequent years to collect performance data on recent high school graduates and community college transfer students, as well as student financial aid information. They are based upon the use of Social Security numbers to identify and track students, and the data produced by them are currently used as the basis for much of

MHEC's 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-segment work group established to address data reporting changes required by the U.S. Department of Education for 2010.

In the PreK-12 education community, the Maryland State Department of Education (MSDE) has been working on its longitudinal tracking efforts for several years. Unlike higher education, however, MSDE cannot rely upon Social Security numbers. In order to address this issue as well as reporting constraints enacted by the Family Educational Rights and Privacy Act, MSDE has created a system of unique state assigned student identifiers (SASID) for all public PreK through Grade 12 students and for students attending nonpublic institutions receiving special services via public funding. The SASID is a randomly generated identifier that is unique to each student and does not contain any demographic elements. This initiative began in the 2007 school year. The SASID is now reported and validated in all student-level data collections allowing MSDE to begin longitudinally linking student data. As of September 1, 2008, over 900,000 students have been issued a SASID.

The need to provide useful longitudinal data that supports an extensive number of complex accountability measures is important to improving the performance of students in the Maryland education system. The PreK-12 and higher education segments of the State's education system need to possess the ability to analyze student performance, not just within their individual segments, but across the two segments as well. This requires the development of a system to track students longitudinally through their entire PreK-20 education experience and beyond into any lifelong education, including employment.

The U.S. Department of Education has recognized the need to build systems based upon student level data in order to meet accountability demands. Even though the federal government is not pursuing the development of a student level system at the national level, it has been encouraging states to develop their own state longitudinal data system (SLDS). In support of this effort, the U.S. Department of Education has created and funded an SLDS grant program that assists states in developing this capacity in their PreK-12 segments. Over 20 states are involved with SLDS in various stages of development. Additionally, several national organizations have become involved in providing information about PreK-12 and PreK-20 data systems and supporting the creation and use of such systems throughout the nation. The State Higher Education Executive Officers, the Council of Chief State School Officers, the Data Quality Campaign of the National Center for Educational Achievement, and the National Center for Higher Education Management Systems are some of the organizations involved in this movement.

The educational segments within Maryland recognize the need for the linkage and/or integration of data between the PreK-12 and higher education communities. However, current activities in both segments are focused on the needs within their respective areas. Looking toward the future, tracking student performance across the State's education spectrum will require the expansion of accountability both within the respective segments and throughout the entire education spectrum. The development of meaningful and useable accountability measures

and the required 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 usable and accessible across Maryland's education segments.

As a first step toward linking PreK-12 and higher education data systems in Maryland, the commission collaborated with higher education representatives to examine the need for a Maryland educational identifier for all students in Maryland PreK-20. This type of identifier, which is unique to each student and can be used to track his/her progress from prekindergarten through postsecondary education and beyond, was recognized as a prerequisite for making a system that links and/or integrates PreK-12 and higher education data systems a reality. As a result, much time was spent reviewing and discussing current identification and tracking efforts within both the PreK-12 and higher education segments. These efforts, which included discussions and presentations by each segment, resulted in pertinent issues being identified.

MSDE has developed and implemented a Unique Student Identifier System (USIS) for generating state-assigned student IDs (SASIDs) for all PreK-12 students, which is required for public schools and optional for private schools. Given MSDE's investment in the SASID system, and its ubiquity in Maryland's public PreK-12 student information system, the commission focused on the SASID as the most realistic candidate for use as a unique Maryland student identifier. While adoption of the SASID by higher education institutions would allow linkages to be developed between the PreK-12 and postsecondary data systems, its linkage and/or integration into higher education also presents a number of challenges or issues. These include (1) identifying and selecting the best system for integrating the SASID with the higher education student data system; (2) identifying the data management and partnering structures needed to implement and oversee the data linkage system and to demonstrate its benefit and effectiveness, and (3) identifying and understanding the full range of costs and benefits associated with the various options for implementing the longitudinal data system and how these costs would be distributed among the segments and institutions.

The decisions made with respect to each of these challenges/issues will have an impact on the type of system developed in terms of its comprehensiveness and utility, its cost, and the degree of participation and partnership arrangements required. Given these challenges, several months were spent exploring ways to integrate the higher education segment and the MSDE PreK-12 system using the SASID. After much debate the commission reached the conclusion that only a thoughtful, coordinated planning effort between the higher education and PreK-12 segments could address all the possible issues and concerns.

**The commission recommends that MSDE, Maryland higher education institutions, MHEC, Maryland Association of Community Colleges, Maryland Independent College and University Association, and other parties as deemed appropriate should work in partnership over the next 12 months to develop a plan for linking and/or integrating public postsecondary institutional data with PreK-12 data at the student level. The participation of private PreK-12 and higher education institutions should be considered. The additional participation of private career and technical institutions may also be considered depending**

upon further study by that segment in conjunction with MSDE and MHEC. The plan should include:

- **Identifying the necessary elements for the establishment of a successful partnership between the PreK-12 and higher education segments for data sharing and management and how that arrangement will be overseen.**
- **Identifying the most effective approach to use for integrating and/or linking student identification between PreK-12 and higher education. Particular focus should be given to the utility of the SASID as the preferred mechanism for linking the systems.**
- **Developing a proposed implementation plan that includes a prioritized schedule of activities relating to building the linkage and developing useful analyses from the data that could be shared in the first five years of implementation, a timetable, and a schedule of anticipated costs for implementation and annual operations.**
- **Identifying likely sources of funding of such a plan, including, to the degree possible, consideration of any likely savings in the State's current expenditures that could result, such as remedial education expenditures.**
- **Importantly, the plan should explore and highlight ways Maryland's agencies and institutions can make maximum use of the linked and/or integrated data system to address critical statewide educational accountability needs. This should include proposals for additional linkages or combined assessment and reporting systems in the future as the benefits of a longitudinal data system and its effectiveness becomes more established.**
- **Finally, in addressing these issues, the planning group should take into consideration lessons learned from other states that are effectively creating State Educational Longitudinal Data Systems. It should also consider the continuity that exists within Maryland's current data systems and ensure that data integrity and continuity is preserved.**

# Findings and Recommendations

## Workforce Development

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### Using Workforce Development Data

One of the most important roles of higher education is to prepare students to enter the workforce and contribute to society. Another related role of higher education is to work with the State to determine the areas where more workforce development is needed. Many agencies are important sources of information for workforce development such as the Department of Business and Economic Development; the Governor's Workforce Investment Board; the Department of Labor, Licensing, and Regulation; and MSDE.

Another important source of information for the State regarding workforce development is the 21-member Advisory Council on Workforce Shortage that is charged with identifying critical workforce occupations for purposes of financial aid programs. The council evaluates occupational data from the Department of Labor, Licensing, and Regulation; wage data from the federal Bureau of Labor Statistics; graduation data from MHEC; and other information sources. The pertinent information for workforce development is the data that shows the number of graduates in specified degree programs versus the number of annual openings for jobs in those fields. The gap between these two measures represents a workforce shortage (or surplus). The council identified several areas in which there is great need: computer/electrical engineers, nursing instructors, special and secondary education teachers, elementary school teachers, middle school teachers, computer and network managers, registered nurses, and others. The council makes recommendations biennially, and the council will begin meeting in fall 2008 to make recommendations for fiscal 2011.

These workforce data not only inform the decisions about which programs should be offered but also can be used to inform the capital budget process. However, the capital process is long-term in that it takes several years to fund and construct one building that is expected to last at least 50 years. Therefore, any particular workforce need ought to be shown to be a long-term need in order to justify a new building. Additional considerations should include the evaluation of the use of online or distance education courses to fulfill a workforce need that may be short term; the availability of instructors or interested students may be a limiting factor in producing an adequate supply of graduates in the workforce shortage area; and changing demographics and economic factors may impact the workforce needs. For example, an aging population may lead to a need for more health care professionals trained in geriatrics or the shift from a manufacturing economy to a knowledge-based economy will impact the workforce shortage areas.

Since Maryland has shifted to a knowledge-based economy, many technicians are needed to support the work of the new economy. Maryland higher education institutions have numerous programs available to train the technicians needed to support the new economy.

**The commission recommends continued monitoring of the need and supply of trained individuals in areas identified as having the greatest need through the work of the Department of Business and Economic Development; the Governor's Workforce Investment Board; the Department of Labor, Licensing, and Regulation; MSDE; and the Advisory Council on Workforce Shortage. If a need is identified, include an analysis of whether the need is short- or long-term and why the need should be considered in the capital planning process for the State. If a long-term need is identified, encourage institutions to place priority on capital projects that will meet the demands of those areas. Additionally, continue to prioritize investments in programs, like those at several community colleges and at some public and private four-year institutions, that train the technicians needed to support the new economy.**

## **Critical Needs Areas**

The commission also evaluated how well Maryland's higher education institutions supply a well-educated workforce. The Governor's Workforce Investment Board (GWIB) provides data on Maryland's population and job growth and the skills needed for a trained workforce. GWIB has 13 targeted industry sectors that are high-demand and high-growth sectors such as bioscience, education, information technology, energy, and health care. Maryland's population is growing slower than the national average and alone may not be able to meet high-demand, high-growth workforce requirements; however, immigration in Maryland is outpacing national growth. In fact, a higher percentage of foreign born residents have a bachelor's degree (43 percent) than native born residents (34 percent). According to GWIB, other factors affecting Maryland's population and workforce include (1) people moving out of Maryland between 2004 through 2006 because housing prices were lower elsewhere; (2) by 2015, 48 percent of Maryland's labor force will be 55 and older; and (3) the percentage of high school students in 2004 who enrolled in college in their own state was 63 percent for Maryland students and 81 percent nationally. The GWIB information showed projected occupational growth in Maryland through 2014, with health care and computers leading with a projected change of 33 and 29 percent, respectively. The data supported the ongoing need for skilled health care workers through 2015 and the need for teachers in critical shortage areas. This trend needs to be reversed if we are going to "grow our own" in Maryland. Maryland used to have a surplus of teachers; however, this is no longer the case. Currently, Maryland relies on other states, such as Pennsylvania, to graduate an excess of teachers. That supply is now dwindling.

**The commission recommends that enhancement funds be provided on a line-item basis to help mitigate costs associated with high-cost programs in critical needs areas. Portions of these funds should be provided to all existing programs, and an additional allocation should be provided for enhancements on a competitive basis to programs that show promise for significant expansion and productivity. Enhancement funds should also be provided for professional development for faculty who teach critical needs areas in order to create more highly qualified faculty in science, technology, engineering, and mathematics (STEM) areas. Funding should be allocated to colleges that have programs**

**that offer academic and career training to middle and high school students, especially in preparation for careers in State identified critical shortage areas. Finally, special consideration should be given to those districts in the State that have disproportionately high numbers of underprepared youth.**

## **Job Readiness Feedback**

Graduate and employer feedback on job readiness is essential to assessing how well higher education prepared the graduates to enter the workforce. Every three years, all of the State's public colleges and universities and many of its private colleges survey their graduates to learn about their experiences in their first year after graduation. The 16 community colleges use the same questionnaire, while the four-year institutions use various instruments which include a set of identically worded common questions. From these surveys, the State compiles trend data on the employment status of its associate and bachelor's degree recipients.

Employment data include full- or part-time status, type of occupation, location of employment, relationship of job to college major, current salary, and graduate self-evaluation of how well college prepared them for employment. Continuing education data include full- or part-time status, relationship of continuing study to their degree major, acceptance of transfer credits, and graduate self-evaluation of how well their prior program prepared them for continuing education. These data can be analyzed by institution, by program of study, and by student demographics. Findings are used in mandated State Performance Accountability Reports, Managing for Results reporting, and in campus-based program reviews.

The most recent survey of bachelor's degree recipients, conducted in spring 2005, had a statewide response rate from public four-year institutions of 25 percent. The survey of community college graduates in spring 2006 obtained a 30 percent response rate. In the last administrations of these surveys, 7 of the 29 public institutions had response rates below 25 percent. Concerns about response rates can be addressed by conducting tests for response/nonresponse bias, such as phone administration of the survey to randomly selected nonrespondents to the mail survey.

Employer assessment of graduate readiness for employment is an important component of accountability in higher education. The community colleges have conducted an employer follow-up survey tied to the graduate survey for a number of years, and the USM institutions conducted an employer follow-up survey by phone in 2001 but have not repeated it since. Under the survey process used by the community colleges, graduates who are employed are asked to provide the name and contact information of their immediate supervisor. The strength of this method is that it provides a survey population of employers with current knowledge of a recent graduate. Employers are mailed a survey asking a series of questions about the graduate's specific job skills, ability to learn on the job, communications skills, computer skills, problem-solving abilities, effectiveness working in teams, and overall preparation for

employment. Despite its apparent logic, this method has had major drawbacks in practice. Very low response to the graduate survey reduces the employer survey population. Reliance on graduates to provide supervisor information introduces the possibility of bias, as graduates in less than satisfactory employment circumstances may decline to provide the contact information. The employer survey population for small colleges may be relatively few, and with approximately half of the employers responding, the number of employer responses can be quite small and often disproportionately from one or two industries. The results cannot be considered representative at the institutional level, and aggregating them up to the statewide level does not solve these problems.

An alternative to mail surveys are more qualitative, in-depth research approaches similar to the fall 2006 Solutions for Maryland's Future Listening Tour. In-person focus groups, or focused telephone surveys, targeted at specific industry clusters, would provide information useful for program and curriculum improvement while meeting statewide accountability needs. Higher education programs would be aligned with the industry clusters for analysis.

GWIB has identified 10 industry clusters in Maryland. Each cluster is large with a diverse set of employers. In larger organizations, perceptions of employee preparedness and performance may vary by level in the organization. A research design that collects employer input at the senior management and the immediate supervisor/hiring manager level would address this concern. An initial focus on a single industry cluster in the first two years would allow for a comprehensive multi-level study including organizations of varying size, product or service emphasis, and location in Maryland. After the first two years, the process would be assessed to see if two industry clusters should be completed per year, based on value to both employers and the higher education institutions.

These in-depth, focused interview studies, perhaps done in partnership with GWIB, would replace the employer follow-up surveys. In place of a single percentage or number to represent overall employer satisfaction, State accountability reporting would include summaries of the findings from the focused interview studies.

**The commission recommends that surveys of alumni one year after graduation should continue to be conducted every three years to assess graduate preparedness for employment and continuing education. Institutions achieving response rates below 25 percent shall conduct further analysis to test for representativeness of survey findings.**

**MHEC should issue a request for proposals for annual, statewide studies of employer perceptions and recommendations regarding the preparation of graduates for employment; these studies will include in-depth interviews conducted by focus groups. One industry cluster will be selected for study per year for the first two years. After completion of these two studies, the process should be evaluated to see if two clusters should be surveyed per year. All industry sectors identified by GWIB should be assessed. Reports of study findings shall be posted to the *Maryland Return on Investment in Higher Education* accountability web site.**

## **Encouraging Students to Work in Maryland in Critical Needs Areas**

Another important aspect of workforce development is encouraging students to pursue programs in critical needs fields. To provide incentives for students to major and work in critical workforce areas, MHEC administers the Workforce Shortage Student Assistance Grant. Eligible occupational areas include teaching, nursing, physical/occupational therapy, child care, human services, and public service. There are currently more than 280 students on a waitlist for the Workforce Shortage Student Assistance Grant for an additional cost of \$850,000. Other STEM-related occupational areas have been identified, but funds are insufficient to make awards.

In addition to encouraging its students to pursue critical needs areas, Maryland needs to encourage its students to pursue higher education in Maryland or to return to Maryland to work if they attend college out of state. The percentage of high school students in 2004 who enrolled in college in their own state was only 63 percent for Maryland students compared to 81 percent nationally. One program that is available for Maryland residents who graduate from a Maryland college and are employed full-time in a shortage area in Maryland is the Janet L. Hoffman Loan Assistance Repayment Program (LARP). Graduates must be employed full-time (35+ hours per week) in State or local government or in a nonprofit organization in Maryland that assists low-income, underserved residents or underserved areas in the State and a graduate's annual gross salary cannot exceed \$60,000. However, other than an exception for law school or medical school students, Maryland students who attend college out of state and return to Maryland to work are not eligible for LARP.

**The commission wants to encourage Maryland students who attend college out of state to return to Maryland to work in critical needs areas. Additionally, the commission wants to encourage out-of-state students who attend college in Maryland to stay and work in Maryland. The commission recommends developing and funding broadly available loan repayment programs for students pursuing programs in critical need fields, such as the Janet L. Hoffman Loan Assistance Repayment Program (LARP). In addition, the commission recommends expanding LARP to allow Maryland students to be eligible for LARP if they attend college out of state and return to Maryland to work in critical needs areas.**

## **Base Realignment and Closure**

Through the 2005 Base Realignment and Closure (BRAC) decisions, Maryland will be called upon to accommodate a significant expansion of the United States military installations located in the State. With the arrival of new residents, jobs, and national defense and security activities, postsecondary education will be more important than ever in meeting the challenge of providing a first-rate, highly trained workforce. The State will need more trained individuals to fill the jobs created by BRAC. Many of the jobs associated with the military installations and the

BRAC transition generally will require specialized or technical training. The State must, therefore, ensure that it establishes adequate education programs capable of producing a pipeline of future workers with the skills necessary for BRAC-related employment.

The commission felt it was important to examine the impact BRAC will have on the educational needs of the State and workforce training. Fortunately, much work has already been completed in these areas by the Subcabinet for BRAC, chaired by Lt. Governor Anthony G. Brown. The Subcabinet has produced a *State of Maryland BRAC Action Plan Report* addressing these needs, as well as other infrastructure, transportation, and business needs of the State. Maryland's postsecondary educational institutions are ready to provide courses, programs, degrees (at levels from associate to doctorate), continuing education, certificates, and customized training spanning the gamut. The State's many two-year, four-year, public, and private campuses offer a great diversity of programs and customized manpower training.

In anticipation of an influx of BRAC-related students at all levels, the University System of Maryland and Morgan State University have agreed to waive the residency requirements to receive in-state tuition for civilian personnel and contractors to facilitate transfers, especially in graduate programs and in STEM majors. Additionally, military, civilian personnel and defense contractors, and their spouses and children, who relocate to Maryland as a result of BRAC and enroll in postsecondary education programs in the State will be considered Maryland residents for State financial assistance beginning in the 2008-2009 academic year. Maryland residency requirements will be waived for these students when appropriate documentation is provided to MHEC.

MHEC is communicating with Maryland higher education about the need for memorandums of understanding to facilitate transfer of credit; internship opportunities for students; and the need to supply students with information on security clearance requirements. With respect to graduate programs, institutions are being encouraged to offer programs through distance education to make the transfer and relocation to Maryland easier.

MHEC is seeking information from the Defense Information Systems Agency and Ft. Monmouth to identify students who will transfer into programs in Maryland. Additionally, MHEC has conducted a study to determine the preparedness and capacity of higher education institutions in Maryland and neighboring states to meet the higher education needs of employees moving to the State as a result of BRAC.

Using the existing HEIF, MHEC is in the process of funding various programmatic initiatives for BRAC-related personnel. Initiatives may include expanding campus capabilities, developing courses or programs to meet BRAC educational needs, technology upgrades, and projects that advance Maryland's competitiveness in STEM fields. Other initiatives may be focused on BRAC literacy to provide English skills, soft skills, workplace literacy, workplace survival skills, communication skills, customer service, and career ladders.

Finally, military bases will form higher education advisory councils to identify needs and Maryland resources to meet those needs.

**The commission endorses the recommendations in the *State of Maryland BRAC Action Plan Report* on education, infrastructure, transportation, and business needs and supports actions to implement these recommendations. Communication with the military installations and postsecondary education institutions should be continued and expanded to ensure that educational and workforce needs of installations are identified and that Maryland has resources to meet those needs. Additionally, all effective actions taken so far to facilitate student transfer due to BRAC should be continued and expanded.**

## **Findings and Recommendations**

### **Ensuring Future Progress**

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#### **Alternative Funding Opportunities**

The commission also examined other alternative funding options for capital projects. Specifically, the Private Donation Incentive Program (PDIP) was examined. PDIP was created by the General Assembly in 1990 as a way to encourage private donation and development of institutional advancement by providing matching funds. PDIP was initially authorized for seven years, but it was extended in 1999 for an additional six years. The program was available to the public four-year institutions and the community colleges. Donations that were designated as endowment gifts for academic purposes consistent with the role and mission of the institutions would qualify for matching State funds according to a specified ratio. Limits were established as to the maximum amount of State matching funds. Using PDIP, institutions raised \$46.7 million between fiscal 1999 and 2007. During this time, the State has provided \$16.4 million in general funds to match the donations.

The commission considered other alternative financing methods. These included a surcharge on private donations to fund capital needs and the use of bonds backed by increases in indirect cost recovery from federal contracts and grants for the construction of research facilities. After considering the provided information regarding these funding methods, the commission determined that pursuing these methods was not feasible at this time. However, it was determined that other alternative funding options should be explored.

**The State should consider providing a specified percentage of project costs if the remaining can be raised through private donations. Development offices at the institutions can use this specified split funding as a target for raising the private funds. A potential mechanism for achieving this is to have two separate funding allocations. One would be incentive funding, and the other would be the current method of funding projects.**

**All segments of higher education should explore other alternative funding sources, and the State is encouraged to provide incentives in order to maximize the potential for building capital projects.**

As previously noted, institutions of higher education have significant academic space deficits. Of particular concern is the deficit of research space. Maryland has become a knowledge-based economy dependent upon well trained scientists and other professionals. Adequate research space will enable Maryland to train and employ more scientists, thus bolstering the State's economy. The importance of having a robust research environment and a sufficient workforce will only become more critical. The challenge, however, is funding the research space which has a higher per square foot construction cost than other types of space. For instance, a single research building could cost at least \$350 million to construct, more than

the entire general obligation bond allocation for all of higher education in a single year. It became apparent to the commission that something different must be done in order to adequately fund the construction of academic research space.

**Therefore, the commission recommends that the feasibility of and the mechanism for creating a separate funding category in the *Capital Improvement Program* for research space should be examined. This examination should include whether State funding can be augmented with other sources to enhance the State's capacity to fund projects that provide academic research space. While there are some alternative sources that may be tapped to help fund academic research space, it is critical to the economic vitality of the State that it also continue to directly support these research activities by building the required space. Any funding mechanism for research space should be aligned with current efforts that support an increase in State capital investments.**

## **Entrepreneurial Efforts of Higher Education**

Over the last several decades universities across the country have established technology development programs and offices to bring new discoveries from the laboratory bench to the bedside and marketplace, and to generate new revenue streams in so doing. These tech transfer programs are providing new and useful products, devices, medical diagnostics, and therapeutics for the benefit of the public. Universities benefit because this commercialization results in funds becoming available both to reward these entrepreneurial and highly sought after faculty and to allow for further investment in research programs. Perhaps as importantly for the future, students working alongside these university scientists experience first hand the opportunities and benefits of technology transfer and learn how to carry this out.

Because of the financial success of several university technology transfer programs, technology transfer may often be viewed as a potential economic support generator for universities and the State, but in the absence of a financial blockbuster product like Gatorade or Taxol, most technology transfer programs produce minor revenue when compared to the entire university research budget. In fact, just 10 prominent U.S. universities (several of which are in competitor states, but none unfortunately are in Maryland) account for more than half of all university technology transfer revenue.

Maryland has several prominent research universities that have had significant impact in knowledge advancement via scholarly publications, but those institutions have historically ranked below peers in knowledge impact as measured by the translation of that research into new economic activities and startup companies. The early stage nature of the research discoveries and to a lesser extent university culture may play some part in the impact rankings, but a major contributor has been the chronic underfunding of university technology transfer offices.

The USM Board of Regents has explicitly recognized the importance of technology transfer and has created a Task Force on Technology Development to address it. Chaired by Regent Michael Gill, the task force met several times and was charged with assessing the strength of the technology development programs and offices at USM's three research campuses (University of Maryland, College Park; University of Maryland, Baltimore; and University of Maryland Baltimore County) and its two free-standing research centers (University of Maryland Biotechnology Institute and University of Maryland Center for Environmental Science). The task force found that USM tech transfer offices are not funded at the level of peer research institutions at the staff level. In its annual assessment of technology commercialization resources, the Maryland Technology Development Corporation concluded that USM technology commercialization offices are doing an effective job, but staffing is below similar university systems with equivalent research profiles. The task force has recommended that the State invest funds to expand commercialization resources, such as the Intellectual Property Clinic at the University of Maryland School of Law at UMB and the Tech Ventures program at UMCP, and make these resources available to all institutions across the State.

Although Johns Hopkins has been active for many years in the creation of startup companies, having created 31 from 2000 to 2007, Johns Hopkins has recognized the need to improve its technology transfer operations. While Johns Hopkins is still far below peers in the size of its technology development staff, it recently committed additional resources to the technology transfer effort with dramatic results, including 12 new companies with over \$76 million in corporate and venture funding created based on Johns Hopkins research in fiscal 2008 alone, 7 of which are Maryland-based. Even with its recent investments in tech transfer, Johns Hopkins still faces a backlog of possible marketable technology and innovations in the engineering, medicine, and public health arenas, which can only be realized with additional resources focused on entrepreneurship and marketing.

Finally, new investments in technology over the last three years by UMB have resulted in the creation of three new companies in Maryland. These companies, Remedy, Alba, and Gliknik, have a combined market capitalization that now exceeds \$300 million.

In summary, while Maryland has several outstanding public and private universities that compare very favorably with institutions in competitor states in garnering external support for research, Maryland's institutions have historically been less successful in transferring research discoveries to the marketplace. Additionally, while Maryland offers a number of programs and incentives to encourage and support the creation of startup companies in Maryland, those programs do not provide sufficient support for the technology transfer efforts of Maryland's major public and private universities. Clearly, additional investments are needed if higher education in Maryland is to become truly competitive in technology transfer.

**The commission recommends that funds received under the funding guidelines should be used for public and private university based startups, including programs such as entrepreneur in residence to provide resources to increase the creation of Maryland startup companies based on university research.**

The commission also encourages the P-20 Leadership Council and the Life Sciences Advisory Board to develop and support consistent recommendations on the role of universities in innovation. The State should initiate a concerted and coordinated effort to publicize and advocate for the role of university research and development in innovation and economic development thereby fostering the political will needed for substantive change. Additionally, existing programs in Maryland should be expanded and programs used in other states that foster innovation and technology development should be emulated to help bring university research and development to the marketplace. Finally, technology transfer activities should be increased by providing intellectual property clinic services and by using technology transfer offices to provide venture startup assistance.

### ***Joint Chairmen's Report on the Funding of Comprehensive Institutions***

In order to obtain more information about the level of funding for comprehensive institutions in Maryland, the 2008 *Joint Chairmen's Report* directed USM to submit a report that examined total funding per student, the proportion of State support, and how State support is allocated across USM, and particularly comprehensive institutions, to support current and projected enrollments in light of USM's designation of certain growth institutions. USM reported that "as a group, there is a strong case to be made for improvements in per student funding for the comprehensive institutions, especially in an environment where enrollment is expected to grow principally at these institutions in order to meet the general demand for higher education as well as the workforce needs of the State." USM recommended three long-term goals for the comprehensive institutions: (1) full funding of the MHEC funding guidelines for each comprehensive institution; (2) for USM resident undergraduate tuition rates, the goal for the composite USM tuition rate is to rank twenty-fifth of the 50 states (*i.e.*, fiftieth percentile) of public institutions nationally; and (3) for USM's three HBIs, per student funding should be sufficient to meet the comparable and competitive funding standard as specified in the OCR Partnership Agreement.

USM also said that "Given the magnitude of the resources required, it is understood that these funding improvements will, of necessity, have to be phased in over several years." Therefore USM recommended that the budget allocation principles should be (1) to provide greater funding increases to institutions with the lowest funding guideline attainment; (2) to provide funding sufficient for HBIs to achieve the goal of comparable and competitive programs by maintaining a funding guideline attainment level at or above the systemwide average; (3) to provide additional support to institutions with the lowest proportion of general funds in the State-supported budget; and (4) to provide full funding for enrollment growth and investments in workforce development and economic growth. USM also provided, within the framework of the budget allocation principles, a specific list by institution for budget priorities on a per student basis. For additional information, see the full report by USM on funding for the comprehensive institutions dated August 27, 2008.

**The commission concurs with USM’s long-term goals for each comprehensive institution and as previously noted in this report, the commission endorses these recommendations for all segments of higher education. Additionally, the commission supports USM’s budget allocation principles stated above. Finally, as noted in the previous recommendations relating to limiting increases in tuition, the commission supports allowing institutions that can demonstrate their resident tuition and fee level is currently below what the market suggests, to make one-time adjustments to resident tuition and fees outside of the policy goal of limiting tuition increases.**



## Appendix 1.1

### Fiscal 2010 Funding Guideline Estimates

<u>Institution</u>	<u>FY 2009 Appropriation With Cost Containment</u>	<u>FY 2010 Estimated Funding Guideline</u>	<u>Difference Between Funding Guideline and FY 2009 Appropriation</u>	<u>Funding Guideline Based on 75<sup>th</sup> Percentile TWI and 80<sup>th</sup> Percentile HBI of Competitor States<sup>6</sup></u>	<u>Difference Between Competitor State Funding Guideline and FY 2009 Appropriation</u>	<u>Funding Guideline Based on 50<sup>th</sup> Percentile of Competitor States</u>
Bowie State University <sup>1,2</sup>	\$35,856,960	\$46,381,193	\$10,524,233	\$46,506,381	\$10,649,421	\$35,266,287
Coppin State University	35,138,565	34,315,892	-822,673	39,198,542	4,059,977	31,090,892
Frostburg State University	33,456,543	41,145,864	7,689,321	41,390,883	7,934,340	35,441,082
Salisbury University	39,640,679	59,745,756	20,105,077	66,629,616	26,988,937	57,103,242
Towson University	91,384,025	134,697,504	43,313,479	153,018,904	61,634,879	119,260,364
University of Baltimore	31,380,444	63,094,712	31,714,268	54,983,048	23,602,604	46,195,412
UM, Baltimore	184,715,976	296,532,216	111,816,240	311,679,096	126,963,120	240,850,296
UM Baltimore County	91,464,824	132,824,401	41,359,577	180,478,417	89,013,593	124,984,945
UM, College Park	420,028,576	571,045,070	151,016,494	643,538,510	223,509,934	25,277,083
UM Eastern Shore <sup>4</sup>	33,037,002	45,601,466	12,564,464	52,963,961	19,926,959	21,919,296
UM University College <sup>3</sup>	28,986,826	64,706,137	35,719,311	63,396,556	34,409,730	514,773,710
UM Biotechnology Institute	20,624,785	28,072,770	7,447,985	31,599,858	10,975,073	42,652,499
UM Center for Env. Science	17,885,006	24,343,608	6,458,602	27,402,160	9,517,154	49,693,867
USM Office	19,730,846					
Morgan State University	74,711,721	85,047,961	10,336,240	111,069,454	36,357,733	74,168,257
<b>Total</b>	<b>\$1,158,042,778</b>	<b>\$1,627,554,550</b>	<b>\$469,511,772</b>	<b>\$1,823,855,386</b>	<b>\$665,812,608</b>	<b>\$1,418,677,232</b>

Source: Maryland Higher Education Commission, University System of Maryland

<sup>1</sup> Funding for Bowie State equated to Funding per FTES for Coppin State using Masters/Medium and Masters/Small (MA/S) and institutions.

<sup>2</sup> Tuition revenue for Bowie State backs out tuition revenue for European Operations.

<sup>3</sup> University College FTES Enrollment reduced for nonMaryland online enrollments and tuition revenue reflects statewide revenue only.

<sup>4</sup> UMES funding guideline based on peer group including MA/S, Masters/Large and Research University/ High institutions.

<sup>5</sup> Tuition Revenue Estimates equal fiscal 2009 Tuition revenue increased by 4 percent.

<sup>6</sup> Funding for historically black institutions (HBI) set at 80<sup>th</sup> percentile and for traditionally white institutions (TWI) set at 75<sup>th</sup> percentile of Competitor State Peers.

<sup>7</sup> Total includes USM Office

## Appendix 1.2

### Fiscal 2010 Funding Guideline Estimated Attainment

<u>Institution</u>	<u>FY 2009 Appropriation with Cost Containment</u>	<u>FY 2010 Estimated Funding Guideline</u>	<u>FY 2009 Appropriation Attainment Under FY 2010 Estimated Funding Guideline</u>	<u>Funding Guideline Based on 75<sup>th</sup> Percentile TWI and 80<sup>th</sup> Percentile HBI of Competitor States<sup>6</sup></u>	<u>FY 2009 Appropriation Attainment Under 75<sup>th</sup> Percentile TWI and 80<sup>th</sup> Percentile HBI of Competitor States</u>
Bowie State University <sup>1,2</sup>	\$35,856,960	\$46,381,193	77%	\$46,506,381	77%
Coppin State University	35,138,565	34,315,892	102%	39,198,542	90%
Frostburg State University	33,456,543	41,145,864	81%	41,390,883	81%
Salisbury University	39,640,679	59,745,756	66%	66,629,616	59%
Towson University	91,384,025	134,697,504	68%	153,018,904	60%
University of Baltimore	31,380,444	63,094,712	50%	54,983,048	57%
UM, Baltimore	184,715,976	296,532,216	62%	311,679,096	59%
UM Baltimore County	91,464,824	132,824,401	69%	180,478,417	51%
UM, College Park	420,028,576	571,045,070	74%	643,538,510	65%
UM Eastern Shore <sup>4</sup>	33,037,002	45,601,466	72%	52,963,961	62%
UM University College <sup>3</sup>	28,986,826	64,706,137	45%	63,396,556	46%
UM Biotechnology Institute	20,624,785	28,072,770	73%	31,599,858	65%
UM Center for Env. Science	17,885,006	24,343,608	73%	27,402,160	65%
USM Office	19,730,846				
USM Total	1,083,331,057	1,542,506,589	70%	1,712,785,932	63%
Morgan State University	74,711,721	85,047,961	88%	111,069,454	67%
<b>Total</b>	<b>\$1,158,042,778</b>	<b>\$1,627,554,550</b>	<b>71%</b>	<b>\$1,823,855,386</b>	<b>63%</b>

Source: Maryland Higher Education Commission, University System of Maryland

<sup>1</sup> Funding for Bowie State equated to Funding per FTES for Coppin State using Masters/Medium and Masters/Small (MA/S) and institutions.

<sup>2</sup> Tuition revenue for Bowie State backs out tuition revenue for European Operations.

<sup>3</sup> University College FTES Enrollment reduced for nonMaryland online enrollments and tuition revenue reflects statewide revenue only.

<sup>4</sup> UMES funding guideline based on peer group including MA/S, Masters/Large and Research University/ High institutions.

<sup>5</sup> Tuition Revenue Estimates equal fiscal 2009 Tuition revenue increased by 4 percent.

<sup>6</sup> Funding for historically black institutions (HBI) set at 80<sup>th</sup> percentile and for traditionally white institutions (TWI) set at 75<sup>th</sup> percentile of Competitor State Peers.

<sup>7</sup> Total includes USM Office

## Appendix 1.3

### Recommended State Funding Per Full-time Equivalent Students (FTES)

<u>Institution</u>	<u>FY 2009 Appropriation with Cost Containment</u>	<u>FY 2010 Funding Guideline</u>	<u>80<sup>th</sup> Percentile HBI – 75<sup>th</sup> Percentile TWI Competitor States</u>	<u>Competitor State 80th Percentile HBI – 75<sup>th</sup> Percentile TWI Excess (Shortfall) from FY 2010 Funding Guideline</u>	<u>% Increase Over FY 2009 Appropriation</u>	<u>% Increase Over FY 2010 Guideline</u>
Bowie State University	\$8,020	\$10,374	\$10,402	\$28	30%	0%
Coppin State University	10,896	10,641	12,155	1,514	12%	14%
Frostburg State University	7,237	8,900	8,953	53	24%	1%
Salisbury University	5,355	8,072	9,002	930	68%	12%
Towson University	5,038	7,425	8,435	1,010	67%	14%
University of Baltimore	4,596	9,241	8,053	-1,188	75%	-13%
UM, Baltimore	13,744	22,063	23,190	1,127	69%	5%
UM Baltimore County	8,890	12,911	17,543	4,632	97%	36%
UM, College Park	12,869	17,495	19,716	2,221	53%	13%
UM Eastern Shore	8,324	11,489	13,344	1,855	60%	16%
UM University College	2,723	6,077	5,954	-123	119%	-2%
Morgan State University	11,482	13,070	17,069	3,999	49%	31%
Selected Public 4-year Institutions (Simple Average)	8,687	10,913	12,537		44%	15%

Sources: Maryland State Operating Budget Books, Maryland Higher Education Commission, University System of Maryland, NCES IPEDS Peer Analysis System

<u>Impact on Formulas in FY 2011</u>	<u>FY 2009 Appropriation</u>	<u>FY 2011 Using FY 2010 Guideline</u>	<u>FY 2011 Using FY 2010 Competitor States Guideline</u>	<u>% Increase Over FY 2009 Appropriation</u>	<u>% Increase Over FY 2010 Guideline</u>
Community Colleges	\$2,424	3,055	3,510	45%	15%
BCCC	6,443	7,530	8,650	34%	15%
Sellinger	1,253	1,746	2,005	60%	15%

Sources: Maryland Higher Education Commission, Department of Legislative Services

## Appendix 1.4

### Resident Undergraduate Tuition and Fees Association of American Universities (AAU)

	<u>2003-04</u>	<u>2004-05</u>	<u>2005-06</u>	<u>2006-07</u>	<u>2007-08</u>	<u>% Change 2006-08</u>	<u>% Change 2003-08</u>
Maryland	\$6,759	\$7,410	\$7,821	\$7,906	\$7,969	0.8%	17.9%
<b>Competitor States (CS)</b>							
California	\$5,527	\$6,325	\$6,820	\$6,910	\$7,533	9.0%	36.3%
Minnesota	7,116	8,029	8,822	9,373	9,885	5.5%	38.9%
New Jersey	7,927	8,564	9,108	9,958	10,686	7.3%	34.8%
New York	5,580	5,673	5,822	5,880	5,989	1.9%	7.3%
North Carolina	3,993	4,450	4,515	5,034	5,340	6.1%	33.7%
Ohio	6,651	7,542	8,082	8,667	8,676	0.1%	30.4%
Pennsylvania	9,706	10,856	11,508	12,164	12,844	5.6%	32.3%
Virginia	5,964	6,553	7,133	7,845	8,500	8.3%	42.5%
Washington	4,968	5,286	5,620	5,985	6,385	6.7%	28.5%
<b>CS Average</b>	<b>\$6,236</b>	<b>\$6,784</b>	<b>\$7,188</b>	<b>\$7,598</b>	<b>\$7,983</b>	<b>5.1%</b>	<b>28.0%</b>
<b>CS 50th Percentile</b>	<b>\$5,856</b>	<b>\$6,325</b>	<b>\$6,820</b>	<b>\$6,910</b>	<b>\$7,533</b>		
<b>Maryland Higher (lower) than 50th Percentile</b>	<b>\$903</b>	<b>\$1,085</b>	<b>\$1,002</b>	<b>\$996</b>	<b>\$436</b>		

Note: University of Maryland, College Park and other AAU universities in competitor states: University of California, Berkeley, Davis, Irvine, Los Angeles, San Diego and Santa Barbara; U of Minnesota-Twin Cities; Rutgers U. – New Brunswick; State University of New York Buffalo, Stony Brook U.; U North Carolina at Chapel Hill; Ohio State U.; U of Virginia; U of Washington; Pennsylvania State U. Simple average was used if more than one AAU university in a state.

Source: Chronicle of Higher Education <http://chronicle.com/premium/stats/tuition>

## Appendix 1.5

### Resident Undergraduate Tuition and Fees Comprehensive Universities

	<u>2003-04</u>	<u>2004-05</u>	<u>2005-06</u>	<u>2006-07</u>	<u>2007-08</u>	<u>% Change 2006-08</u>	<u>% Change 2003-08</u>
Maryland	\$5,747	\$6,252	\$6,755	\$6,942	\$7,168	3.3%	24.7%
<b>Competitor States (CS)</b>							
California	\$2,649	\$2,993	\$3,225	\$3,228	\$3,604	11.6%	36.1%
Massachusetts	4,988	5,556	5,882	6,286	6,592	4.9%	32.2%
Minnesota	4,517	5,098	5,251	5,656	5,894	4.2%	30.5%
New Jersey	7,166	7,875	8,653	9,269	9,919	7.0%	38.4%
New York	5,129	5,171	5,238	5,318	5,379	1.1%	4.9%
North Carolina	2,812	3,129	3,244	3,652	3,915	7.2%	39.2%
Ohio	6,620	7,139	7,567	8,162	8,167	0.1%	23.4%
Pennsylvania	5,820	6,103	6,263	6,464	6,743	4.3%	15.9%
Virginia	5,023	5,479	5,906	6,426	6,854	6.7%	36.5%
Washington	3,700	3,947	4,178	4,419	4,572	3.5%	23.6%
<b>National Average</b>	<b>\$4,173</b>	<b>\$4,547</b>	<b>\$4,872</b>	<b>\$5,201</b>	<b>\$5,526</b>	<b>6.2%</b>	<b>32.4%</b>
<b>CS 50th Percentile</b>	<b>\$5,006</b>	<b>\$5,325</b>	<b>\$5,567</b>	<b>\$5,971</b>	<b>\$6,243</b>		
<b>Maryland Higher (lower) than CS 50th percentile</b>	<b>\$742</b>	<b>\$927</b>	<b>\$1,189</b>	<b>\$971</b>	<b>\$925</b>		

Source: 2007-08 Tuition and Fee Rates A National Comparison, Washington Higher Education Coordinating Board, March 2008

## Appendix 1.6

### Resident Undergraduate Tuition and Fees Community Colleges

	<u>2003-04</u>	<u>2004-05</u>	<u>2005-06</u>	<u>2006-07</u>	<u>2007-08</u>	<u>% Change 2006-08</u>	<u>% Change 2003-08</u>
Maryland	\$2,675	\$2,875	\$3,057	\$3,093	\$3,129	1.2%	17.0%
<b>Competitor States (CS)</b>							
California <sup>1</sup>	\$540	\$780	\$780	\$690	\$600	-13.0%	11.1%
Massachusetts	3,267	3,385	3,477	3,526	3,661	3.8%	12.1%
Minnesota	3,149	3,822	4,042	4,283	4,444	3.8%	41.1%
New Jersey	2,647	2,771	2,934	3,115	3,275	5.1%	23.7%
New York	2,956	3,080	3,257	3,425	3,563	4.0%	20.5%
North Carolina	1,136	1,216	1,264	1,334	1,414	6.0%	24.5%
Ohio	2,717	2,876	3,011	3,169	3,179	0.3%	17.0%
Pennsylvania	2,417	2,635	2,849	2,980	3,076	3.2%	27.3%
Virginia	1,883	2,006	2,135	2,269	2,404	5.9%	27.7%
Washington	2,142	2,313	2,445	2,586	2,676	3.5%	24.9%
<b>National Average</b>	<b>\$2,155</b>	<b>\$2,329</b>	<b>\$2,488</b>	<b>\$2,626</b>	<b>\$2,737</b>	<b>4.2%</b>	<b>27.0%</b>
<b>CS 50<sup>th</sup> Percentile</b>	<b>\$2,532</b>	<b>\$2,703</b>	<b>\$2,892</b>	<b>\$3,048</b>	<b>\$3,128</b>		
<b>Maryland Higher (lower) than CS 50<sup>th</sup> percentile</b>	<b>\$143</b>	<b>\$172</b>	<b>\$166</b>	<b>\$46</b>	<b>\$2</b>		

<sup>1</sup>Fees were reduced in 2006-07 and 2007-08

Source: 2007-08 Tuition and Fee Rates A National Comparison, Washington Higher Education Coordinating Board, March 2008

## Appendix 1.7

### State-funded Need-based Grant Dollars per Undergraduate (UG) FTES 2006-2007

	<u>State Need-based Grant Aid Awarded</u>	<u>Undergraduate FTES</u>	<u>Estimated Need-based UG Grant Dollars/UG FTES</u>	<u>Need-based Grant Dollars as % of State Appropriations for Higher Ed. Operating Expenses</u>
Maryland	\$93,536,000	195,042	\$465.18	6.5%
<b>Competitor States (CU)</b>				
New York	\$843,694,000	800,960	1,049.27	17.5%
New Jersey	249,889,000	266,377	932.86	12.6%
Pennsylvania	468,319,000	512,715	893.25	21.7%
Washington	181,824,000	240,454	756.11	11.1%
Minnesota	162,987,000	227,926	714.44	11.6%
California	763,399,000	1,500,282	508.58	7.3%
North Carolina	170,127,000	366,349	486.55	5.0%
Ohio	177,559,000	443,000	400.81	8.0%
Virginia	102,699,000	298,571	340.83	5.5%
Massachusetts	83,649,000	286,847	291.62	8.1%
<b>CS – 75<sup>th</sup> percentile</b>	<b>\$359,104,000</b>	<b>\$477,858</b>	<b>\$824.68</b>	<b>12.3%</b>
<b>Difference – 75<sup>th</sup> percentile</b>	<b>\$265,568,000</b>	<b>\$282,816</b>	<b>\$359.50</b>	<b>5.8%</b>

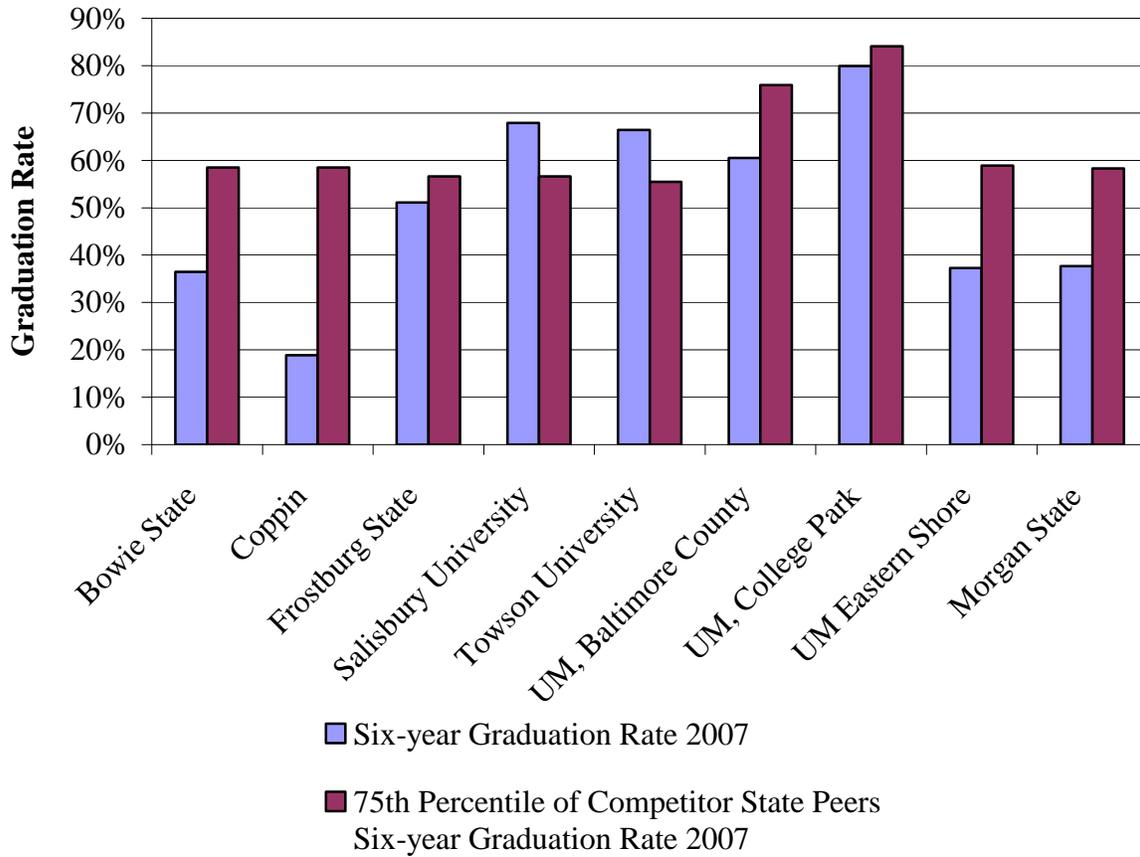
**Funding needed to reach CS 75th percentile need based grant dollars per FTES: \$70,117,599**

Note: Includes State-funded grants only and does not include need-based grants funded with tuition or other revenues

Source: National Association of State Student Grant and Aid Programs (NASSGAP), 2006-2007

## Appendix 1.8

### Maryland Public Four-year Colleges and Universities Six-year Graduation Rate Academic Year 2007



## Appendix 1.9

### Change in Maryland Four-year Public Tuition and Mandatory Fees and Maryland Median Family Income

<b>Fiscal or Calendar Year</b>	<b>Average Tuition &amp; Mandatory Fees</b>	<b>Annual % Change Tuition &amp; Mandatory Fee</b>	<b>Nominal Median MD Income</b>	<b>Annual % Change Median Family Income</b>	<b>3 year % Change Median Family Income</b>
1996	\$3,424	4.77%	\$43,993	7.19%	3.28%
1997	3,739	9.19%	46,685	6.12%	6.00%
1998	4,023	7.61%	50,016	7.14%	6.81%
1999	4,234	5.25%	52,205	4.38%	5.87%
2000	4,424	4.48%	54,535	4.46%	5.32%
2001	4,620	4.43%	53,530	-1.84%	2.29%
2002	4,779	3.45%	56,407	5.37%	2.61%
2003	5,307	11.03%	52,314	-7.26%	-1.38%
2004	5,878	10.77%	57,103	9.15%	2.18%
2005	6,362	8.24%	60,512	5.97%	2.37%
2006	6,791	6.73%	63,668	5.22%	6.77%
2007	6,915	1.83%	65,630	3.08%	4.75%
2008	7,050	1.96%			
2009	7,186	1.92%			

Note: Data for tuition and fees are on fiscal year basis and median income data are on calendar year basis.

Sources: U.S. Census Bureau: CPS Money income of households; Department of Legislative Services

## Appendix 1.10

### Maryland Higher Education's Return on Investment

	Proposed Measure	Definition	Data Source	What does this tell us?	How often do we measure?
<b>OVERARCHING INDICATOR</b>					
	<b>State Investment</b>	Set State funding of public four-year institutions at the seventy-fifth percentile of the sum of State appropriation and tuition and fee revenue per FTES of the competitor states peer institutions. The resulting per student rate is multiplied by the institution's projected enrollment and projected institutional tuition and fee revenue is subtracted. The remainder represents the State investment. The competitor states are: Pennsylvania, Virginia, North Carolina, New Jersey, New York, Massachusetts, Ohio, Minnesota, Washington, and California. The goal is set at the eightieth percentile for HBIs. An unsatisfactory funding level would be below the fiftieth percentile. State investment includes funding for community colleges and eligible private institutions through statutory formulas tied to per-student State funding of select public institutions.	MHEC	Each institution is at the target percentile of State investment.	Annually
	<b>Accessibility</b>	Set (gross) in-state tuition and fees at or below the fiftieth percentile of comparable institutions in the competitor states. Community colleges should also aim, collectively, for the fiftieth percentile of community college.	MHEC	The affordability of higher education for students.	Annually
	<b>Affordability</b>	Set need-based financial aid per FTES at the seventy-fifth percentile of the competitor states.	MHEC	The State's effort in ensuring that all students, regardless of their financial status, can afford to attend college in Maryland.	Annually

	Proposed Measure	Definition	Data Source	What does this tell us?	How often do we measure?
<b>Goal 1: Quality and Effectiveness</b>					
<i>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.</i>					
<b>1</b>	<b>Student Success</b>				
1a	Student Success – Undergraduate Graduation Rate	Graduation Rate (4-year institutions): Percent of full-time, first-time students who graduate 6 years	MHEC Enrollment & Degree Info System (P4Yr)  IPEDS GRS Survey (Indep.)	The effectiveness of Bachelor’s degree attainment at 4-year institutions	Annually
1b	Student Success – Community College Student Persistence	Community college successful-persister rate (Community Colleges): Percent of first-time fall entering students at Maryland community colleges attempting 18 or more hours during their first two years, who graduated, transferred, earned at least 30 credits with a cumulative grade point average of 2.0 or above, or were still enrolled, four years after entry	MHEC Transfer Student System, National Student Clearinghouse, & Institutional Data	The effectiveness of Associates degree attainment/success via transfer at community colleges	Annually
1c	Developmental Completer Success Rate	The percentage of first-time-any-college students entering a Maryland community college in the fall, who attempted at least 18 hours during the two years following initial enrollment, and who needed and completed all recommended developmental courses, who graduated or transferred within four years of entry.	Degree Progress Analysis component of PAR submitted to MHEC	The graduation-transfer success of students who needed and completed developmental education	Annually in conjunction with the community college Performance Accountability Report (PAR)
<b>2</b>	<b>National Eminence</b>				
2a		Composite of the rankings received and reported by UMB and UMCP. The rankings are drawn from such national publications or research reports as U.S. News & World Report, The Wall Street Journal, The Financial Times, Business Week, Success, and the National Research Council. UMB rankings of Schools of Medicine and Dentistry by amount received in NIH research dollars is also included (based on data published by NIH).	Publications	Eminence of public higher education relative to other states.	Annually

	<b>Proposed Measure</b>	<b>Definition</b>	<b>Data Source</b>	<b>What does this tell us?</b>	<b>How often do we measure?</b>
2b		<p>Number of faculty awards and memberships from independent sources based upon the mission of the institution. Awards include:</p> <ul style="list-style-type: none"> <li>• Nobel</li> <li>• Fullbrights</li> <li>• Guggenheims</li> <li>• NSF Career (Young Investigator)</li> <li>• Sloan fellowships</li> <li>• Pulitzer prize</li> <li>• MacArthur Fellows</li> <li>• Shaw Price</li> </ul> <p>National Academy memberships include:</p> <ul style="list-style-type: none"> <li>• Institute of Medicine</li> <li>• National Academy of Engineering</li> <li>• National Academy of Sciences</li> <li>• American Academy of Arts &amp; Sciences</li> <li>• National Academy of Education</li> <li>• Institute of Medicine</li> </ul> <p>Other measures of eminence for non-doctoral granting institutions and community colleges.</p>	Institutions	Expertise of the Faculty at research institutions.	Annually
3	<b>Graduate Satisfaction &amp; Employment</b>	<p>Satisfaction of college and university graduates with their college experience/learning</p> <p>Employment after graduation.</p>	<p>Associate's &amp; bachelor's degree recipient follow-up surveys</p> <p>Associate's &amp; bachelor's degree recipient follow-up surveys</p>	<p>"Customer satisfaction" with their higher education experience at Maryland public and private colleges and universities</p> <p>The success of Maryland graduates in obtaining employment.</p>	Once every 3 yrs

	<b>Proposed Measure</b>	<b>Definition</b>	<b>Data Source</b>	<b>What does this tell us?</b>	<b>How often do we measure?</b>
4	<b>Licensure Exam Pass Rate</b>	Proportion of graduates of a program who passed their licensure examination on the first attempt, e.g. <ul style="list-style-type: none"> <li>• Maryland Board of Nursing Licensure Examination</li> <li>• Teacher certification rates</li> <li>• Radiology Technology</li> <li>• EMT</li> <li>• Respiratory Therapy</li> <li>• Physical Therapy</li> <li>• CPA Examination</li> <li>• Maryland Bar Examination</li> <li>• Maryland Board of Professional Engineers</li> </ul> Maryland State Board of Physicians Examinations.	Various Sources	The quality of instruction for some professional fields	Annually
5	<b>Employer Satisfaction *</b>	Employer satisfaction with Maryland graduates: A survey designed by the higher education and business community to measure employer satisfaction with graduates from colleges within Maryland. Details to be determined	Data currently not available.	The quality of Maryland's college and university graduates preparation for the workforce.	Once every 3 years
<b>Goal 2: Access and Affordability</b>					
<i>Achieve a system of postsecondary education that promotes accessibility and affordability for all Marylanders.</i>					
6	<b>High School Graduate Participation Rate</b>	Percent of Maryland high school graduates enrolling in Maryland higher education the fall following their high school graduation	Fall enrollment files and high school graduate count from the Maryland Dept. of Education	Proportion of the state's high school graduates enrolling in college in Maryland in the fall	Annually
7	<b>Adult Resident Degree Attainment</b>	Percent of state's population age 25 and above with an Associate or higher degree. Set a goal of 55 percent by 2025.	Maryland Department of Planning	Proportion of adult population with a college degree	Annually

	<b>Proposed Measure</b>	<b>Definition</b>	<b>Data Source</b>	<b>What does this tell us?</b>	<b>How often do we measure?</b>
8	<b>Affordability</b>	Average annual full-time tuition and fee cost at Maryland community colleges (in-district), and public four-year institutions (in-state), divided by median family income in Maryland (two percentages are reported)	MACC, USM, Maryland Department of Planning	Measures ability of Maryland families to afford a public college education	Annually
9	<b>Unmet Financial Need</b>	Percent of students in lowest 40 percent of median family income who have unmet financial need after accounting for expected family contribution and financial assistance, including loans	Financial Aid Information System	Proportion of low and middle income students who have unmet financial need	Annually
10	<b>Academic Space</b>	Total net assignable square feet of academic space that an institution needs on a per student basis.	MHEC	Whether capital construction is keeping pace with enrollment growth to ensure adequate space to educate students.	Annually
<b>Goal 3: Diversity</b>					
<i>Ensure equal educational opportunity for Maryland's diverse citizenry.</i>					
11	<b>Minority Access</b>	Percent which African Americans, Asian Americans and Hispanics represent of all Maryland undergraduate and graduate/professional students and percent which each ethnic group represents of all Maryland residents between 18 and 44 years of age	MHEC Enrollment Information System, U.S. Bureau of the Census	How well the racial and ethnic composition of Maryland colleges and universities reflects that of the State	Annually
12	<b>Minority Student Success</b>	Percent which African Americans, Asian Americans and Hispanics represent of all recipients of community college certificates, associate's degrees, bachelor's degrees, master's degrees, doctoral degrees, and first professional degrees and the percent which each ethnic group represents of all Maryland residents 25 years of age or older	MHEC Degree Information System, U.S. Bureau of the Census	How well the racial and ethnic composition of the graduates of Maryland colleges and universities reflects that of the State	Annually

	<b>Proposed Measure</b>	<b>Definition</b>	<b>Data Source</b>	<b>What does this tell us?</b>	<b>How often do we measure?</b>
13	<b>Success and Achievement Gap</b>				
13a	Achievement Gap – Community College Students	Percent of each ethnic group and all community college students attempting at least 18 credit hours within two years of matriculation and who, within four years, graduated, transferred, earned at least 30 credit hours with GPA of 2.0 or better, or were still enrolled	Maryland Association of Community Colleges	How well Maryland is achieving its longstanding goal of improving the persistence and graduation rates of racial and ethnic minorities in postsecondary education	Annually
13b	Achievement Gap – Public Four Year Students	For each ethnic group and all students at public four-year campuses, the number of first-time full-time students who earned a bachelor’s degree from any public four-year campus in the state (or a state-aided private institution for Maryland residents) within six years of matriculation divided by the number of all first-time full-time students in the same cohort	MHEC Retention and Graduation Longitudinal Files	How well Maryland is achieving its longstanding goal of improving the persistence and graduation rates of racial and ethnic minorities in postsecondary education	Annually
13c	Achievement Gap-Community College Transfer Students	For each ethnic group and all students at public four-year campuses, the number of community college students who transferred with at least 12 credit hours to a public four-year institution and earned a bachelor’s degree within four years of transfer divided by the number of all community college students in the same cohort who transferred with at least 12 credit hours	MHEC Transfer Student System	How well Maryland is achieving its longstanding goal of improving the persistence and graduation rates of racial and ethnic minorities in postsecondary education	Annually
<b>Goal 4: Student-Centered Learning System</b>					
<i>Strengthen and expand teacher preparation programs and support student-centered, preK-16 education to promote student success at all levels.</i>					
14	<b>K-12 Teacher Production</b>	The five year change, in numbers and percentages, in certified teachers in critical shortage areas (as determined by Maryland State Department of Education) produced by the teacher preparation programs at Maryland colleges and universities. A separate breakdown for each critical shortage area will be used	Maryland State Department of Education <i>Maryland Teacher Staffing Report</i>	How well Maryland is fulfilling the need for producing teachers in critical shortage areas	Annually

	<b>Proposed Measure</b>	<b>Definition</b>	<b>Data Source</b>	<b>What does this tell us?</b>	<b>How often do we measure?</b>
15	<b>Student Learning Assessment</b>	Number of Maryland Colleges and Universities that participate in the NSSE, CSSE, or comparable assessment within the previous 3 years and use the assessment to improve academic programs and the student learning experience.	Institutions	Institutions are using assessment systems and feedback loops to improve academic programs and student learning.	Annually
<b>Goal 5: Economic Growth And Vitality</b>					
<i>Promote economic growth and vitality through the advancement of research and the development of a highly qualified workforce.</i>					
16	<b>Research Support and Competiveness</b>				
16a	Research and Development (R&D ) Expenditures	The total amount of R&D expenditures generated by colleges and universities in Maryland during the most recent fiscal year for which data are available (includes federal, state, private, and institutional R&D expenditures)	National Science Foundation (NSF) Division of Science Resources Statistics' <i>Academic Research and Development Expenditures</i>	The degree to which Maryland's higher education institutions are able to generate support for research projects	Annually
16b	State R&D Rank	Maryland's rank among all states in total R&D expenditures on a per capita basis (includes federal, state, private, and institutional R&D expenditures) during the most recent fiscal year	American Electronics Assoc. publication, <i>Cyberstates: A complete state-by-state overview of the high-technology industry</i> ). Data in <i>Cyberstates</i> based on NSF's <i>R&amp;D in Industry and Science and Engineering Indicators</i> and the U.S. Bureau of the Census	The degree to which Maryland's higher education institutions are able to generate support for research projects, and where the state ranks versus other states in generating this research support on a per capita basis	Annually

	<b>Proposed Measure</b>	<b>Definition</b>	<b>Data Source</b>	<b>What does this tell us?</b>	<b>How often do we measure?</b>
17	<b>Research Commercialization and Technology Transfer</b>				
17a	Invention Disclosures Filed	Total number of invention disclosures received by Maryland's colleges and university over the past year, as reported to the Association of University Technology Managers (AUTM)	AUTM Annual Licensing Survey (Table 11)	The degree to which Maryland's higher education institutions are able to take the new ideas and discoveries generated by their faculty and, through the technology transfer process, turn them into commercially viable (or potentially viable) products and processes	Annually
17b	U.S. Patents Issued	Total number of U.S. patents issued or reissued to any Maryland college or university over the past fiscal year, as reported to AUTM	AUTM Annual Licensing Survey (Table 13)	See above	Annually
17c	Patent & Licensing Income Generated	Gross income received from licenses/options executed by any Maryland college or universities, adjusted to subtract any licensing income paid to another institutions per an inter-institutional agreement, as reported to AUTM	AUTM Annual Licensing Survey (Table 8).	See above	Annually
18	<b>Workforce Development</b>				
18a	Non Credit Workforce Development Enrollments	Unduplicated annual headcount of enrollment in noncredit contract and open enrollment courses, with workforce intent, offered at Maryland community colleges during the most recent fiscal year	Community College Performance Accountability Reports.	Number of individuals enrolled in workforce development continuing education courses in a year	Annually
18b	Critical Workforce Areas Credential Production	Total number of degrees and certificates awarded annually by Maryland colleges and universities in key workforce need areas, as defined by MHEC (e.g., the health professions, medical technology-related fields, STEM fields, etc.)	MHEC Degree Information System (DIS).	The degree to which Maryland's colleges and universities focus and succeed on developing and supplying a workforce for Maryland that is responsive to critical workforce needs and the varying levels of education and training required by them	Annually

	<b>Proposed Measure</b>	<b>Definition</b>	<b>Data Source</b>	<b>What does this tell us?</b>	<b>How often do we measure?</b>
19	<b>Graduates Employed in Maryland</b>	Percentage of the most recent cohort of 2-year and 4-year graduates from Maryland colleges and universities who were reported as employed in Maryland one year after graduation	MHEC Degree Information System (DIS) matched against Unemployment Insurance wage database (from Jacob France Center)	Proportion of Maryland college graduates working in Maryland a year later	Once every three years

Notes:

- 1) Most current available data will be used for all measures except for the overarching indicator - funding goal attainment. Fiscal year data for the funding goal attainment measure will be matched to the same data year for the majority of the indicators.
- 2) While most measures can be computed from current data collections, a few as indicated by \* will require new data collection. Resource availability for new data collection systems needs to be taken into consideration (e.g. staff resources, software and computing resources, financial resources) when making final decisions on which indicators to use.
- 3) Data for the State investment and Accessibility measures would be assessed and reported annually at the State level and also at the institution level.

## Appendix 1.11

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### State Operating Funds for Regional Higher Education Centers Fiscal 2008

	<u>Funds per Estimated FTES</u>
Universities at Shady Grove	\$4,456
USM at Hagerstown	8,788
AACC RHEC at Arundel Mills	1,220
Eastern Shore	2,090
Higher Education Center at HEAT	458
Laurel College Center	909
Southern Maryland	740
Waldorf Center	622

Source: Maryland Higher Education Commission

## Appendix 1.12

### Higher Education Space Needs Net Assignable Square Feet

#### Current – Fall 2006

	Classroom	Laboratory	Office	Research	Total
4-year Public Institutions	(134,189)	(430,040)	(221,871)	(1,908,691)	(2,694,791)
2-year Public Institutions	43,724	(521,930)	(214,280)	N/A	(692,486)
<b>Total</b>	<b>(90,465)</b>	<b>(951,970)</b>	<b>(436,151)</b>	<b>(1,908,691)</b>	<b>(3,387,277)</b>

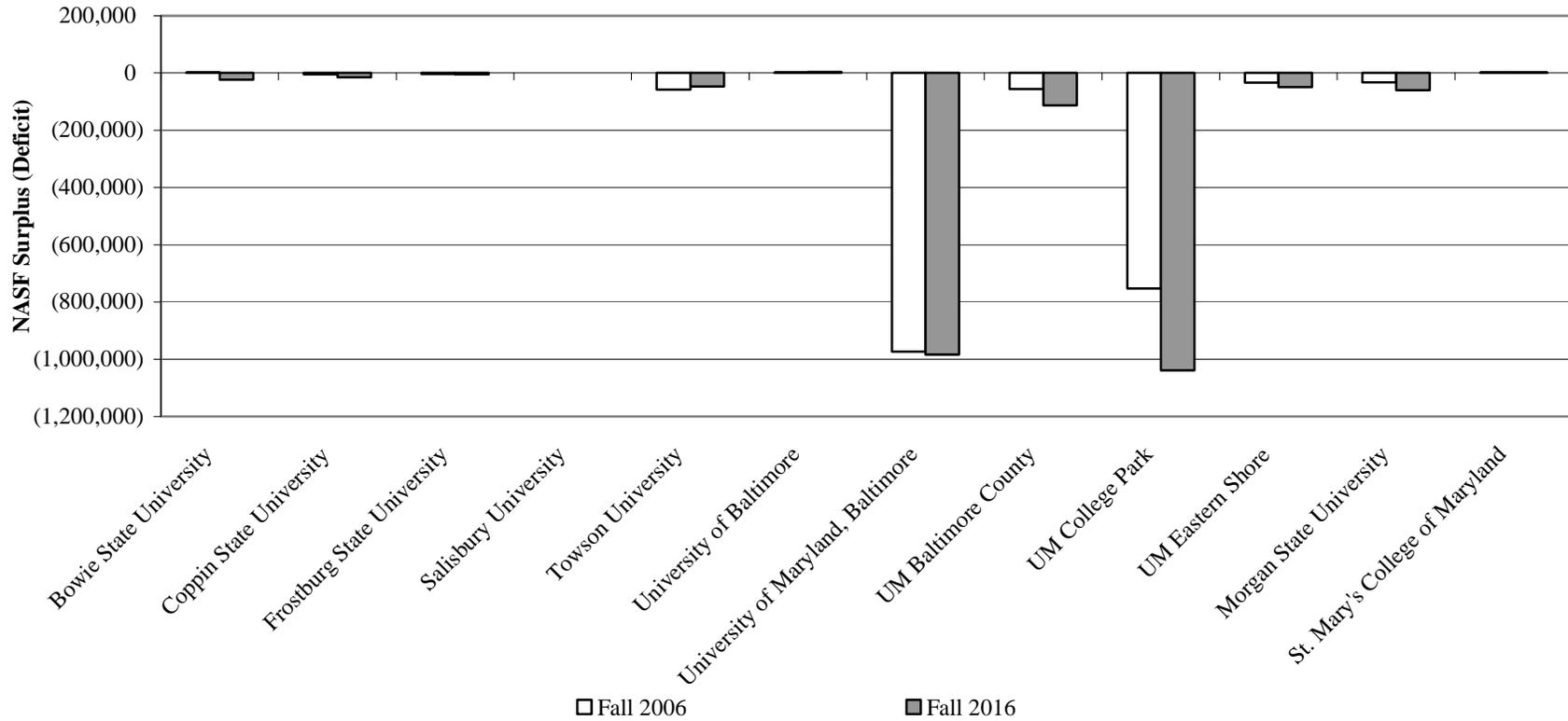
#### Projected – Fall 2016

	Classroom	Laboratory	Office	Research	Total
4-year Public Institutions	(377,551)	(829,081)	(766,887)	(2,330,905)	(4,304,424)
2-year Public Institutions	27,583	(680,993)	(341,166)	N/A	(994,576)
<b>Total</b>	<b>(349,968)</b>	<b>(1,510,074)</b>	<b>(1,108,053)</b>	<b>(2,330,905)</b>	<b>(5,299,000)</b>

Source: Maryland Higher Education Commission

## Appendix 1.13

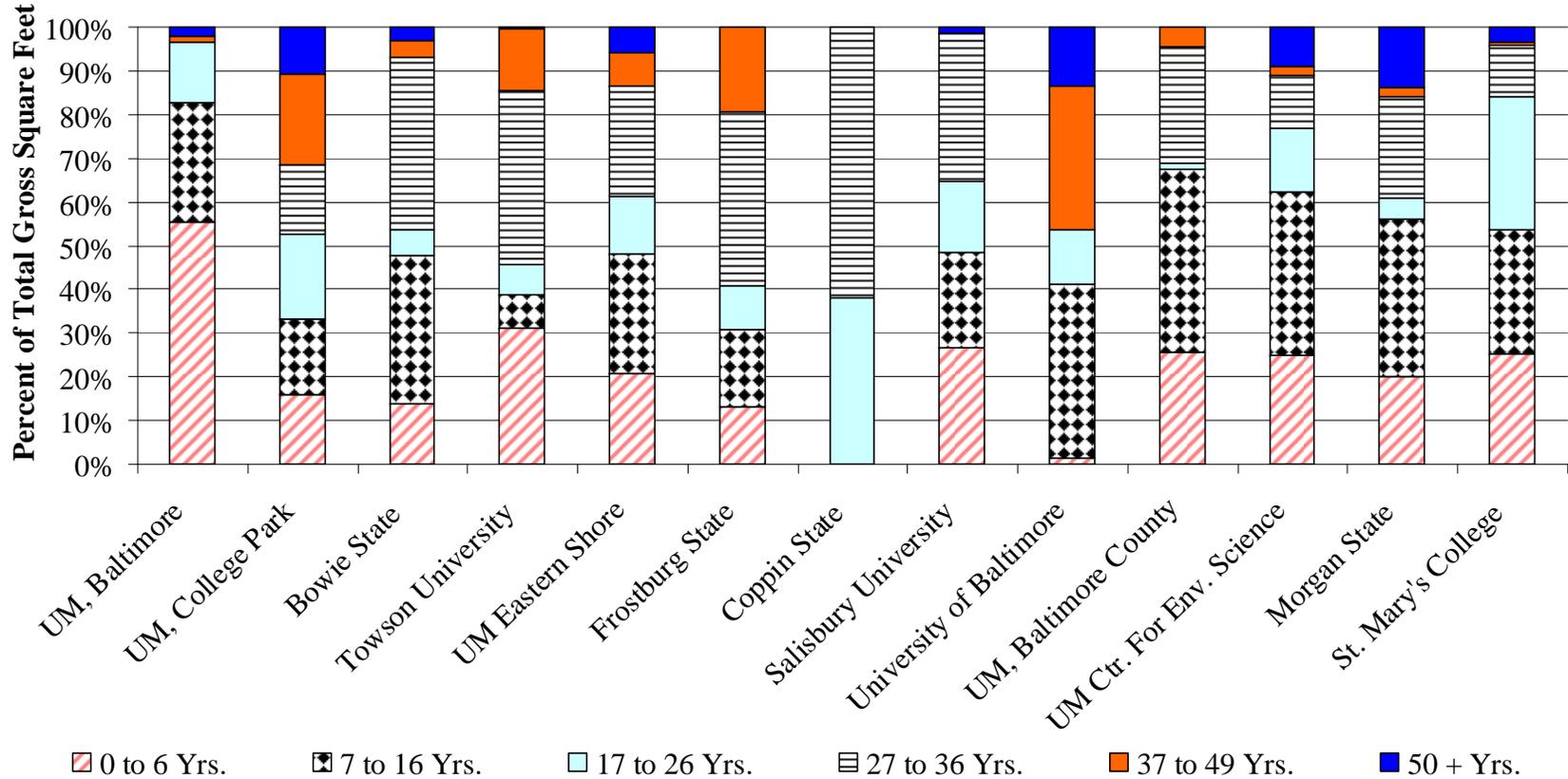
**Maryland Public Four-year Colleges and Universities  
Research Lab Space Surplus and Deficit  
Fall 2006 and 2016**



Source: Maryland Higher Education Commission

# Appendix 1.14

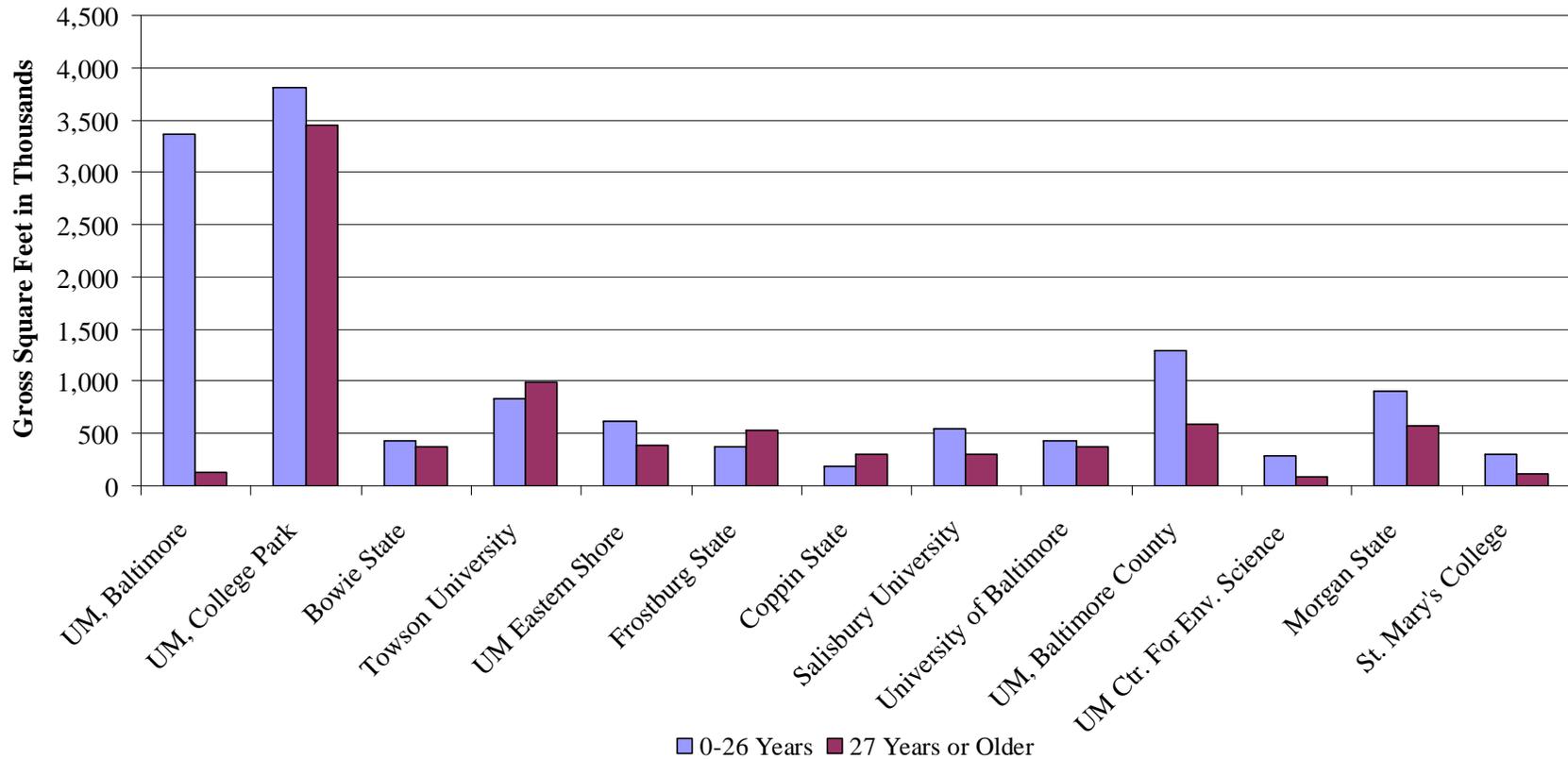
**Maryland Public Four-year Colleges and Universities  
Age of Gross Square Feet as Percent of Total  
Fall 2007**



Notes: Includes only State supported buildings open as of fall 2007. Represents age of buildings from date of original construction or most recent renovation.  
Source: MHEC Space Guidelines and Planning (SGAP) Report 2008

## Appendix 1.15

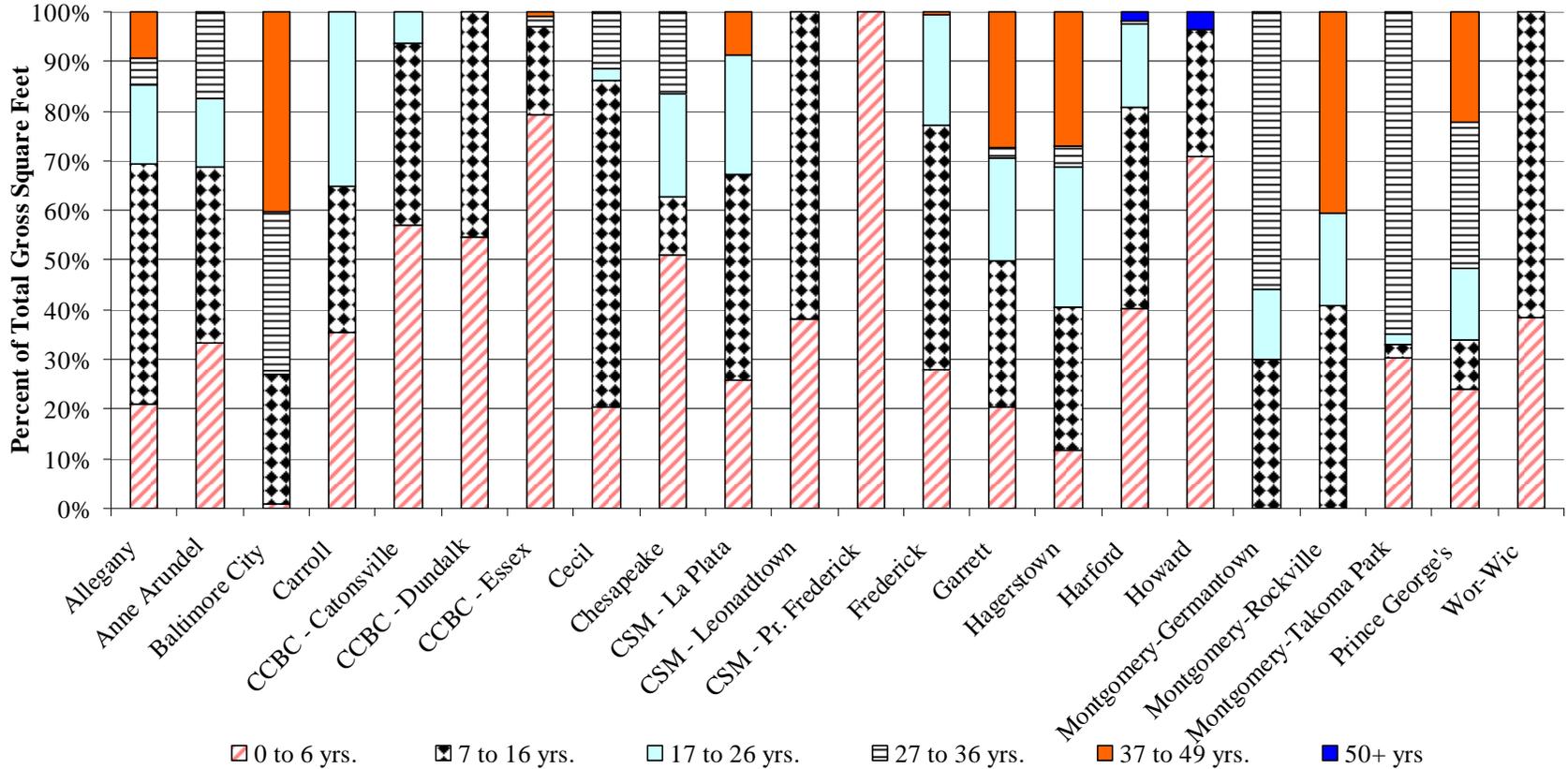
**Public Four-year Maryland Colleges and Universities  
Gross Square Feet by Age  
Fall 2007**



Notes: Includes only State supported buildings open as of fall 2007. Represents age of buildings from date of original construction or most recent renovation.  
Source: MHEC Space Guidelines and Planning (SGAP) Report 2008

# Appendix 1.16

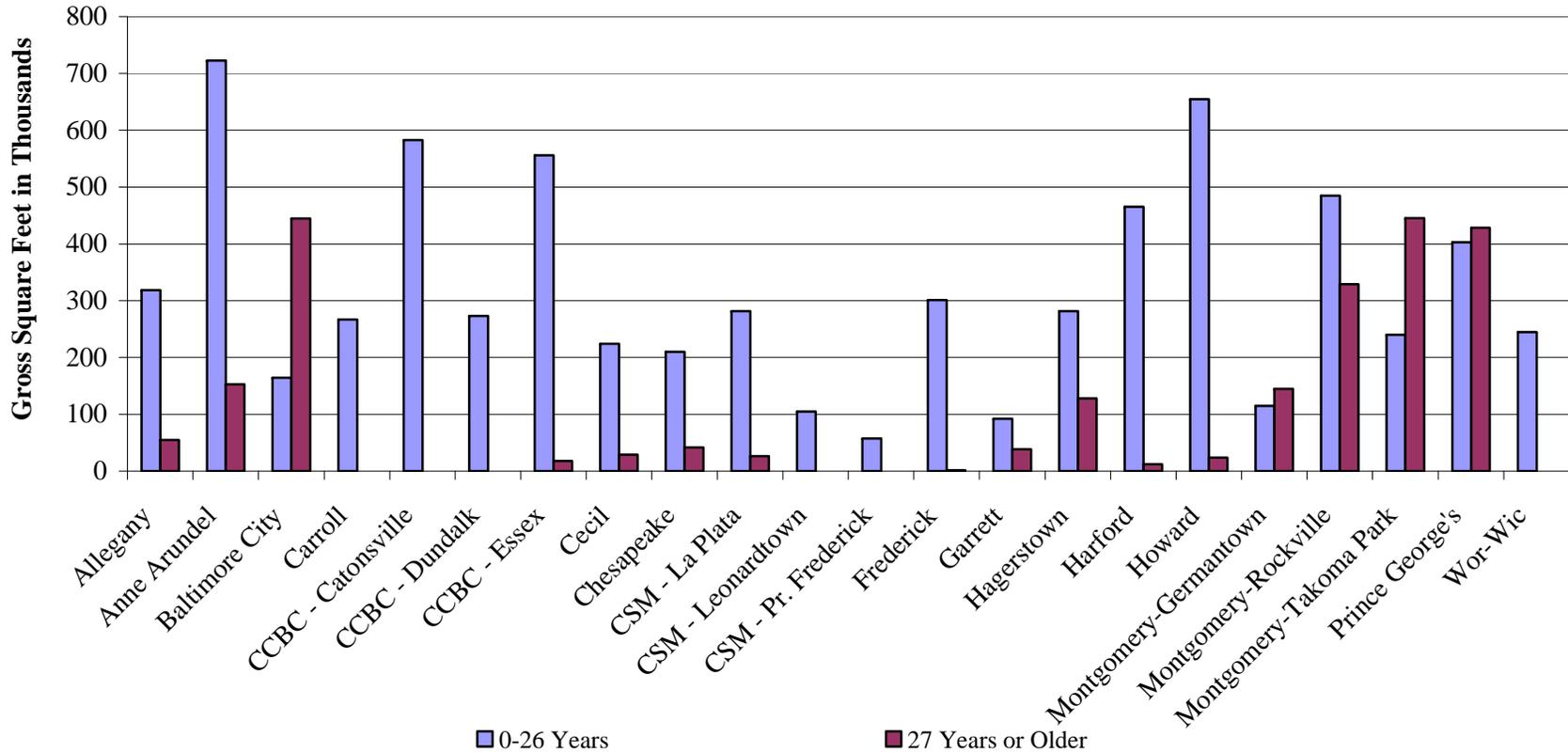
**Maryland Community Colleges  
Age of Gross Square Feet as Percent of Total  
Fall 2007**



Notes: Includes only State supported buildings open as of fall 2007. Represents age of buildings from date of original construction or most recent renovation.  
Source: MHEC Community College Facilities Inventory Reports 2008

## Appendix 1.17

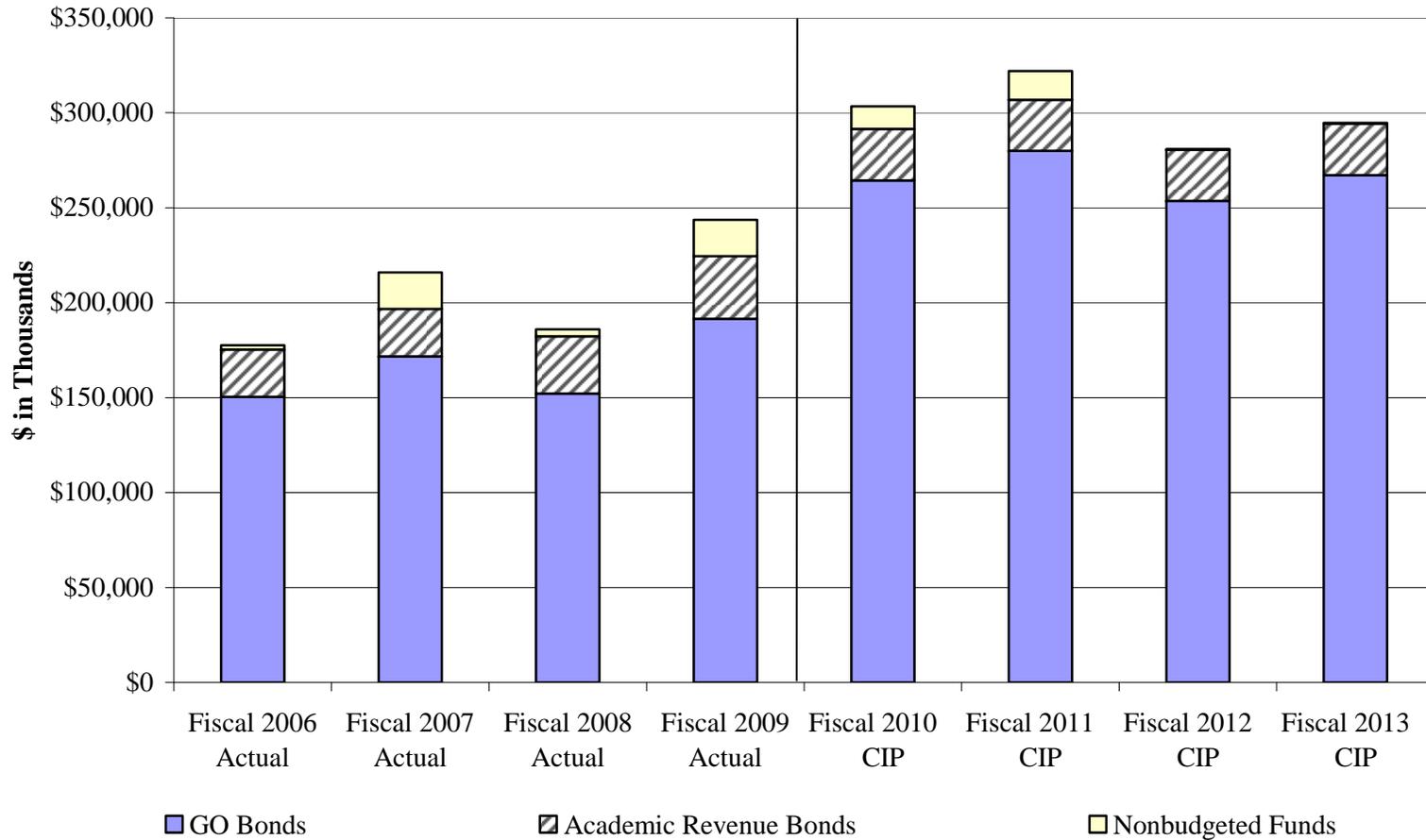
### Maryland Community Colleges Gross Square Feet by Age Fall 2007



Notes: Includes only State supported buildings open as of fall 2007. Represents age of buildings from date of original construction or most recent renovation.  
Source: MHEC Community College Facilities Inventory Reports 2008

## Appendix 1.18

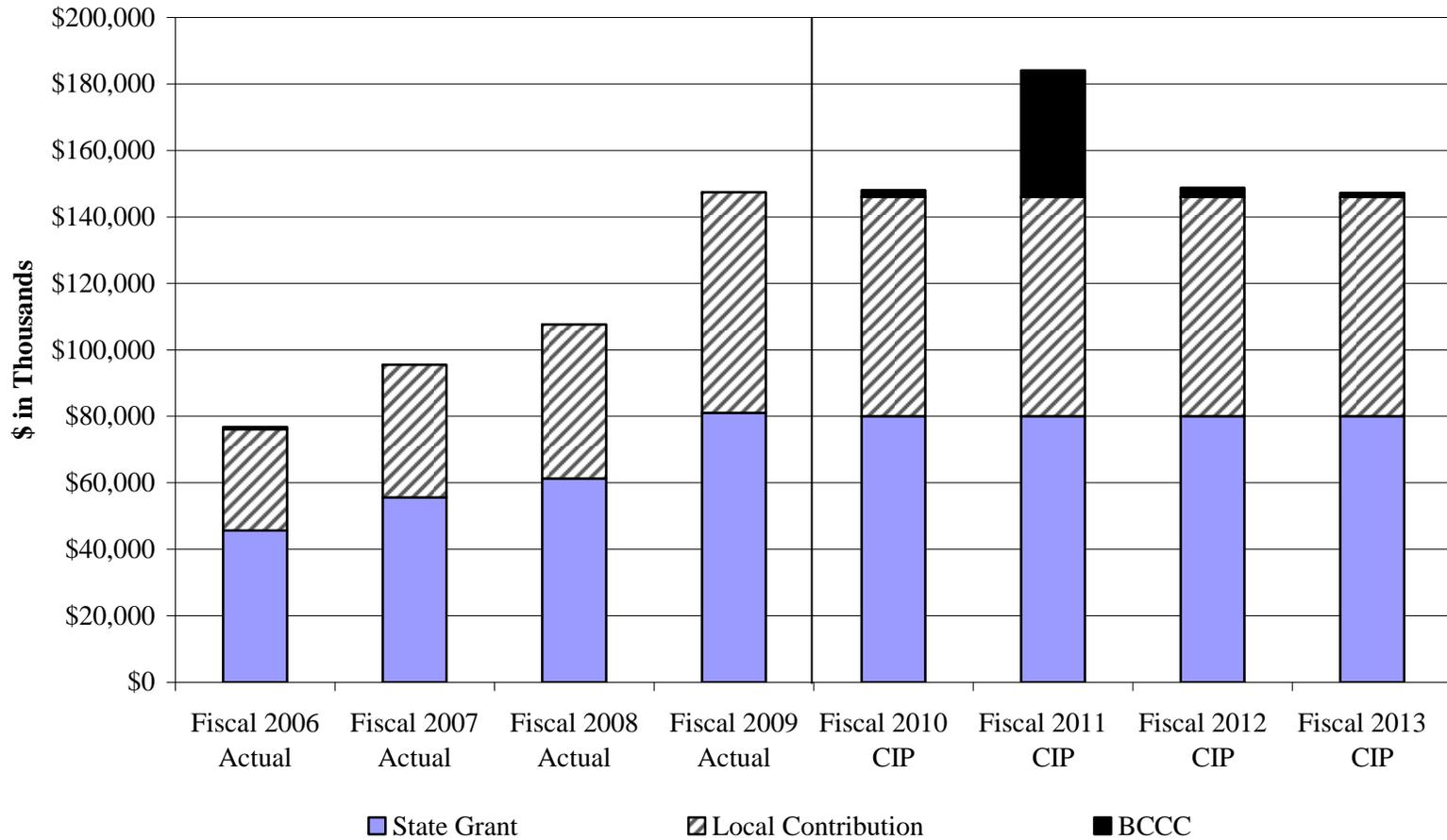
### Public Four-year Capital Budget



Note: Includes nonbudgeted funds. Excludes UMBI and UMCES as these are not degree-granting institutions.  
 Source: 90 Day Reports, Governor's Budget Books, Fiscal 2009 *Capital Improvement Program (CIP)*

## Appendix 1.19

### Community College Capital Budget



Note: The local contribution for fiscal 2010 through 2013 is estimated based on the contribution rate in fiscal 2009. Fiscal 2008 State Grant includes funding for Garrett College in addition to Community College Capital Grant Program funding.

Source: 90 Day Reports, Governor's Budget Books, Fiscal 2009 *Capital Improvement Program* (CIP), and Department of Legislative Services



## **Appendix 2**

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### **Report to the Maryland Commission to Develop the Maryland Model for Funding Higher Education**

**From**

#### **The Panel on the Comparability and Competitiveness of Historically Black Institutions in Maryland**

Panel members:

Patrick M. Callan  
President, The National Center for Public Policy and Higher Education

William B. DeLauder  
President Emeritus, Delaware State University

Franklyn G. Jenifer  
President Emeritus, University of Texas at Dallas

James M. Rosser  
President, California State University, Los Angeles

David S. Spence (Chair)  
President, Southern Regional Education Board

Judith A. Winston  
Former Under Secretary and General Counsel, U.S. Department of Education

November 11, 2008

## **I. The Commission's Charge to the HBI Panel**

### **Background**

The Commission to Develop the Maryland Model for Funding Higher Education was established during the 2006 legislative session by Senate Bill 959, the Higher Education-Tuition Affordability Act of 2006. The Commission includes senators, delegates, cabinet secretaries, college presidents, higher education association presidents and executive directors, members of the business community and members of the public. The Commission's charge is to review options and make recommendations relating to the establishment of a consistent and stable funding mechanism to ensure accessibility and affordability while promoting policies to achieve national eminence at all of Maryland's public institutions of higher education. Additionally, the Commission is charged with reviewing options and making recommendations relating to the appropriate level of funding for the state's historically black institutions (HBIs) to ensure that they are comparable and competitive with other public institutions.

### **The Charge**

The Commission appointed the Panel on Historically Black Institutions to study the policy and funding issues regarding Maryland's HBIs, to define the terms comparable and competitive, and to identify performance indicators or benchmarks that would compare Maryland's historically black institutions with the traditionally white institutions in the context of the state's Partnership Agreement with the United States Office for Civil Rights.

This report is intended to provide information and policy guidance to the Commission to Develop the Maryland Model for Funding Higher Education as it recommends appropriate levels of funding for Maryland's historically black institutions. It is not intended to assess Maryland's compliance with the legal requirements of *U. S. v Fordice* or Title VI of the Civil Rights Act.

The Commission's charge specifies the following responsibilities: 1) perform a study to define the terms comparability and competitiveness for Maryland's public HBIs with the public TWIs; 2) recommend performance indicators or benchmarks for determining the comparability and competitiveness of the HBIs with the TWIs; 3) examine funding levels of Maryland's HBIs to determine comparability and competitiveness; and 4) assist the legislative Commission to Develop the Maryland Model for Funding Higher Education in meeting its statutory charge to review options and make recommendations on the appropriate level of funding for Maryland's public HBIs to ensure that they are comparable and competitive with other public institutions of higher education based on Carnegie classifications and institutional mission.

In addition the charge outlines the following tasks:

- Consideration of the impact of state key policies; funding, program review, mission.
- An examination of the programs, resources, and facilities at the TWIs and HBIs, including site visits as appropriate.
- An examination of the racial and socioeconomic enrollment patterns at the TWIs and HBIs.
- An examination of the student success trends at the TWIs and HBIs, considering the academic preparation of students.
- An examination of student access at public institutions.

The charge also requests a review of the methods and measures used by other states that could serve as examples for Maryland in determining parity between TWIs and HBIs in funding, academic program offerings, enrollment diversity, campus facilities, student success rate, and any other factors determined to be relevant.

The Commission's charge specifically requests recommendations for:

1. Definitions of the terms "comparable" and "competitive" as they relate to Maryland public education institutions; and
2. Specific measurable performance indicators or benchmarks for determining the comparability and competitiveness of the HBIs with the TWIs.

The Commission's charge to the Panel was to avoid assessing compliance with the 2000-2005 Partnership Agreement. However, the Commission's charge also requests the Panel to conduct its study and analysis to determine comparability and competitiveness and their benchmarks and indicators "within the context of the state's Partnership Agreement with the U. S. Office of Civil Rights."

The Panel attempted to implement this carefully-drawn distinction by focusing on Commitment 9 of the Partnership Agreement, which contained two major elements:

1. Specific commitments regarding concrete actions to be taken, including the following:
  - Enhance funding in the areas of admissions management, student financial aid administration, and institutional development programs directed toward identification of "best practices" and the development of strategic plans in each of these areas.
  - Increase funding for Access and Success by doubling its current funding of \$3 million by FY 2003.
  - Provide a 2:1 match for HBIs under the Private Donation Incentive Program.

- Commit to the expeditious completion of the following capital improvements at Bowie State University (BSU), the University of Maryland Eastern Shore (UMES) and Morgan State University (MSU):

Bowie State

- Campus Site Development
- New Science Building

UMES

- Food Science and Technology Center
- Social Science, Education and Health Science Building
- New Physical Plant Building
- Renovate Waters/Somerset Halls

Morgan State

- New Communications Center
- Science Research Facility w/Greenhouse
- Montebello Site Improvements

- Conduct an independent study leading to a comprehensive strategic plan for the revitalization of Coppin State University.
- Enhance Boards of Visitors at the HBIs.

2. The second component of Commitment 9 is concerned with the “broader goal of making certain that the HBIs are comparable and competitive with the state’s TWIs in all facets of their operations and programs,” including:

- The distinctiveness of the HBIs’ programmatic missions.
- The uniqueness and mix of quality academic programs that are not unnecessarily duplicated at proximate TWIs.
- Operational funding consistent with the mix and degree level of academic programs, support for the development of research infrastructure, and support consistent with the academic profile of students.
- Lower student-faculty ratios appropriate to support their missions.
- The expanse, functionality and architectural quality of physical facilities;
- The appearance, attractiveness, and ambiance of the campus and surrounding public infrastructure; including roads, lighting, and public transportation.
- Funding to support students’ quality of campus life.

The Panel focused its reviews and analysis on the second, broader commitment of Commitment 9 related to a clear, more specific definition of comparable/competitive. We did so, mindful of two assertions:

- The official state response to OCR in 2006, stating that the specific actions committed to in Commitment 9 had been accomplished.
- That the Commission charge asked us specifically to address the broader element of the commitment – namely, how the state should more finely address the broader (and less defined) goal of comparability and competitiveness.

## **II. Putting the Charge in its Proper Context: Past to Present**

Defining the terms “comparability” and “competitiveness” in the context of the public institutions that comprise the Maryland system of higher education cannot be accomplished without first understanding the context in which these terms have become relevant to higher education funding. In Maryland, that context is a long history of racial segregation and disparate treatment at both the public post-secondary and elementary/secondary levels of education and decades of attempts to implement fully a federally required desegregation plan designed to eliminate the effects and vestiges of the prior dual system of higher education.

As stated earlier, this panel’s mandate does not include the responsibility to determine whether Maryland has met its legal obligations under federal law. However, the panel has no doubt that its deliberations, findings, conclusions and recommendations – like the current status of the HBIs – will be closely linked to the continuing effects and vestiges of policies and practices supported by many decades of a dual system of public higher education in Maryland. The terms “competitiveness” and “comparability” are often used as terms of art in the federal government’s evaluation of whether the state has remedied state-sanctioned racial discrimination in its public colleges and universities and eliminated where practicable the vestiges of that discrimination as required by both U. S. Supreme Court decisions in Brown V Board of Education and U. S. V Fordice and Title VI of the 1964 Civil Rights Act.

The federal government first cited Maryland for failure to dismantle its dual system of higher education in 1969. Over the next three decades, Maryland attempted to resolve its compliance status under federal civil rights laws through the submission of a series of desegregation or consent plans. The most recent, the 1999 Partnership Agreement between the State of Maryland and the U. S. Department of Education, committed Maryland to enhance the HBIs by among other things making them “comparable and competitive” with the TWIs. However, while the state identified and implemented several “enhancement” projects and funding commitments, it failed to establish benchmarks, standards, or indicators to determine how and when the HBIs would be deemed “comparable” to and therefore able to become “competitive” with the state’s TWIs. As indicated above, the HBI Panel has been asked to advise the state on the development of such benchmarks, standards, and indicators to assist the state in developing funding guidelines and formulas for supporting HBIs in reaching the goals of comparability and competitiveness.

Specifically, the state indicated in its June 19, 2006 response to the Office for Civil Rights (U. S. Department of Education) that “the task of determining that the HBIs are “comparable and competitive” with the state’s TWIs in all facets of their operations and programs resists simple assessment, since the language of the commitment lacks clear and measurable specificity.” The state goes on to promise that it will “undertake the development of measurable indicators in areas required to achieve parity among the TWIs and HBIs.”

### **A Note from the Panel**

The Panel wishes to make a point that otherwise might go unnoticed in the context of this report’s findings and recommendations on making Maryland’s HBIs comparable and competitive with other state institutions. The conclusions below outline significant steps the state should take to ensure the HBIs attain such status.

However, what should not be lost and is highly significant is that the state of Maryland has initiated on its own this examination of the specific meaning of the terms comparable and competitive. We know of no other state that has committed to being so explicit about these standards and terms.

We note below how these concepts have tended to be more terms of art than objective criteria as applied heretofore in Maryland and in other states. Without more specific definitions of the goals and standards, it is difficult to gauge where HBIs stand and what is needed to improve their positions.

In taking this initiative, Maryland has become the first state to ask not simply for more specific definitions of comparable capacity, but also what it means to be competitive in terms of outcomes and results. In doing so, Maryland, on its own, has reached for not only a more specific standard — but a higher and more exacting one, which demonstrates its commitment to strengthening the HBIs and the Maryland system of higher education as a whole.

## **III. The Panel’s Approach and Process**

The HBI panel recognizes that a “simple assessment” and measurement of “comparability” is both difficult and complex. Moreover, identifying the moment in time when comparability has been achieved is challenging, if not wholly impossible. A better approach, though no less complex and challenging, in the Panel’s view, is the development of an analytical process and a series of strategic steps that will enable the HBIs to develop the capacity to compete at all levels with other public institutions of higher education in Maryland. The Commission’s charge to the Panel portends its intent to pursue a more strategic approach to the enhancement of HBI

programs and facilities to eliminate any vestiges and effects of prior discrimination and the disadvantages created by the cumulative shortfall of funding over many decades. The charge also portends an intent to adopt a strategic funding plan to acknowledge that shortfall and appropriate funds over time that will build the capacity of HBIs and make them comparable in terms of quality and resources to the state's public TWIs. Comparability once achieved will place HBIs in the position they would have been, absent the perpetuation of discriminatory policies and practices, to compete effectively with other public institutions in the state.

There are many indicators that suggest that substantial additional resources must be invested in HBIs to overcome the competitive disadvantages caused by prior discriminatory treatment: the lack of modern "state of the art" science and technology labs, the aging physical plants and lack of consistent funding for maintenance, the poor retention and graduation rates of students as compared to TWIs, and the large number of low income and educationally underserved students in need of financial assistance. Indeed, one can reasonably assume that had the state consistently treated HBIs over their lifespan in a manner comparable to the treatment of TWIs, the HBIs would currently be competitive with other public institutions in these and other aspects of their operations both at the undergraduate and doctoral levels. The goal is to adopt a set of policies and practices that ultimately lead to the achievement of a public higher education system of national eminence in Maryland.

The Panel has attempted to be faithful and responsive to the Commission's charge by developing definitions of the terms "comparable" and "competitive" within the context of Maryland's examination of support for higher education institutions. The Panel then identified a series of indicators, and, in some cases, benchmarks that give meaning and specificity to those terms. In the spirit and intent of the Commission's charge, we went further and attempted to measure how comparable and competitive the HBIs are with respect to the TWIs in Maryland and to identify the level and nature of support needed to address any differences or deficits.

The Panel organized its early work according to the following interpretations of comparable and competitive and their associated benchmarks and indicators:

We attached the term "comparable" to describe institutional comparisons of capacity, which refers to resources, including various student and faculty inputs, programs, facilities, funding and other factors. In other words, we examined those indicators whose organized and effective interaction enables an institution to generate instructional, research and service outcomes.

We used "competitive" to refer to comparisons across institutions of their outcomes or results, such as degree production, student graduation rates, external funding generated, etc.

We used “indicators” to describe the specific capacity and outcome factors that we used in the comparisons.

“Benchmarks” refer to the levels of capacity and outcome indicators that specify desired levels of capacity that lead to competitive outcomes.

The Panel quickly recognized that a straightforward, traditional comparison of Maryland HBIs and TWIs across a common set of definitions and indicators of institutional capacity and outcomes would not work, owing to some crucial limitations:

- First and most important, the mission of the HBIs in providing an undergraduate degree is substantially different and more challenging than that of the TWIs. 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?
- Second, the Panel’s examination of the comparative status of doctoral-level education in the HBIs was limited by Morgan State University having no Maryland university peers in its Carnegie Classification. The Commission’s intent that we focus on Maryland institutions within the same Carnegie class limited the Panel’s ability to perform a traditional comparative analysis as intended.

The Panel agreed that, with these limitations, a simple assessment and measure of comparability at one moment would not be possible or accurate. Accordingly, the Panel developed its own approach for determining the HBIs’ comparability and competitiveness. This strategy applies separately to undergraduate education and doctoral education in the following ways:

1. A definition of the outcomes or results that will render the HBIs competitive with TWIs. In undergraduate education, we recommend a focus on attaining similar graduation rates as those of the TWIs. In doctoral education, we suggest the

traditional outcomes of degree production, external grants generated, and placement of doctoral graduates.

2. A description of a state process for determining the kind and level of capacity needed to produce the competitive outcomes. This process recognizes that simple comparisons of HBI and TWI capacity will not be effective either in undergraduate or doctoral education. For undergraduate education, the task will be to specify the different or greater capacities the HBIs will need to reach the same graduation-rate levels as the TWIs. For doctoral education, in the absence of relevant institutional comparisons within Maryland, the Panel built a strategy and model describing the specific indicators of quality doctoral universities – both in terms of institution-wide and program characteristics.

Below, we outline a process based on the judgments of academic and policy experts to determine the specific nature of the needed capacity. The goal should be to ensure HBI capacity that enables each institution to generate competitive results.

In doctoral education, effective capacity will mean that the institution has both the institution-wide platform and program indicators that are present in quality doctoral universities with similar programs

In undergraduate education, effective capacity at the HBIs will signify a different and even greater capacity required to achieve similar outcomes as the TWIs.

### **Organization and Conduct of the Study**

The Panel organized its study, analyses, findings and recommendations of the comparability and competitiveness of Maryland's HBIs into four areas:

1. Undergraduate Education: Capacity and outcome indicators were identified and a subset of them was used to compare the four HBIs with three selected TWIs – Salisbury University, Towson University and the University of Maryland, Baltimore County. Recognizing the constraints inherent in this sort of traditional analysis, the Panel outlines and recommends a different approach to determining and moving toward needed capacity and competitive outcomes.
2. Doctoral-Level Education and Research: The Panel identified a series of indicators against which the capacity and outcomes of universities in doctoral education and research can be measured and compared. Morgan State University's doctoral capacity and outcomes are referenced to a model description of the essential indicators of quality doctoral universities and programs. The Panel recommended a strategy for developing the specific enhancements needed to achieve comparable capacity and competitive outcomes. UMES' special status in doctoral education was recognized and a similar strategy recommended.

3. General Institutional Facilities and Operations: Through on-site visits and available data analysis, the Panel attempted to assess the comparability of facilities and related space of the HBIs in relation to selected TWIs.
4. State program Approval and Improvement, Funding and Accountability: The Panel notes the important statewide functions of program approval and improvement, funding and accountability and the need for these procedures to be closely aligned and applied more effectively.

These comparative analyses were conducted through campus visits in which the Panel heard presentations of facts and opinions, interacted with faculty, staff and students, and observed facilities, equipment and space. The Panel visited the following campuses: Bowie State University, Coppin State University, Morgan State University, Salisbury University, Towson University, University of Maryland Baltimore County, and the University of Maryland Eastern Shore.

The Panel also analyzed volumes of reports and analyses provided both by institutions and various state agencies. The Panel took care that any conclusions drawn were based on data and reports that in most cases were confirmed by multiple sources, including universities and government agencies.

#### **IV. Comparability and Competitiveness in Undergraduate Education**

Maryland's per-capita income and economic success is directly related to its high rate of bachelor's degree attainment. Historically high, Maryland will be increasingly challenged over the next 15 years to maintain or increase higher education attainment levels. This is because:

- The populations growing the most through 2021 will be from African-American, Hispanic and other minority groups. These groups historically have had lower rates of higher educational attainment, owing in the past to a relative lack of opportunity and more recently to lesser preparation for college related to income and educational background.
- The change and challenge posed by Maryland's population trends can be seen clearly in the proportions of high school graduates: In 2009, 52 percent of the year's graduates will be white, but by 2021, 38 percent will be white.
- Currently, the educational gaps between white and African-American students are large in high school graduation, preparation for college and college-going and degree attainment.
- Maryland's challenge is to find ways to bring the college-going rates and attainment of the faster growing lower income groups to levels commensurate with whites to ensure the state's continued economic success.

- While every public community college and university needs to increase access and help students from lower-income families achieve higher bachelor's degree attainment, HBIs are uniquely positioned to play the largest role owing to their historical mission and effectiveness in meeting the needs of these students.

Effective undergraduate education needs to be the highest priority for HBIs and all of higher education given the fundamental role undergraduate education plays in higher education.

- The bachelor's degree has the highest currency for most students and its economic value is increasing.
- Quality undergraduate education is prerequisite for successful graduate and professional education attainment.
- The gaps in degree attainment between African-Americans and whites are great at both undergraduate and graduate levels. While larger gaps exist in graduate education, the only way is to close them simultaneously.

### **Analysis and Findings**

To determine the comparability and competitiveness of the HBIs with the relevant Maryland TWIs, the Panel identified a set of indicators descriptive of the critical components of institutional capacity, on one hand, and institutional results or outcomes on the other (Table A-1). These indicators reflect many of the performance indicators already being used in the state funding process but also include others.

Using those indicators for which data could be obtained, the Panel compared the four HBIs and three TWIs in both capacity and outcomes. All seven universities were compared to each other because undergraduate education in all universities is expected to share similar outcomes and elements of capacity. The Carnegie Classification applies only to graduate education.

This traditional, routine comparison yielded the following findings (Table A-2):

1. The findings are clear with respect to the very different kinds of students served by all of the HBIs compared to the selected TWIs.
  - SAT scores are lower by 200 to 250 points
  - Much higher percentages of HBI students are lower income and minority.
2. On the more traditional capacity indicators, the HBIs show more similarity with the TWIs.
  - Student-faculty ratios are similar.

- Funding per student indicators are similar.
  - Percentages of faculty who are full-time vary, but not specific to HBI or TWI status.
3. The comparison of outcome indicators reveals large gaps in performance (competitiveness).
- HBI graduation rates are 20-30 points lower
  - HBI undergraduate programs yield fewer degrees per 100 students enrolled.
  - HBI second-year retention rates are lower.

These comparisons show more similarities than differences on traditional capacity indicators but do not take into account the fact that HBIs require additional funding in order to successfully carry out their broader missions.

The Panel holds, accordingly, that the Commission should consider a different approach as it seeks to determine the kind and level of HBI capacity needed to be competitive. This approach centers on identifying those institutional actions needed for an HBI to improve graduation rates significantly. The very different and greater challenges faced by HBIs in terms of student preparation and affordability should determine the specific capacity required by the HBIs, not a strict comparison to that of TWIs.

Moreover, this identification of what HBIs need to do specifically to help students graduate at far higher rates likely will not be assisted by currently identified indicators or benchmarks. This is because there are few or no institutional examples of success in this endeavor. Graduation rates in U. S. higher education remain almost wholly tied to the education preparation and income of beginning students. Few institutions have been able to counter the effects of prior under preparation and low income on graduation rates. In a real way, Maryland will have to construct its own definition of what capacity is needed.

HBIs need a different form and level of capacity because unlike the TWIs, the HBIs have a dual mission: (1) to carry out their regular collegiate programs and associated functions to the best of their abilities and (2) to provide strong programs in developmental education to ensure access and success to students, mostly from low-income families, who otherwise would not have an opportunity to pursue a bachelor's degree.

The HBIs are not funded at appropriate levels to carry out both parts of this mission at once. Given the rapidly changing demographics in the state and the great disparity that continues to exist between bachelor degree attainment levels of white compared with black residents of the state, the HBIs are providing an invaluable service to the state in its commitment to helping underserved students, and in preparing African Americans for the Maryland workforce. In FY 2004, 46.2 percent of all Maryland

high school graduates enrolled in a Maryland 4-year college or university. That percentage for African Americans was 38.6. Approximately 60 percent of African Americans enrolled in a public college or university within the state are enrolled at an HBI (excluding UMUC that enrolls students at multiple sites both within and outside the U. S. and enrolls a large percentage of nontraditional students.) In 2006-07, only 19.7 percent of the total number of bachelor's degrees awarded by Maryland campuses went to African Americans. Approximately 40 percent of these were awarded by the HBIs.

The consequences of serving a higher percentage of students from low-income families include the following:

1. HBIs must expend a higher percentage of revenue toward student financial aid;
2. HBIs must charge lower tuition and fees because students cannot afford higher costs. Consequently, in FY 2007, the revenue from tuition and fees for HBIs is on the average \$1,500/FTE student less than that of TWIs (this analysis excludes UMUC and St. Mary's College because of their unique status);
3. The HBIs' graduation rates are less than that of the TWIs because of the challenges associated with graduating students from low-income families at the same rate as that of students from higher income families; and
4. HBIs must expend larger portions of their budgets toward developmental education and academic support than TWIs.

This new approach to determining comparable capacity and competitive outcomes is based on the following principles:

1. Undergraduate education should be the first priority of all state universities and the bachelor's degree should be recognized as the key credential in advancing minority attainment, closing achievement gaps and reversing the cycle of low family income, educational background and college attainment levels. Increasingly, the bachelor's degree is the key to economic and social success.
2. All state universities share this mission and all must have the capacity to help students earn the bachelor's degree at similar, competitive rates.
3. The most significant indicator of undergraduate program outcome and competitiveness is the graduation rate. An institution will be seen as competitive if it can help high percentages of students earn a degree.
4. The capacity of undergraduate programs should be judged by the extent to which the programs help students graduate. We call this "effective capacity." Different

programs may have the same levels across the same indicators of capacity (student-faculty ratio, funding, and faculty characteristics) and yet result in highly different graduation rates. In these cases, the Panel holds that capacity is not comparable in that it does not lead to similar graduation rates.

5. In this context, assuring the comparability of a university's undergraduate education capacity requires taking into account the challenge of the task, the differential difficulty faced by different institutions in helping their students earn a bachelor's degree. In other words, universities that enroll students with significantly less educational preparation and readiness for college will require a very different kind of capacity.
6. The HBIs serve a different and higher-need student population. While most of the Maryland TWIs also have students with developmental educational needs, the under prepared student composes a much higher proportion in the HBIs. In this circumstance, HBIs require greater and different capacity than TWIs to produce similar outcomes.
7. The Panel suggests that HBI capacity be deemed comparable when it has the programs and services it needs to help its higher-need students to graduate.

#### **Strategy for Making HBIs Effective in Capacity and Competitive in Results**

With the preceding as background, the Panel recommends the following:

1. The capacity of HBIs in undergraduate education should provide the opportunity to raise graduation rates to levels approaching those of TWIs. Graduation rates should be the primary criterion determining competitiveness in HBI outcome or results. The graduation rate benchmark for Coppin State University may need to recognize its low beginning baseline.
2. The HBIs as a group, coordinated by the Maryland Higher Education Commission and assisted by national experts, should outline in detail those programs and services needed to ensure that lower-income, lesser-prepared students eventually graduate. These programs and services may extend from pre-admission work with feeder high schools to summer bridge programs to first-year freshman programs and through graduation.

The primary focus of these services should be on academic achievement. The programs should address specifically the improvement of learning skills, especially reading, writing and mathematics.

These services also should provide for the continuous advising and monitoring of student progress and appropriate intervention. These services should employ the

latest effective technology that maximizes the connection of students with needed advising, counseling and individualized learning and learning tutorials.

The faculty and staff resources needed to implement these services and programs should be identified and the cost estimated. The nature of the professional resources required should be carefully evaluated according to student need. It is most likely that many of these student needs are best met not necessarily through tenure-track faculty but through full-time academic professionals with specialized preparation in learning skills development and subject-based learning.

These programs should be comprehensive and be planned using criteria shared by all HBIs (and certain TWIs if relevant). The Panel notes that Towson University has planned a comprehensive and impressive student assistance program. However, HBIs and TWIs in Maryland currently have student bodies with significantly different academic needs and characteristics and the best practices at each may not automatically translate into best practices at another.

Each of the HBIs offers a range of the contemplated services and programs in some form. The Panel recognizes the state-supported “Access and Success” grant program aimed at improving student achievement and graduation. We find an absence of suitably-specific and common criteria that shape these programs. This program also lacks the nature and level of goals and accountability that we have in mind.

3. The dominant focus on learning skills in these programs is reinforced by the knowledge that such skills (reading, writing and math) are the most important predictor of eventual graduation. The Panel estimates, and research data confirm, that at least 80 percent of HBI students need further preparation to succeed in college if reasonable readiness standards are applied. For HBIs to become competitive with TWIs in graduation outcomes, HBI capacity must be able to address the needs of the great majority of their entering students.
4. These programs should be based on a common, statewide definition of college readiness in the form of specific statewide standards in reading, writing and mathematics. These standards should be established statewide and applied through common placement/readiness tests taken by all admitted students. These standards should specifically focus on the developmental programs and be used as the criteria for determining when students have achieved a level of college readiness. Meeting these standards coupled with successful course completion and eventual college graduation should provide the measure of these programs’ effectiveness.

5. These student academic assistance programs should be available to any university that enrolls a significant proportion of low-income, under prepared undergraduate students.
6. The Panel believes strongly that increasing the capacity of HBIs in undergraduate education in the above ways to be the first priority for additional state support.
7. The Panel also notes that HBIs serve students who disproportionately have greater unmet financial needs. Compared to students in the TWIs, students attending HBIs find a college education much more difficult to afford. While these more needy students qualify for need-based federal and state aid, it is highly likely that a large number of these students have unmet financial need along with unseen greater financial burdens and responsibilities.

In furtherance of its recommendations, the Panel makes the following observations:

- That affordability is a critical factor in students staying in college and eventually graduating.
- That many students at the HBIs (and in the TWIs to a lesser extent proportionately) have unmet financial need that affects their successful attendance.
- That the HBIs, to a greater extent than TWIs, must constrain tuition and fee charges in recognition of the income status of their students.
- That HBIs, to a greater extent than TWIs, need to redirect portions of their tuition and fee revenue to support lower income students.

Accordingly, the Panel further recommends that Maryland consider augmenting its need-based student assistance programs so that affordability is increased for lower income students at all public universities. This, of course, will affect HBI students, and HBIs, disproportionately.

## **V. Comparability and Competitiveness in Graduate Education: The Doctoral Level**

### **Maryland's Process for Planning, Mission and Program Approval, Funding and Accountability**

In carrying out its charge from the Commission to define comparability and competitiveness, the Panel's attention was frequently directed to historical and contemporary situations and circumstances that, while related to funding, were caused or affected by other parts of the state's process for coordinating higher education. Understanding the development and nature of this coordinating process has become particularly relevant to our deliberations over capacity, comparability and

competitiveness among Maryland doctoral institutions and the doctoral programs offered at these institutions.

We refer to the process by which a state sets university missions, approves new programs, funds them through some model or process, and then holds universities accountable for results. Whether intentional or not, the past treatment of the historically black institutions in this process in contrast to the treatment of other public institutions in the state has had the effect of substantially marginalizing the HBIs and their ability to develop and maintain comparable quality and competitiveness in the state's system of higher education. This is especially the case with respect to the doctoral granting status of Morgan State University (MSU) and the University of Maryland, Eastern Shore (UMES).

The current result of these longstanding past practices is that there exists a substantial lack of comparability and capacity (as compared generally with quality doctoral granting institutions both in and outside of the state, taking scale and composition into account) at both MSU and UMES (whose status as a doctoral granting institution is somewhat different from that of MSU). The substantial lack of comparability, and therefore the inability to be competitive, exists both in terms of the institutional platform upon which doctoral programs must be built and sustained, and with respect to the quality and nature of the specific doctoral programs offered by these two HBIs.

The Panel wishes to comment on one part of this process that has produced serious current consequences and led to confusion and concern about current funding levels of higher education programs in Maryland. This aspect of the higher education coordinating process in Maryland is best characterized by the common refrain from the HBIs, and others well-acquainted with Maryland public higher education, that the programs exist but are not funded, either at all or funded inadequately. This situation could be caused in several ways:

- The institution is receiving funding but chooses not to apply it to a program;
- The institution stated before approval that it could fund the program out of its existing resources; and/or
- The state approved a program without ensuring that funding would be available either through the state, the institution, or a combination thereof.

Each of the two doctoral-level HBIs has multiple graduate programs that have been approved by the state but for which each claims to have received no specifically-designated state support. At this point, it is probably not helpful to “roll back the clock” and review motivation or assign responsibility for this situation. However, as stated in the earlier section of this report on undergraduate programs, we recognize the key and unfortunate role played in the distant past by a legally-enforced dual system in the development of the doctoral programs offered by the two HBIs. What is most important at this juncture is for the Commission to remedy both the lack of

comparability among the doctoral institutions and restructure the process that has caused the inequities and lack of competitiveness between the HBIs and the traditionally white doctoral institutions.

### **Defining and Measuring Comparability Among the Doctoral Granting Institutions**

Determining comparability and competitiveness in the graduate area is more complex than for undergraduate education. This is because:

- The number and kind of graduate programs, especially at the doctoral level, depend on defined institutional missions. Most public institutions do not offer doctoral programs; those that do, offer different kinds and numbers by state design.
- Doctoral programs that are research- and academic science-based are relatively lower-demand and higher-cost programs. Consequently, an accepted and key tenet of state coordination and planning policy is that the number and kind of graduate programs in any state must be limited by state needs and available funding. In contrast to undergraduate education, in which all or most institutions are expected to have a full set of basic programs, in graduate education the programs must be assigned and coordinated carefully according to what a state needs and can afford.
- Virtually all states experience a number of public institutions wishing to offer more graduate programs than a state can afford, or truly needs. A constant tension exists between institutional aspiration and state coordination. This has been true in Maryland from at least the 1960s to present.

In its most recent publication, the Carnegie Foundation for the Advancement of Teaching (Carnegie Classifications Data File, June 11, 2008), classifies only three of Maryland's public universities as Doctoral-Granting Universities: Morgan State University (Doctoral/Research University or DRU), the University of Maryland Baltimore County (Research University – High or RU-H), and the University of Maryland College Park (Research University – Very High or RU-VH). Maryland has no public universities within the same Carnegie Classification as Morgan State. UMBC's classification of "Research University – High," is a step above "Doctoral/Research University". The University of Maryland College Park, the state's "flagship" institution of higher education, and one of the select universities in the United States belonging to the prestigious American Association of Universities, is the sole Maryland public university in Carnegie's highest research classification.

Although UMES is not classified by Carnegie as a doctoral level university, it offers programs at the doctoral level. Of these seven programs, three are applied degrees; two are first-professional degrees which, in these instances, are needed to begin practice in pharmacy and physical therapy. Two more of the UMES programs are

offered jointly with other Maryland public universities. The doctorates in Food Science and Technology, Marine Estuarine Environmental Sciences, and Organizational Leadership all have a research focus. Nevertheless, UMES is not classified as a doctoral-level university by Carnegie.

The Panel is aware of the fact that Bowie State University also offers two applied doctoral programs, one in Educational Leadership and the other in Applied Computer Science. As in the case of UMES, Bowie is not included in the Carnegie Classification system. However, because Bowie, unlike UMES, is not a land-grant institution and neither of Bowie's doctoral programs has a research focus, it fell outside of the Panel's focus on comparability and competitiveness at the doctoral level. In considering the status of Bowie in this area of its academic offerings, the State should be guided generally by the indicators, strategies and recommendations following regarding the capacity of specific doctoral programs.

### **Comparison of Morgan State University to Other Doctoral Universities**

As indicated above, Morgan State University is the only HBI in Maryland classified as a DRU doctoral university. MSU, founded in 1867, became a public institution in Maryland in 1939. However, its growth as a graduate institution traces to 1975 when it was authorized by statute to operate as a university that offers professional and graduate education as approved by its Board and relevant state authorities. MSU offers 15 doctoral programs currently.

MSU's first doctorate was in higher education and was approved by the State coordinating board in 1979. The next doctorates were approved in 1994, in engineering and history. Two more education doctorates were approved in 1995. The other ten doctorates were approved in 1999 or after.

UMBC's classification of "Research University—High", is a step above "Doctoral/Research University," and falls closest to MSU among Maryland public universities. UMBC was established as part of the University System of Maryland in 1966. It currently offers 23 doctoral level programs.

However, a direct comparison of MSU's doctoral program status to that of other similar universities in Maryland and outside is complicated in several ways. First, MSU has no Carnegie Classification doctoral university peer in Maryland.

Second, directly comparing MSU to similarly Carnegie-classified universities outside of Maryland, while possible, is not useful because such out-of-state comparisons do not address directly the desired focus on keeping the comparison between Maryland HBIs and TWIs. In addition, the 26 other universities in the U.S. with the same Carnegie classification as MSU, while all technically doctoral universities, represent a wide range of size and programs, funding support and mission, history and quality.

The Panel's attempts to compare doctoral-level education and research among possible comparable institutions have been further limited by the lack of comparable financial and facilities data from institutions both inside and outside of Maryland.

It was also impossible to compare funding support for specific programs. Simply comparing current or recent general fund appropriations per student for the entire university cannot yield the kind of program-specific information needed to determine comparable support (i.e., did other program priorities claim disproportional shares of this overall funding leading to inadequate support?).

Moreover, as an historical fact, MSU's ability to develop as a quality doctoral university has been slower than the other doctoral institutions in the state. Specifically, even taking into account scale and uncertainty over intended specific missions, the data show that MSU has been slower to develop as a graduate/doctoral university than UMBC over roughly the same period (from the mid-1970s forward). UMBC gained clear direction by the 1980s in terms of its institutional role within the state and developed its current program cohort at a faster pace. In comparison, MSU's development as a graduate and doctoral university occurred seemingly without the support of a state strategic plan that delineated and directed specific state support of its graduate mission. We have been unable to determine the extent to which the state's approval of MSU's doctoral programs carried with it specific funding commitments or the nature of any state oversight of subsequent program development.

We find a continuing lack of consensus between the state and MSU on how specifically to develop and support MSU's graduate/doctoral role. In 1975, the state statutorily authorized and approved MSU to offer doctoral and professional programs as an "urban-oriented institution." The statute did not define or provide further direction as to the scope of the doctoral level programs authorized at MSU. However, fifteen such programs have been approved since that time and their development has certainly not been within the same trajectory as found in most quality doctoral universities with which we are familiar.

The Panel believes that the doctoral programs at MSU should have the support needed to become quality doctoral programs according to accepted standards of quality for doctoral programs of the kind offered by MSU. Equally important, Morgan should have the resources required to mount the kind of university-wide institutional platform needed, and generally expected in the higher education community, to support quality and competitive doctoral programs and quality doctoral universities.

## **Conceptual Strategy for Achieving Comparability and Competitiveness at the Doctoral Level**

Recognizing these limitations but mindful of our charge to establish a comparative context within which institutional capacity and outcomes could be assessed, we turned to our collective expertise to conceptualize the elements of a quality doctoral-level institution offering the types of doctoral programs currently offered by MSU. Our conceptualization projects a highly regarded doctoral-level research institution that has implemented a university-wide institutional platform upon which to build and support research and development in thirteen specific Ph.D. granting programs like those that comprise the MSU graduate-level program. We do this having reached consensus that absent its racial character and past treatment, there is every reason to believe that MSU would have been treated differently and would have developed the capacity to attain the status and quality that we describe in our specification of a quality doctoral institution. It would not necessarily have become UMBC or UMCP, each of which is unique in its category within the state. But MSU very likely would be – within the unique category of programmatic offerings it has chosen and been permitted to offer – an institution of comparable quality, resources, reputation and support.

In addition to our charge to determine whether MSU is comparable and competitive with other doctoral institutions in the state, we have been asked to help determine how the state should support MSU to develop its capacity to offer and maintain doctoral programs that are comparable to and therefore competitive with those offered at other quality doctoral universities. We have concluded that the definition of “comparable capacity” should be developed in the context of a set of general indicators. Having come to this conclusion, we acknowledge that the task of definitively benchmarking or identifying the level of quality required within this set of indicators is a complicated and somewhat elusive challenge. Nevertheless, we are recommending an approach that will link MSU’s development to that of universities with universally acknowledged and generally accepted levels of quality expected within doctoral institutions and the doctoral programs they offer. The Panel suggests, therefore, that the indicators of quality that are gleaned from these doctoral institutions and doctoral programs will provide the “roadmap” to the doctoral programs of high quality to which MSU would like to aspire and emulate. Once this level of quality is achieved at both the institutional and programmatic level, we believe MSU will have the capacity to be judged comparable as a doctoral institution within Maryland. And, further, we believe the achievement of comparability will give MSU the opportunity to become competitive in its ability to attract to, and graduate students from, its doctoral programs.

UMBC and UMCP may provide a model for defining the level of comparable capacity needed at MSU, at least with respect to the generic indicators of quality (identified on pages 24-25). These generic indicators of quality are those indicators

that would be expected to be present in every quality doctoral program. The state should embrace this comparison of capacity among doctoral institutions within the state and support MSU in achieving comparability with respect to these generic indicators (see the discussion following, regarding a university-wide platform and baseline capacity). However, there are some doctoral program-specific indicators of quality that may not lend themselves to a direct comparison between MSU, UMBC, or UMCP because the specific doctoral program is offered at MSU but not the other institutions. For example, Computer Science is offered at UMBC but not MSU. Similarly, Social Work is offered at MSU but not by UMBC. As a result, in some instances because UMBC is not offering the same kind of doctoral programs as MSU, specific determinations of the base-line level of capacity and quality needed at MSU in that particular doctoral program will require a comparison that focuses on comparable doctoral programs at doctoral granting institutions outside of Maryland. The comparability and capacity determination would involve doctoral universities of recognized quality. We outline below the process we recommend to implement the comparability determination for establishing the capacity needed at MSU.

The Panel members agree that there is a baseline capacity needed to develop and maintain quality doctoral-level universities whether in Maryland or elsewhere in the nation. We might add that simply offering doctoral programs does not equate to doctoral university quality. The challenge is to define this baseline capacity for quality MSU doctoral programs. These elements (or indicators) of institutional capacity that – taken together – make all quality doctoral universities comparable include a well-developed university-wide institutional platform that provides a foundation of support to the administration and operation of specific doctoral programs.

For example, quality doctoral universities have a core of doctoral program faculty who are graduates of doctoral universities with significant reputations for excellence in their respective disciplines. They should have teaching loads consistent with the need to afford them time to conduct research. They should have active research programs and publish in respected, refereed academic journals or produce scholarly books using primary sources and published by academic presses or similarly highly regarded publishers. They should teach graduate-level courses in their disciplines and supervise graduate-student dissertation research projects.

These doctoral faculties should have teaching and research assistantships available to provide financial support for their graduate students and to aid them in their teaching and research. They should have attractive and competitive salaries. Ideally, quality programs have a core of faculty with special appointments and support that supplement their state-funded salaries and who are able to generate external grant funding, which can be used to build support for doctoral students and research staff, and in doing so, expand their programs.

Moreover, the focus on program capacity extends to other vital areas. Science doctoral programs and faculty have modern, well-equipped research laboratories. While the ultimate development of these facilities and their equipment depends on the success of doctoral faculty in generating external support, a baseline capacity is needed.

Quality doctoral universities require advanced library and information resources specific to the doctoral programs. To recruit and support top doctoral faculty and students in their programs and research, the overall university infrastructure needs to be modern, attractive and conducive to research and scholarship. The latest in university-wide technology and administrative support systems are critical. UMBC and UMCP have the institutional platform or foundation to support these qualities. MSU and UMES do not. UMBC and UMCP had the opportunity and support to develop the elements of quality described above that are the hallmarks of quality doctoral programs. MSU and UMES have not had that opportunity and support to the same or sufficient degree.

### **Strategy and Recommendations for Moving Forward**

The next step involves developing a more specific definition of capacity and comparability in the context of MSU's institution-wide platform of support and its specific doctoral program offerings and a practical but comprehensive plan for building such capacity at MSU. This determination of comparable capacity needs to address both university-wide institutional platform components, particularly facilities and space, administrative support and specific doctoral program development.

### **University-Wide Capacity Indicators: The Institutional Platform**

**Operational indicators:** In addition to the specific university-wide facility capacity elements discussed below, a quality doctoral institution to become comparable requires the financial resources to provide an efficient and well-staffed research and grants management office and internal audit and compliance office. In addition, the institutional platform must provide students, faculty, and administrative staff with an attractive, safe, and administratively effective environment in which to live and work. This includes an appropriate number of well-equipped and –trained public safety officers; adequate and safe student housing, including separate housing for graduate students and visiting faculty; an appropriately staffed and well-prepared development staff, housed in an attractive and welcoming environment; a well-staffed and trained enrollment management office housed in a central and easily accessible location.

**Facility indicators:** It is particularly important that the facilities housing the academic departments and interdisciplinary fields offering doctoral programs are modern and comparable to other quality doctoral universities. For graduate institutions offering doctorates in the sciences and engineering, for example, this

means having modern science and engineering facilities, complete with modern laboratories. At quality doctoral institutions that focus on doctoral programs in education (as well as their large undergraduate teacher education programs), the buildings housing these programs need to be state-of-the art. Similarly, quality doctoral programs in business administration require the latest in facilities and technical infrastructure to support faculty and undergraduate, master's and doctoral students and to provide a setting in which the campus and business community can convene comfortably and effectively. Both undergraduate and graduate institutions are placed at a significant competitive disadvantage when they lack a modern administration building that would enable centralization of administrative functions.

### **Strategy for Achieving a Comparable Institutional Platform**

**The Panel recommends the following three-pronged approach for providing Morgan as a doctoral institution with the required campus-wide infrastructure (institutional platform) needed to become a competitive doctoral level university.**

1. Based on and guided by the Panel's description of what is expected of a quality doctoral university, Morgan State University should provide the Maryland Higher Education Commission (MHEC) and the Secretary of Higher Education with a detailed strategic plan designed to improve its institutional platform to make it comparable to that of a quality doctoral institution. Specifically the plan addressing the institutional platform requirements should include an updated facilities plan complete with time tables for the construction of the new and renovated facilities consistent with the university-wide indicators identified by the Panel. In addition, the plan should include a proposal to address those administrative and operational and facilities elements and other resources identified above by the Panel as necessary for the support of specific doctoral programs.
2. Guided by Morgan State University's strategic plan and the Panel's recommended strategy, MHEC and the Secretary of Higher Education should provide the Governor and Legislature with recommendations to improve the institutional platform of Morgan and make it comparable to that expected of a quality doctoral university, as described by the Panel above.
3. Guided by these recommendations of MHEC and the Secretary of Higher Education and in consultation with them, the Governor and Legislature should establish a comprehensive program and provide the resources designed to make Morgan a quality doctoral research institution.

### **Specific Doctoral Program Indicators to Achieve Capacity and Comparability**

The most effective, practical strategy for determining how to achieve comparable capacity at MSU on a program level, and for building this capacity, is through a program-centered approach. This is how today's universities develop a strong doctoral mission. Increasingly, universities do not spring up full-blown with a large number of quality, well-supported doctoral programs. Over the past 20 years, higher education has discovered that effective research universities do not have to be large and comprehensive in number of programs. The newer top universities such as UMBC have developed by emphasizing stepwise growth and the seeding and careful nurturing of a select and limited number of programs. Through careful planning and priority and selective concentration of institutional and state support, the successful universities have identified and brought to full development a focused, smaller number of programs. As these programs developed more fully, these universities then renewed the cycle for a new set of two to three programs, building on the success of the earlier programs. The best programs follow this cycle. Few programs begin with the overall state and external funding that quality programs eventually develop. This program-based principle emphasizes that the development of capacity and competitive results in doctoral programs takes focus, support, time and priority.

### **Recommendations for the Development of Capacity and Comparability Within Specific Doctoral Programs**

The Panel recommends the following steps to guide MSU's development at the doctoral program level:

1. As an initial step, the state and MSU should identify a few of its existing doctoral programs for the initial priority and targeted development effort.
2. The MHEC and the Secretary for Higher Education should appoint a small panel of experts for each selected program to determine the threshold support and capacity needed for each of these priority targeted programs. On the basis of their knowledge of quality doctoral programs at a range of research universities (including UMBC if relevant), the panel will be asked to specify the capacity needed to enable competitive results in each of the doctoral programs. This panel should consider the following kinds of capacity and outcome indicators in their specifications (in addition to others that they may identify).

#### **Capacity Indicators**

##### **Faculty**

Instructional Course Load (Non-Thesis, Non-Dissertation) per Year per Doctoral Faculty Member

Released Time for Dissertation/Thesis/Scholarship/Research per Faculty Member  
 New faculty start-up funding/support  
 Special faculty appointments per Doctoral Program  
     (Endowed Chairs, Fellows, Professorships, Special Chairs)  
 Faculty salary by rank per Doctoral Program  
 Doctoral Students per FTE Doctoral Faculty  
 Faculty Awards per Faculty  
     Grants/Contracts funding per Faculty  
     Publications per Faculty  
     Citations per Faculty  
     Number of non-faculty research staff (including post-Docs)

Students  
 Student Assistantships (teaching/research) per Doctoral Program  
 Graduate enrollment per Doctoral Program

**Outcomes/Results Indicators**

Degrees Awarded per Doctoral Program  
 Federal R & D Expenditure/FTE Faculty per Doctoral Program  
 Placement of Graduates in Academic or Research Positions

3. This panel should also identify other elements of needed baseline capacity including office, laboratory and equipment; library and other information resources.
4. This panel should establish outcomes goals for degree production and R&D funding, if appropriate, by field.
5. The state funding (and dedicated institutional funding from other sources) should be earmarked to the specific programs.
6. The state should expect specific accountability for the funding and expected results.
7. Any new funding for doctoral-level programs at MSU and, preferably for other public universities as well, should be targeted and monitored and the university held accountable for expenditures and specific anticipated outcomes.

**The Uniqueness of the University of Maryland Eastern Shore (UMES)**

Maryland has two land-grant universities: the University of Maryland, College Park (UMCP), and the University of Maryland Eastern Shore (UMES). As land-grant universities, both have the tri-fold mission of teaching, research, and public service or

outreach. Both receive formula-based funds for conducting agriculture research, and for extension services, from the U. S. Department of Agriculture. These funds require a minimum of a “dollar-for-dollar” match from the state. It is important for the state to continue to provide matching funds for both the UMCP and the UMES and to increase these funds in accordance with increases in formula-based funds allocated by the USDA.

With regard to the HBI study, UMES does not have a comparable institution within the state because of its land-grant mission. It cannot be compared to UMCP because UMCP is a major research university with very high research activity. For undergraduate education, the Panel used the state’s public institutions classified as mater’s-level colleges and universities, under the Carnegie Commission descriptions, for comparative purposes. For the research doctoral programs at UMES, a comparison should be made with similar doctoral programs offered at UMCP or other appropriate out-of-state universities. The aim is to ensure that UMES has the resources it needs (faculty, staff, funding, facilities, etc.) to offer high quality doctoral programs that are comparable and competitive with similar doctoral programs at other institutions.

**Recommended Strategy: Development of a Comparable Institutional Platform and Comparable Capacity Within Specific Doctoral Programs at UMES**

The Panel recommends that the state undertake steps similar to those recommended to guide MSU’s development in the previous section of this report with respect to the research doctoral programs offered at UMES taking into account UMES’ status as a land-grant university. These steps include providing MHEC and the Secretary of Higher Education with a detailed strategic plan designed to improve its institutional platform and the specific doctoral programs it offers to make them comparable with those of similarly situated quality institutions. As in the case of MSU, MHEC and the Secretary would provide the Governor and Legislature with their recommendations. Guided by these recommendations, the Governor and Legislature should establish a comprehensive program and provide resources to make UMES comparable and competitive within its institutional category. The Panel further recommends that the state use the same process recommended for MSU of appointing a small panel of experts to determine the threshold support and capacity needed for each of the priority targeted programs identified by UMES for development. The appointed panel of experts should identify and consider the capacity and outcome indicators required to establish baseline capacity, outcome goals for degree production and R&D funding if appropriate for the fields and programs targeted at UMES. While recognizing the differences in the tri-fold land grant mission of UMES, the HBI Panel believes that the recommended strategies and process outlined for MSU can be utilized effectively for moving UMES into comparability and competitiveness in its institutional category.

## **Observations on Doctoral Program Planning in Maryland for All Public Higher Education Institutions**

The Panel acknowledges that the baseline infrastructure, faculty and indicators of quality doctoral institutions and programs alluded to above are major investments. Because of this, the programs that are built on the platform need to have synergistic potential. Rather than create Ph.D. programs in widely dispersed areas that would require many different kinds of laboratories and equipment, it is good planning to develop programs that can share certain basic facilities. Without planning for synergy, the labs and faculty are simply too expensive, especially for low graduate enrollment institutions. For a period the graduate enrollment is limited by the institution's limited reputation in this level of education. For example, if it is decided that the life sciences offer a special opportunity, then the faculty and labs could be oriented to related life science doctoral programs, rather than a "one of each" approach. Laboratories, computer facilities, lab administration facilities, and research grant support need to be focused rather than dispersed. There should be some relationship between investment in the platform and an expected outcome in terms of degrees awarded.

In addition, it is understood that programs are more expensive the smaller the graduate program enrollment. To make any program fiscally rational requires the development of a "critical mass" of doctoral students and faculty in cognate fields. Therefore, as MSU achieves greater enrollment density in related graduate fields, the cost per graduate degree awarded will go down and the program will become more cost efficient.

## **VI. General Institutional Facilities and Operations**

The Panel recognizes the state's substantial efforts to improve the facilities, physical space, and other institution-wide operational and administrative elements of the HBIs. However, overall the facilities at the HBIs are not comparable to those of the TWIs.

The Panel also acknowledges that the capital/facilities challenge extends throughout postsecondary education. All institutions have unmet capital needs. However, the Panel wishes to make a special case for addressing the needs of the HBIs both as a priority and as expeditiously as possible. We recommend this not only out of our first-hand findings that the HBIs visibly lag behind the TWIs but also because addressing this deficiency is crucial to achieving the goals of capacity and competitiveness of the HBIs in both undergraduate and graduate education.

### **Undergraduate Education**

In concrete terms, to raise undergraduate graduation rates to levels competitive with the TWIs, the HBIs must find ways to improve substantially the levels of teaching

and learning currently associated with the preparation and academic levels of student enrolled in their institutions. Accordingly, their campuses must be made attractive and safe not only as a means of attracting well-prepared students but also for students who by necessity will be spending more of their time there than ever before. Students, faculty and staff need an attractive, safe and administratively effective environment in which to live and work. This includes an appropriate number of well-equipped and trained public safety officers; adequate and safe student housing; accessible management and student services offices with sufficient numbers of trained staff; and adequate study and academic counseling space where students, faculty and academic advisors and tutors can meet and work long hours. For students to receive the additional help and instruction needed to graduate, they need a place that makes such academic services directly and effectively accessible.

### **Graduate Education**

The physical environment of a campus, including its facilities and infrastructure such as landscaping, utilities, and data/telecommunications systems, contributes substantially to quality graduate education. To recruit and support top doctoral faculty and students in their programs and research activities, the overall university infrastructure needs to be modern, attractive, safe and conducive to research and scholarship. This is particularly true in doctoral programs in which faculty and their students spend so much time together on campus.

Quality doctoral programs also depend on the latest in university-wide technology and administrative support systems to manage their research and grants and the connections between the researchers on campus and the external scientific and business communities.

The Panel has previously described the facility elements central to a quality doctoral program and made recommendations concerning the institutional platform required to mount quality doctoral programs. (See section V above.) We will not repeat those elements here although they are incorporated into the Recommendations and Strategies we advance immediately below.

### **Recommendations and Strategies**

While asserting the strong need for an institutional platform capacity at the HBIs, the Panel recognizes the large cumulative capital needs of all public higher education. However, while progress has been made, the HBIs currently have further to go than TWIs in meeting their capital needs, particularly in light of the greater outcomes and results expected of them as recommended in this report in both undergraduate and graduate education and research. Against this backdrop, the Panel offers two general recommendations and then describes a strategy for going forward.

These general recommendations stem from the presence of specific HBI capital priorities and requests already being considered as part of the state's FY2009-FY2013 Capital Improvement Program. The institutions also have identified other capital needs that they require and that extend beyond the FY2009-FY2013 period. For example, MSU has the following capital requests either approved or under active consideration by the state: New Center for the Built Environment and Infrastructure Studies; New School of Business Complex; Campus utility and site improvements; Soper Library renovations; Banneker Hall renovation; and the replacement of the Jenkins Behavioral Science Center. Projects identified more in the future include requests for a new Administration Building and Technology Transfer Center.

UMES projects that have been approved or under active consideration by the state include a new Engineering and Aviation Science Building, replacement of the Early Childhood Center, and completion of Somerset Hall. Looking more in the future, UMES has requested a new Pharmacy Building and renovation of several older facilities on campus.

Clearly, substantial deficiencies exist among the HBIs, especially those with doctoral programs and particularly in the context of the institutional platform required to support quality programs that are comparable and competitive. With the foregoing in mind, the Panel recommends the following:

1. Using the strategy recommended above in Sections IV and V and in the context of the strategic planning process, each HBI should review its capital priorities through FY2013 and beyond based on the physical capacity that will be needed to become comparable and competitive both in undergraduate graduation rates and in graduate and doctoral program results expected of quality doctoral programs (as identified above).

If warranted, priorities should be reordered to align with these goals of comparability and competitiveness and to maximize the synergy that exists or could exist between and among graduate programs.

The panel of experts appointed to identify the elements and resources that a specific doctoral program requires should also factor into this strategic planning process their conclusions about the capital needs they believe are required to achieve an improved and expanded institutional platform. The conclusions about the resources needed to support a quality institutional platform arrived at through the strategic planning process, as well as the conclusions reached about specific doctoral programs, should together form the basis for achieving the capacity the HBIs require to become both comparable and competitive.

2. As indicated previously, the HBIs have already identified some facilities that are needed on their campuses to improve their capacity to become comparable and

### **Timeframes and On-Going Monitoring of Progress and Quality**

Finally, with respect to the foregoing recommendations in Sections IV, V and VI, the Panel suggests that the state develop timeframes that are realistic but also recognize the urgency of completing the tasks ahead in a timely fashion. To this end, the state should consider appointing a monitoring committee that will regularly report to MHEC and the Secretary of Higher Education. This committee should assess progress towards meeting the plan goals and provide for continuous follow-up beyond the completion of the plan to ensure all public institutions of higher education in the state are appropriately progressing within the state's established framework to ensure quality institutional development.

## **VII. Observations Regarding State Program Approval and Improvement, Funding and Accountability**

In introducing the section on doctoral education the Panel noted the crucial way that Maryland's process for coordinating higher education state wide contributed to the current situation regarding the comparability and competitiveness of MSU and UMES.

The Commission expressed its openness to the Panel's observations and suggestions for strengthening the state-wide coordination process so that, going forward, there is more clarity in the relationship among program approval or improvement, program funding, and program accountability.

Strengthening this process will be particularly relevant as the state considers requests from HBIs for additional funding to reach the goals of comparability and competitiveness. However, stronger linkages between the requests for new or improved programs, funding, and accountability should apply to all public higher education institutions seeking additional funding for new or improved programs.

Some states have strict procedures for connecting programs and funding. Some states will not approve new programs unless a certain funding stream is identified in the forms of new, specifically targeted state support or some kind of institutional-

generated revenue: student fees, state enrollment-based funding, or reallocated internal funding from other programs at the institution.

The Panel has recommended a set of strategies with respect to the HBIs for building capacity and achieving comparability and competitiveness. If followed, the limitations imposed on their growth and development by a confused or inconsistently applied coordination process will have been addressed. However, the Panel suggests that going forward, at the very least, the state should begin to build strong links among the mission-designation, program-approval and funding phases involved in coordinating public higher education.

Practically, this would mean that missions are made clearer and more explicit and programs are approved only if an assured, clear funding stream can be identified, whether it is from the state or institutional sources. The Panel further suggests that when the state is asked to approve a new program, its approval should be contingent on the availability of state funding, that the state should earmark an allocation specifically for that program and that the institution should be expected to budget and spend that funding only on that program.

## **VIII. Conclusion**

The Panel has been privileged to play a role in the Commission's efforts to ensure the comparability and competitiveness of Maryland's HBIs. We hope that our study and recommendations will help to determine the kind and level of support and expected results that will bring these campuses to a point at which they are comparable in capacity and competitive in results.

The State of Maryland and this Commission should be recognized for advancing this uncommon initiative to be more specific about what it means to be comparable and competitive and how the HBIs can be supported to realize these goals.

The Panel also expresses its appreciation to the many people on the campuses that we studied and visited and to the Commission and its staff for supporting our work and ensuring the independence with which we developed our findings and recommendations.

## Table A-1

### Undergraduate Capacity and Outcomes Indicators

#### Undergraduate Capacity Indicators

- A. Students
  - Average SAT
  - Average GPA
  - Percent Eligible for Pell Grants
  - Percent Fulltime
  - Percent Residential
  
- B. Faculty
  - Percent with Terminal Degrees
  - Percent of all Faculty Who Are Fulltime and Tenured or on Tenure Track
  - Student Faculty Ratio
  - Average Salaries by Rank for all Fulltime Faculty
  
- C. Funding
  - General Fund/FTE Student
  - Tuition + Fee Revenue/FTE Student
  - Other Revenue/FTE Student
  - Total Educational + General Revenue per FTE student
  - Endowment (Restricted and Unrestricted)

#### Undergraduate Outcomes Indicators

- A. Graduation Rate (Six-Year)
  - White
  - African-American
  - Other
  - All Students
  
- B. Retention Rate (Second Year)
  - White
  - African-American
  - Other
  - All Students

**Table A-2**

**Findings of Comparability of Capacity and Competitiveness of Outcomes in Undergraduate Education – HBIs and TWIs**

Comparability (Capacity) and Outcomes (Competitiveness) Indicators for Undergraduate Education

Maryland HBIs and Selected TWIs

**Capacity Indicators (2006-7)**

	Bowie State	Coppin	UMES	MSU	UMBC	Salisbury	Towson
<b>Students</b>							
2006-2007 SAT scores	884	849	814	907	1190	1104	1072
% African-American	88	92	77	91	14	10	11
% Low Income	36	59	53	47	22	16	16
% Full-Time	82	77	92	90	85	90	88
<b>Faculty</b>							
% Full-Time	59	51	65	75	69	69	54
% Terminal Degrees	75	58	62	80	-	82	-
Student-Faculty Ratio	13.5	18.3	16.9	14	17	15.9	15.6
E&G Funding Per Student	\$14,248	\$15,661	\$14,172	\$17,617	\$20,247	\$11,708	\$13,428
GF & TF Per Student	\$13,216	\$14,689	\$13,933	\$16,504	\$17,154	\$11,448	\$12,127
General Fund (GF)	\$7,486	\$9,944	\$8,025	\$10,300	\$8,532	\$5,036	\$4,963
Tuition & Fees (TF)	\$5,730	\$4,745	\$5,908	\$6,204	\$8,622	\$6,412	\$7,164

**Outcomes Indicators (2006-7)**

	Bowie State	Coppin	UMES	MSU	UMBC	Salisbury	Towson
<b>Graduation Rates (6-year)</b>							
African American	39.5%	20.2%	41.4%	39.9%	62%	62.5%	63.7%
All Students	39.4	20.7	40.9	42.3	63.7	75.1	64.9
<b>Second Year Retention</b>							
	72	64	65	66	92	83	85
<b>Bachelor's Degrees</b>							
	621	376	436	821	1,914	1,439	3,120
<b>Bachelor's Degrees per 100 Enrolled</b>							
	11.7	9.1	10.6	12.2	16.2	19.5	16.5

## Appendix 3

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### Commission Charges and Background

The Commission to Develop the Maryland Model for Funding Higher Education was established by the Tuition Affordability Act of 2006 (Chapters 57 and 58). The Lieutenant Governor, legislators, cabinet secretaries, representatives of the higher education community, members of the business community, and members of the public comprise the commission. Chapters 57 and 58 charged the commission with three main objectives:

1. to develop an effective statewide framework for higher education funding;
2. to review options and make recommendations relating to the establishment of 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
3. to review options and 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 commission was charged with a fourth objective in the 2008 *Joint Chairmen's Report* which required the commission to examine the eight regional higher education centers (RHECs) operating in Maryland, including an examination of the funding strategy developed by the Maryland Higher Education Commission (MHEC), how RHECs are meeting regional needs for educational programs, and the extent to which RHECs are leveraging other resources to support their operations.

Chapters 57 and 58 directed the commission to issue a final report of its findings and recommendations on or before December 31, 2007; however, the commission was unable to complete its charge by that date so legislation was enacted (Chapter 45 of 2008) authorizing the commission to submit an interim report in December 2007 and extending the deadline for the final report to December 2008. The commission held its first meeting in January 2007, met on a regular basis during the 2007 interim, and began meeting again during the 2008 interim. The commission met six times during the 2008 interim and submitted this final report in December 2008. The report includes findings and recommendations that address the commission's charges, and legislation will be introduced in the 2009 session to implement the commission's recommendations.

## **Commission Charge Relating to Funding for the State's Historically Black Institutions**

The commission's third charge was to review options and 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. Due to the complex nature of this issue, the commission felt that a consultant with HBI and higher education finance expertise should be hired in order to properly address this charge.

The commission was actively involved in crafting the scope of work and the requirements for the consultant in the Request for Proposals (RFP), and the commission met in closed session twice to discuss the details of the RFP in depth. Drafting the RFP to hire the consultant was more complicated than anticipated, and the RFP was released in August 2007, later than expected. In order to give the consultant enough time to complete the report, the commission decided that the deadline in the RFP for the consultant's final report should be May 2008. Although that time schedule was not within the commission's original deadline, the commission felt strongly that the consultant should be given sufficient time to conduct a thorough study. To complicate matters further, when the RFP was released, no bids were received.

Therefore, the commission actively recruited several individuals with HBI and higher education finance expertise to serve on a panel to study this issue and develop recommendations for consideration by the commission. The panel began its work in May 2008, and in June and July the panel visited the campuses of the four Maryland public HBIs and visited three traditionally white institutions (TWIs): Salisbury University; Towson University; and the University of Maryland Baltimore County. In October 2008 the panel presented its final report to the commission, with the final report officially submitted in November 2008.

The HBI Study Panel consisted of six members:

- Mr. David Spence, who served as the chair of the study panel, currently serves as the President of the Southern Regional Education Board.
- Mr. Patrick Callan is the President of the National Center for Public Policy and Higher Education, and he previously served as the Vice President of the Education Commission of the States.
- Dr. William DeLauder is the President Emeritus of Delaware State University, where he had served for 16 years before retiring in 2003.
- Dr. Franklyn Jenifer is the President Emeritus of the University of Texas at Dallas, where he served for 11 years before retiring in 2005. Prior to that, Dr. Jenifer was the President

of Howard University, and he also served as the Chancellor of the Massachusetts Board of Regents of Higher Education.

- Dr. James Rosser is the President of California State University, Los Angeles and has served in that capacity for 29 years. Prior to that, Dr. Rosser served for 5 years as the Vice Chancellor of the New Jersey Department of Higher Education.
- Ms. Judith Winston is a lawyer, an educator, and is the principal of her own consulting firm. She previously served as General Counsel and Under Secretary of the U.S. Department of Education for eight years, served as Special Assistant to the Director of the Office for Civil Rights for two years, and also served as the Executive Director of President Clinton's Initiative on Race for two years.

### **HBI Study Panel Charges**

In order to meet its charge, the commission charged the HBI Study Panel with the following responsibilities:

1. perform a study to define the terms comparability and competitiveness for Maryland public HBIs with the public TWIs;
2. recommend performance indicators or benchmarks for determining the comparability and competitiveness of HBIs with TWIs;
3. examine funding levels of Maryland's HBIs to determine comparability and competitiveness; and
4. assist the commission in meeting its statutory charge to review options and make recommendations on the appropriate level of funding for Maryland's public HBIs to ensure that they are comparable and competitive with other public institutions of higher education based on Carnegie classification and institutional mission.

The commission asked the panel to perform certain tasks, including:

- consideration of the impact of State key policies: funding, program review, and mission;
- an examination of the programs, resources, and facilities at TWIs and HBIs, including site visits as appropriate;
- an examination of the racial and socioeconomic enrollment patterns at TWIs and HBIs;
- an examination of the student success trends at TWIs and HBIs, considering the academic preparation of students; and

- an examination of student access at public institutions.

Additionally, the commission requested that the panel study and analyze the methods and measures used by other states that could serve as examples for Maryland in determining parity between TWIs and HBIs in funding, academic program offerings, enrollment diversity, campus facilities, student success rate, and any other factors determined to be relevant.

The commission also required the panel's recommendations to address two key objectives:

1. definitions of the terms "comparable" and "competitive" as they relate to Maryland public higher education institutions; and
2. specific measurable performance indicators or benchmarks for determining the comparability and competitiveness of HBIs with TWIs.

The commission made very clear that the HBI Study Panel report was intended to provide information and policy guidance to the commission as it recommended appropriate levels of funding for Maryland's HBIs within the context of the State's Partnership Agreement with the U.S. Office for Civil Rights and was not intended to assess Maryland's compliance with the legal requirements of *U. S. v Fordice* or Title VI of the Civil Rights Act.

## **Commission Workgroups**

To facilitate the commission's work, four workgroups were formed in September 2007: Appropriate Funding Shares; Accountability; Economic Competitiveness and Workforce; and Capital Investment. The workgroups' preliminary recommendations were included in the commission's 2007 interim report. The workgroups continued to meet frequently throughout 2008, including several meetings during the legislative session. The commission received the workgroups' reports in November 2008, and the reports can be found on the commission web site at [http://www.mlh.state.md.us/other/Funding\\_Higher\\_Ed/index.htm](http://www.mlh.state.md.us/other/Funding_Higher_Ed/index.htm) under the November 3, 2008 meeting link. The findings and recommendations of the workgroups were used to inform the recommendations of the commission in the final report. Listed below are the commission members and the charges assigned to each workgroup.

### **Appropriate Funding Shares Workgroup**

The Appropriate Funding Shares Workgroup was chaired by Mr. Norman Augustine and had eight other members: Ms. Tina Bjarekull, Delegate Norman Conway, Senator Ulysses Currie, Secretary Eloise Foster, Dr. Ray Hoy, Dr. William Kirwan, Secretary James Lyons, and Dr. Earl Richardson. The workgroup was charged with seven objectives:

- examine historic and current shares of funding (percent State support – percent tuition and fee – percent other (including contracts and grants) and level of student financial aid support);
- examine best practices in other states for moderating tuition and fees;
- examine best practices in other states for creating a sustainable level of State funding;
- examine ways to minimize impact on low-income students;
- examine the issues surrounding Maryland’s “F” in affordability;
- examine the consistency and applicability of the current funding guidelines; and
- examine other tuition models, including the four-year tuition model.

### **Accountability Workgroup**

The Accountability Workgroup was chaired by Mr. Larry Shulman and its six other members included Dr. Susan Aldridge; Ms. Tina Bjarekull; Dr. William Kirwan; Delegate John Olszewski, Jr.; Dr. Earl Richardson; and Mr. Clay Whitlow. The workgroup was given the following charges:

- consider Maryland demographics in setting areas of priority and targets;
- examine other state accountability methods (*e.g.*, South Carolina);
- examine current funding accountability methods;
- develop statewide guiding principles on:
  - participation, *i.e.*, percent of low-income students going on to college; percent of minority students going on to college;
  - quality;
  - affordability, *i.e.*, loan debt for low-income students; unmet need;
  - achievement parity, *i.e.*, gap in minority attainment;
  - meeting workforce shortage needs; and

- efficiency, *e.g.*, academic programs, institutional (*e.g.*, energy);
- examine the use of longitudinal data for tracking Maryland students from P-20, including the use of a unique student identifier; and
- examine higher education reporting requirements for federal, accreditation, and State accountability purposes.

### **Economic Competitiveness and Workforce Workgroup**

Mr. Garland Williamson chaired the Economic Competitiveness and Workforce Workgroup, and it consisted of six other members: Lt. Governor Anthony Brown, Dr. Robert Caret, Mr. John Paul Davey, Senator Roy Dyson, Mr. Tom Lewis (Dr. William Brody's designee), and Dr. David Ramsay. The workgroup was given the following charges:

- examine other states/nations compared to Maryland to identify practices to promote competitiveness;
- examine factors that make states an attractive location for businesses;
- examine the knowledge and skills needed to create a trained workforce;
- develop policies and/or principles to better link higher education to workforce/business needs;
- examine research and development and technology transfer practices at universities;
- examine the eight regional higher education centers (RHECs) operating in Maryland, including an examination of the funding strategy developed by the Maryland Higher Education Commission, how RHECs are meeting regional needs for educational programs, and the extent to which RHECs are leveraging other resources; and
- examine the impact BRAC will have on the need for increased opportunities for higher education and workforce training.

### **Capital Investment Workgroup**

The Capital Investment Workgroup was chaired by Mr. Larry Letow and had seven other members: Delegate Joseph Bartlett, Mr. John Erickson, Senator Edward Kasemeyer, Mr. Tom Lewis (Dr. William Brody's designee), Dr. Dan Mote, Senator Donald Munson, and Mr. Clay Whitlow. The workgroup was charged with seven objectives:

- examine enrollment trends compared to capital expenditures;
- examine current capacity issues statewide;
- examine future capacity in light of anticipated enrollment growth;
- examine capital needs by type of project/space (*i.e.*, facilities renewal, new construction, instruction, lab, research);
- examine current and future capacity relative to workforce development or shortage areas;
- suggest ranking and prioritization principles or guidelines for capital investment in higher education across segments and by project type; and
- examine alternative funding options, including the Private Donation Incentive Program.



## Appendix 4

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### Summary of Commission Meetings

From January 2007 through December 2008, the commission and its workgroups was presented with information on a variety of topics relating to higher education funding. Further information about the meetings and activities of the commission can be found at [http://mlis.state.md.us/other/Funding\\_Higher\\_Ed/index.htm](http://mlis.state.md.us/other/Funding_Higher_Ed/index.htm). The following provides a summary of each meeting.

#### **January 22, 2007**

The Department of Legislative Services presented to the commission an overview of higher education funding in Maryland which included funding goals, funding sources, and financial aid. Additionally, WB&A Market Research presented their findings from a 2006 study designed to understand public perceptions about higher education in Maryland. The findings were compiled in a presentation entitled *Maryland Statewide Study to Assess Perceptions of Higher Education*, and several of the key findings were Maryland voters cite education, specifically primary and secondary education, as one of the most important issues facing the State, and higher education was cited as being in the second tier of the most important issues facing the State; Maryland voters rate the State's institutions fairly high for academic quality and reputations but are more neutral in their ratings of affordability; Maryland voters see the most important roles of higher education to be teaching students how to think and preparing students for employment; and Maryland voters perceive that students are bearing a disproportionate responsibility for paying the costs of higher education, while the federal government should be doing more.

#### **May 21, 2007**

The Department of Legislative Services presented to the commission a review of higher education funding as approved during the 2007 session. This report included the general funds in the fiscal 2008 budget for higher education, relevant budget actions of the legislature, and an explanation of the legislation passed for the second consecutive year that required a tuition freeze. The presentation also addressed total unrestricted funds for four-year public institutions, community college funding, State financial aid appropriations, and capital funding. Dr. Charlene Nunley, the former President of Montgomery College and member of the Commission on the Future of Higher Education (Spellings Commission), presented a summary of the Spellings Commission's work. During the work of the Spellings Commission, access to higher education became the top priority. Dr. Nunley also outlined the recommendations of the Spellings Commission. Representatives from Maryland's public four-year institutions, private institutions, and community colleges provided comments regarding the potential impact of the Spellings

Commission on their institutions and what steps they have already taken to adopt some of the recommendations of the commission.

### **June 4, 2007**

Representatives from the Maryland Higher Education Commission (MHEC) and Dr. Gordon (Spud) Van de Water, President, Van de Water Consulting, presented *Meeting Maryland's Postsecondary Challenges: A Framework to Guide Maryland's Public Investment in Postsecondary Education in the Coming Decade*. This report summarizes the results of a study that Van de Water Consulting completed for MHEC. Van de Water Consulting began the study by interviewing 37 Maryland leaders with a connection to the higher education community. The report provided four recommendations: (1) align State appropriations, tuition, and student aid to guide budget development and provide a framework for determining the proportion of higher education funding needs to be shared by the State and student, and then balance the student's share with increases in student financial aid; (2) set specific goals for access and affordability to support the implementation of the *State Plan for Postsecondary Education* and monitor progress annually; (3) use student aid to make postsecondary education affordable for all citizens; and (4) strengthen coordination of planning and budget processes to promote more collaborative and better-informed decision making. MHEC staff also presented Maryland's operating funding guidelines and other funding formulas that are currently in use in Maryland for higher education institutions.

### **June 18, 2007**

The Department of Legislative Services and the Department of Budget and Management presented to the commission a summary of Maryland's overall fiscal outlook. In particular, Maryland's structural budget deficit was discussed. MHEC presented the *2004 State Plan for Postsecondary Education* as well as key funding issues. MHEC also presented to the commission details about the federal Office of Civil Rights Partnership Agreement with Maryland which includes nine commitments.

### **July 9, 2007**

The commission held an all day symposium, supported by grant funds from Lumina Foundation for Education and USA Funds, which featured a panel of four experts on higher education. The panel included Dr. Gordon (Spud) Van de Water, President of Van de Water Consulting, as the moderator; Mr. Patrick Callan, National Center for Public Policy and Higher Education; Dr. Paul Lingenfelter, State Higher Education Executive Officers; and the Honorable Denise Merrill, Connecticut General Assembly, Co-chair of the National Conference of State Legislatures' Blue Ribbon Commission on Higher Education. The symposium's keynote speaker was Carl Dalstrom, the president and chief executive officer of USA Funds. In the morning the panel was presented with six core questions to answer and discuss with the commission. The moderator led a focused discussion between the commission members and the panel members in the afternoon.

At the conclusion of the symposium, five fundamental questions posed by the panelists emerged:

- How much higher education do we need? What do we need from higher education?
- Who are we trying to serve?
- What can we do better with the money we now have?
- Where can strategic investments help us get the results we need?
- How can we get public support for more funding for higher education?

Additionally, key issues emerged from the symposium that could be grouped under four main categories: how the appropriate share of higher education costs borne by students, government, and others should be determined; the need to balance quality with access and affordability; the accountability of higher education to the State, its citizens, and its students; and other general issues such as the need to focus on State demographics and the need for better communication between the business community and higher education regarding workforce needs. Listed below are some of the ideas that were generated within each of the four categories.

### **1. Appropriate Share of Higher Education Costs**

- Consensus is that the fair share model does not work and instead should benchmark to percent of State budget or percent of income
- Consensus is that the high tuition/high aid model never generates enough aid
- Need flexibility with funding models
  - No magic formula exists
  - If formula is used, it must be able to weather difficult financial times
  - Do not be too focused on formulas
  - Must have equity/perceived fairness in model or will continue to revisit
- The institutional peer group funding model and the peer state funding model recommended by Dr. Van de Water are compatible but are not necessarily the answer
  - Do not abdicate decision making to other states

- What states or countries perform at a certain level Maryland wants to emulate?  
Set benchmarks to those states or countries
- Two basic funding models for institutions
  - Formula based on cost analysis
  - Base plus budgeting
- Look to federal government for help with higher education funding, but the answer to funding problems is not with the federal government alone

## **2. Balancing Quality and Access/Affordability**

- Efforts should be focused on assisting the individuals who can least afford to participate in higher education
  - Only 25 percent of low-income families participate in higher education but as tax payers they help to subsidize higher education
- Affordability discussion
  - Need to increase financial aid for the neediest students and control tuition to make progress on affordability
  - “Sticker shock” of tuition discourages participation
  - Need to be able to tell the parents of a six-year-old approximately how much they will need to pay for college
- Having access without quality is pointless
- Quality should exist at all levels of higher education, not just at research or elite institutions

## **3. Accountability**

- Set a few, high priority, widely shared State goals
  - Focus on the three legged stool

1. preparation;
  2. capacity, both quantitative (*i.e.*, accommodate enrollment) and qualitative (*i.e.*, quality programs); and
  3. affordability
- Roller coaster budgets are destructive to achieving State goals
  - How can State priorities be translated into a funding model?
  - Set concrete State goals and tie funding to performance
  - Lack of preparation in preK-12 is costly for higher education
  - The responsibility for educating should be allocated across the P-20 continuum
- 4. Other Issues**
- Consensus is that Maryland has a knowledge-based economy
  - Need better communication between the business community and higher education regarding workforce needs
  - Demographics are very important
    - National Conference of State Legislators Blue Ribbon on Higher Education concluded that in strategic planning for higher education, demographics must drive the debate
    - The best educated population in the United States, the baby boomers, is approaching retirement age. Educating the next generation is necessary in order for the next generation to achieve a certain socioeconomic status and to maintain and improve the quality and capacity of the workforce. The next generation is likely to need postsecondary education in order to attain a middle class income
    - College going rate has declined slightly in Maryland since the early 1990s
    - Maryland's demographics are similar to Connecticut – high wealth/low income
  - What would success look like for Maryland?

- Developing a model of affordability and other factors that will increase the State's knowledge economy, while moving away from the higher education funding model that resembles a "roller coaster"
- "Smoothing the road" is not the only goal because other key goals are ensuring the quality and capacity of institutions
- Interest in exploring a constitutional amendment for higher education
  - Most constitutional provisions establish a system of higher education and some provide autonomy and protection to higher education, but most provisions do not address level of funding
  - Connecticut has a constitutional provision, but it is not very useful
  - North Carolina has a provision that says higher education should "as far as practicable, be extended to the people of the State free of expense;" and this provision has impacted the priority of higher education in North Carolina
  - Even if a constitutional provision does not lead to tangible results, it is a good statement of the value placed on higher education
  - However, if a constitutional provision does not lead to tangible results, is it worth the amount of political capital that will be expended?

## **July 23, 2007**

Dr. David Attis, Senior Director of Policy Studies with the Council on Competitiveness, presented information to the commission about higher education and its role in the future of United States competitiveness. The Department of Legislative Services made a presentation on higher education formulas and funding in other states. Specifically, staff outlined the goals and purposes of funding formulas, how formulas are used, guiding principles and desired characteristics for developing a formula, and funding comparisons between Maryland and other states. The percent of total State general funds appropriated to higher education for operating costs in Maryland in fiscal 2006 was 10.3 percent compared to the national average of 12.5 percent. In fiscal 2006, Maryland ranked fortieth in the nation for higher education appropriations per \$1,000 in personal income and ranked twenty-ninth in higher education appropriations per capita.

## **August 27, 2007**

The commission held a work session in which a discussion was generated on the Request for Proposals (RFP) for the historically black institutions (HBI) consultant. The release of the RFP had been delayed because of complications, but it was scheduled to be issued on August 30, 2007. The commission discussed two potential timelines for the consultant's final report and agreed on the timeline that allowed the final report to be due in May 2008. While that time schedule was not within the commission's original deadline of December 31, 2007, the consensus was that the consultant should be given sufficient time to conduct a thorough study. Since the commission would be unable to complete its work on the charge relating to HBIs by the end of the year, the commission agreed that an extension of the deadline should be sought. Additionally, the commission discussed a proposed fall schedule, which included the forming of workgroups, and discussed several key issues from the symposium.

## **September 24, 2007**

The Department of Legislative Services and MHEC presented the commission with information on the fiscal impact of fully funding current State law and goals for higher education in Maryland. The current statutory funding goals are 1) barring unforeseen economic conditions, beginning in fiscal 2000, the Governor's proposed general fund support for higher education should be equal to or greater than the prior year appropriation; and 2) State general fund combined with capital support for higher education should be equal to at least 15.5 percent of general fund revenues. The first goal has been met every year since 2000 except in fiscal 2003 and 2004. The second goal was met in fiscal 2000 through 2002 but has not been met since 2002. In order to reach the 15.5 percent goal for higher education funding in fiscal 2008, an additional \$262.3 million in operating and/or capital funds would be needed. In order to fully fund all of the statutory formulas, funding guidelines, and financial aid programs for fiscal 2008, an additional \$356.9 million in funding would be needed. Additionally, MHEC presented the commission with an overview of the Office of Student Financial Assistance. For fiscal 2008, MHEC projects that 57,061 students will receive financial aid with an average award of \$1,923. However, 30,649 students are currently on the waitlist for State financial aid, which would require an additional \$30.3 million in funding for the financial aid programs. Finally, there was discussion regarding the commission workgroup charges for the final report, and each workgroup met after the full commission meeting concluded.

## **October 29, 2007**

The Department of Budget and Management briefed the commission on the State capital budget. Additionally, each higher education segment briefed the commission on the mission of the segment, who the segment serves, future opportunities and challenges for the segment, and the pros and cons of the current funding model for the segment.

## **December 17, 2007**

The commission held a work session in which the effect of the 2007 special session on higher education funding was discussed. The Tax Reform Act of 2007 created the Higher Education Investment Fund (HEIF) to invest in public higher education and workforce development and to keep tuition affordable for Maryland students and families. The HEIF will receive \$16.0 million in fiscal 2008 and an estimated \$55.5 million in fiscal 2009, which represents 6 percent of total corporate income tax revenues in fiscal 2009. Additionally, each workgroup chair or designee of the chair gave a brief summary of the preliminary activities of the workgroup and what the workgroup will be focusing on in the coming year. The commission was also updated on the status of the HBI consultant. No bids were received from the RFP; however, the Southern Regional Education Board has agreed to serve as the consultant. Finally, the commission reviewed and adopted the draft interim report with several changes.

## **February 4, 2008**

The draft work plan for the HBI study was presented to the commission. A panel of nationally recognized higher education experts was in the process of being assembled. Mr. Dave Spence, President of SREB, agreed to chair the study panel. The remaining members will be appointed over the next few weeks. Mr. Dennis Jones, President of the National Center for Higher Education Management Systems (NCHEMS), will provide data analysis to the panel. The HBI Study Panel will examine a variety of data since 1980 and will conduct site visits of all HBIs in Maryland and several TWIs in Maryland during the upcoming spring and summer. The HBI Study Panel will have a report to the commission of their findings and recommendations by the fall. The commission reviewed and discussed the charges of the study panel and the draft work plan.

## **June 10, 2008**

The commission was briefed on the progress of the HBI Study Panel. All remaining panel members had been selected. The members of the study panel are Mr. David Spence, Ms. Judith Winston, Dr. James Rosser, Dr. Franklyn Jenifer, Mr. Patrick Callan, and Dr. William DeLauder. Several of the members were present at the meeting and were conducting several site visits that week. Mr. Norman Augustine was named Vice Chairman of the commission replacing Dr. Wayne Hockmeyer, who resigned from the commission. Mr. Augustine is the retired CEO of Lockheed Martin and was chair of the Rising Above the Gathering Storm Committee. The Department of Legislative Services reviewed the 2008 session. This included an update on the operating and capital funding of higher education, the allocation of funds from HEIF, and an update of the attainment of the funding guidelines. MHEC presented the commission with an overview of the RHECs that bring higher education to underserved areas of the State. The Economic Competitiveness and Workforce Workgroup will examine the RHECs as part of the workgroup charges. The meeting concluded with an update of workgroup activities and a discussion of the 2008 interim schedule for the commission.

## **September 10, 2008**

Mr. David Spence was joined by several other HBI Study Panel members to present a preliminary report and recommendations to the commission. The preliminary report focused on undergraduate education in Maryland. The final report will also include graduate education. The panel visited seven campuses: the four public HBIs and three TWIs: Salisbury University, Towson University, and the University of Maryland Baltimore County. The panel was able to provide a broad definition of and they plan to also identify indicators for comparability and competitiveness. The panel approached comparability and competitiveness in institutions by dividing those concepts into two categories: 1) capacity, which is everything you put into an institution such as facilities, students, and faculty; and 2) results/outcomes, which was a focus almost entirely on graduation rates because the panel believed it was the dominant indicator. The panel recognized that HBIs have a dual mission because they do the same things as other campuses but also serve a disproportionate number of lesser prepared students and students from lower income families.

## **October 27, 2008**

Mr. Dennis Jones of NCHEMS presented the commission with Maryland's higher education challenges. Maryland compares well to other states, but our true competition is more internationally based and Maryland has more work to do to be internationally competitive. For instance, although Maryland is higher than the national average in the percentage of adults with an associate degree or higher, Maryland is still 10 percentage points behind Canada, Japan, and Korea in the population ages 25 through 34. MHEC then presented to the commission the timeline and plan for revising the *State Plan for Postsecondary Education*. The HBI Study Panel also presented its final report and recommendations to the commission. The panel's presentation focused on doctoral education since they had previously discussed their recommendations pertaining to undergraduate education. The panel came up with a set of indicators of what a quality doctoral university would look like, including buildings, operations, and programs. The panel then compared Maryland's HBIs to these indicators and based recommendations on these comparisons. The panel also presented findings on Maryland's program approval process. The final presentation to the commission was about the Lumina Productivity Grant proposal that USM and MHEC had submitted. *Making Opportunity Affordable* is a multi-year initiative focused on increasing productivity within U.S. higher education. The objective is to close the widening gap between the need for more college graduates and the number of graduates colleges and universities are expected to produce in the years ahead. (Subsequent to this meeting, USM and MHEC were awarded a first-phase grant in December 2008.)

## **November 3, 2008**

Each of the four workgroups presented their reports and recommendations to the commission. The Capital Investment Workgroup presented several fundamental observations: the State must commit to funding projects that address institution's facility renewal needs; the State must invest in research buildings that will move Maryland's economy forward; the State

should continue looking for alternative financing options; and there is a need to strictly prioritize capital projects. The Economic Competitiveness and Workforce Workgroup presented its findings to the commission. Even though the State's revenue situation is bleak right now times will turn around, but even before then it is important to recognize that higher education is going to fuel the economy. The main themes of the recommendations were to maximize the efficiency of existing postsecondary resources, focus and enhance workforce preparedness in Maryland, and foster entrepreneurship to fuel the economy. Also, statewide articulation agreements are critical. The workgroup supported fully funding the funding strategy for the regional higher education centers. The Accountability Workgroup presented its recommendation to set accountability measures that are straight forward, simple, and easily understood by outsiders using a template the workgroup created to report the progress made toward each of the goals of the *State Plan for Postsecondary Education*. The workgroup also made recommendations pertaining to enhanced feedback on job readiness from graduates and employers as well as a focus on strategic reporting. Finally, the Appropriate Funding Shares Workgroup presented its recommendations to the commission. The primary recommendations of this workgroup pertained to modifying the State's existing funding guidelines for institution funding as well as creating goals for financial aid and tuition to form a Maryland funding model for higher education.

### **November 12, 2008**

The commission reviewed and discussed each of the workgroups' recommendations. A public hearing was also held in the evening at the University of Maryland, College Park. This gave the public the opportunity to share their concerns regarding higher education in Maryland. Approximately 27 individuals testified including higher education presidents who were not members of the commission, faculty members, students, and legislative officials. Topics of testimony included tuition increases and financial aid, veterans' scholarships and other education benefits, student loan repayment programs, regional higher education centers, and operational funding of higher education.

### **December 10, 2008**

The commission held a work session to review the draft final report. Several changes to the report were suggested during the meeting and commission members were also given an opportunity to send in additional comments. The commission voted to adopt the draft final report that will include many of the commission members' suggested revisions.

## Appendix 5

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### Data Sources

Unless otherwise noted in the report, the following sources for data were used:

- The College Board
- Western Interstate Commission for Higher Education
- National Center for Higher Education Management Systems
- Grapevine, Illinois State University
- U.S. Census Bureau
- National Center for Public Policy and Higher Education
- Maryland Higher Education Commission