
Commission to Develop the Maryland Model for Funding Higher Education

DRAFT for Discussion Purposes Only

**Department of Legislative Services
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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 comprised 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 and sensitive 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 selected 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.

HBI Study Panel Members

The HBI Study Panel consisted of seven members:

- Mr. David Spence served as the chair of the study panel and he 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.

- Mr. Dennis Jones is the president of the National Center for Higher Education Management Systems (NCHEMS) and has been on staff with NCHEMS for 39 years.
- 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 these charges 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, 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 required the panel to 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 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.mlis.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) financial aid;
- 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.

Summary of Commission Meetings

From January 2007 through December 2008, the commission was presented with information on a variety of topics relating to higher education funding. 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 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 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 Higher 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 costs 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 price” 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 prekindergarten (P)-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 of 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 and capital support for higher education should be equal to at least 15.5 percent of general fund revenues. The first goal was met in fiscal 2006 through 2008, and 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. Mr. Dennis Jones, President of the National Center for Higher Education Management Systems (NCHEMS), will also be on the panel. The remaining members will be appointed over the next few weeks. 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. Dennis Jones, Mr. Patrick Callan, and Dr. William DeLauder. Several of the members were present at the meeting and were conducting several site visits that week. A new Vice Chair, Mr. Norman Augustine, was named to 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

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 Higher Education*. The HBI Study Panel also presented their 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.

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 centers. The Accountability Workgroup presented their 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 their 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 goal posts for financial aid and tuition.

November 12, 2008

The commission reviewed and discussed each of the workgroups' recommendations. A public hearing was also held the evening of November 12, 2008. This gave the public the opportunity to speak 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.

Framework for the Commission Recommendations

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 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 (GDP) 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.”

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 independent 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 independent 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 4 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.

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 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 knowledge and global 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, technology transfer successes, etc. 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” (investment per student, etc.) 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.

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 nonwhites 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 30 percent black and 5 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 white...in 2018 the white fraction is projected to decline to 38 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 concern.

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 (15.5percent) 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 State 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,” say to the sixtieth, etc. 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.

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 Maryland 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 of the Commission to Develop the Maryland Model for Funding Higher Education are directly related to these five goal areas. 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.

Findings and Recommendations

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 full-time equivalent (FTE) student. The State now ranks twelfth in need-based undergraduate grant dollars per undergraduate FTE. 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.¹

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 (high/low/moderate), tuition level (high/low/moderate), and financial aid (high/low/moderate). Obviously, only certain combinations of these parameters can result in a viable education system, and all possess inherent advantages and shortcomings.

¹ 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.

The issue thus 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:

GOAL	IMPLICATION
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 over 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 State general funds minus tuition (per FTE) of a comparator group of institutions (“peers”) residing in states with which Maryland principally competes for employers, referred to as Maryland’s competitor states.^{2 3} 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 would be represented by the fiftieth percentile of the competitor states peers. This in effect provides an “unsatisfactory lower-limit” as the State moves towards what is deemed the necessary level of investment and educational quality/accessibility to compete for high quality jobs for its citizens in a Global Economy. (See Appendix 1.X)^{4 5}
- **Tuition and Fees:** Set (gross) in-state tuition and fees at or below the fiftieth percentile of 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 because the community colleges must balance the extent of both State and local government support in setting tuition rates. (See Appendix 1.X)

² 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.

³ 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 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.

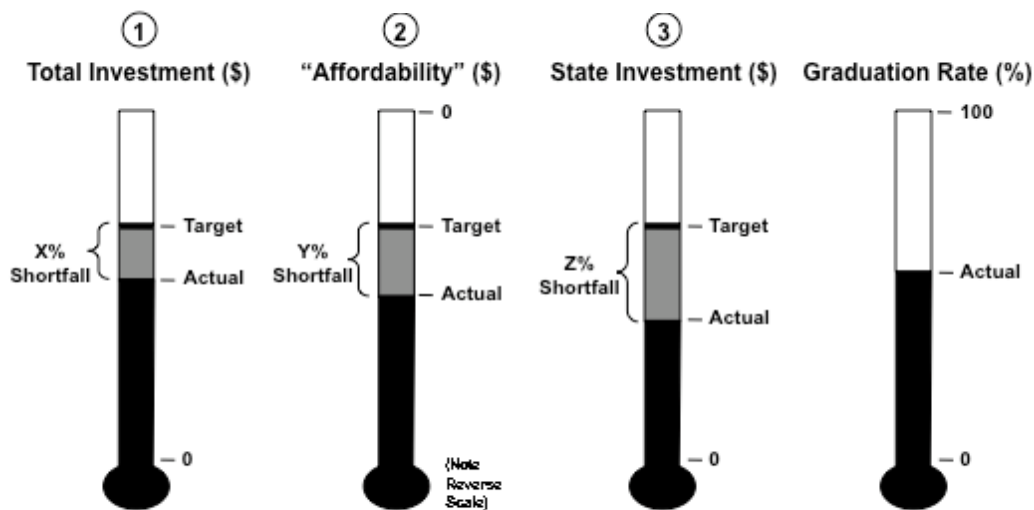
⁴ Historically black institutions are set at the eightieth percentile to ensure that no institution would receive lower funding than they currently receive in the current funding guideline; similarly, HBIs would be held harmless at the lower-limit fiftieth percentile.

⁵ “Comparable 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.

- **Financial Aid:** Set need-based financial aid per FTE at the 75th percentile of the competitor states—necessitating a significant increase in need-based financial aid. (See Appendix 1.X) 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. This assessment should be conducted on an institution-by-institution basis as well as in the aggregate for the State (see graphical representation below).⁶ Time histories of these measures should also be maintained and displayed in order to highlight trends.

Assessing Progress Toward HEFMM



⁶ Note that the measures in Figure 3 can be applied at both a statewide level and on an institutional basis. It will be noted the preferred measuring parameters displayed in Figure 3 have been modified somewhat since not all the necessary information is disclosed by 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. At present Maryland is approximately \$261 million underinvested even to meet the “floor” (fiftieth percentile) of the competitor states peers. 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 \$70 million over inflationary growth.⁷ 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.

Estimated Cost to Fully Implement HEFMM* \$ Millions

Funding Guidelines at 75 th 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 th percentile of competitor states (also achieved through higher State funding of institutions)		15.0
Need-based aid per FTE at 75 th percentile of competitor states		70.1
HBI Supplement for Undergraduate Education***		<u>7.4</u>
Total		\$758.3

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

** 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 total cost of \$13.4 million.

⁷ 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 enacted 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 model.

Therefore, 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 FTE to a specified set of four-year public institutions. That is, State appropriations per FTE 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 FTE under the 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 Program⁸ 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.X)
- **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.** 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.
- **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.

⁸ 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.

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 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.

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. The fraction of Maryland students with education-derived debt is greater than in most other states. At the public four-year institutions, Pell-eligible aid recipients had the highest level of unmet need, even if they took out loans. 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 in 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 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 can apply.

Historically Black Institutions

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 TWIs is not simple, and indicated an 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, 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 the Maryland Higher Education Commission (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 FTE, using math remediation rates as a proxy for students needing the additional support services.⁹ 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 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.¹⁰

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

⁹ 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.

¹⁰ 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 figure assumes students needing remedial courses before taking college-level courses would be the students served by the program.

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. 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.

Finally, the panel found that while there were significant facility needs at all of 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.

Additional Aspects of Funding Higher Education

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 elected 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 grade-point average at or above a 3.3.**

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 Transfer Scholarship awards should be increased correspondingly to the Distinguished Scholar Award.**¹¹

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 the neighboring states. The commission learned that out-of-state soldiers can 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.

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

¹¹ Grandfather current merit scholarship recipients to the existing 3.0 grade-point average.

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 the Maryland Higher Education Commission or individual institutions and selection from among those projects be made by MHEC supported by an independent group of qualified advisors. 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 the Maryland Higher Education Commission (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)

- 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 was 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 1.8** 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. (7)

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 another group to examine and recommend one standard governance structure for each center, or best practices that each center should adopt, that provides 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. (30)

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 campuses. 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. The State of Maryland uses this term to describe a wide range of projects from small system upgrades to large system renovations. This term also incorporates what national literature may refer to as "deferred maintenance." Facility renewal

becomes more of an issue as buildings age. 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 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 is over 27 years old.

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 1992, the USM Board of Regents began a policy that required each institution to allow 2 percent of the value of capital assets to be used on facility renewal needs. USM set the goal at 2 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 percent goal is reached. More recently MSU also established a long-term goal of reaching 2 percent with a short-term goal of reaching 1 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. 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 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 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. (9)

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 analytical tools would assist in measuring and understanding the facility renewal problem at institutions of higher education. (35)

Ensuring Efficiency in Higher Education

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 perhaps 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, capital planning, college readiness, and accountability.

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 that indicate no need for new resources over the past 10 years 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 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.**

Capital Planning

The commission examined the current methods of planning for the capital needs of higher education institutions and determined that a prioritization model should incorporate the following principles: fairness to all institutions; a consistent process of selection; a clearly documented need for the project; projects that benefit students should have a high priority; and each institution's own priority as reflected in the facilities master plan should be incorporated.

Overall, the capital planning process results in a list of projects that target an institution's priority needs. This process has worked relatively well. However, limited capital funding has resulted in one significant need. There are significant deficits in the academic space that is needed to adequately serve the student population. Collectively, the public four-year institutions

currently have a space deficit of 2.7 million net assignable square feet (NASF) and the community colleges have a deficit of 0.7 million NASF. Every year data is gathered from each campus that allows for an analysis of what kind of space and how much space is needed on each campus. This data is gathered for the current year and a 10-year projection is also provided.

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. (26)

While the deficiency of space represents the amount of additional space that is needed, there is a corresponding component that can also negatively impact a campus' ability to serve its student population: the functionality and adequacy of existing space. 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. Building system quality impacts the facility renewal needs. Given these two pressing needs, the predictability of capital planning will ensure a systematic and long-term effort to reduce the space deficiencies and reduce the facility renewal backlog that currently exists as well as ensure programmatic quality. Therefore, the commission recommends a continuation of a current practice for long-term capital planning. Each of the scheduled projects can be evaluated for the impact on space deficits and facility renewal needs and help measure the expected progress towards solving these issues.

The commission recommends the institutions and the State should 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. (27)

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 of USM. This would improve the predictability of the process and indicate the priority of the projects over the long term. (28)

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. (33, 39)

Recently, the State has increased the amount of capital funding for the community colleges. 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.

The commission recommends the State maintain the increased funding for the community college capital grant. In light of this significant increase in support for community college capital projects, it would be prudent to monitor the impact of this additional spending on academic space needs at the community colleges. (40, 34)

Finally, it should be noted that the State provides capital funds to the 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 colleges should continue to be used for buildings that support the State's needs. (40)

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.

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.

The commission greatly benefited from the expertise of its Vice Chair, Mr. Norman Augustine, who previously served as the Chair of the Rising Above the Gathering Storm Committee, which focused on energizing and employing America for a brighter economic future. Mr. Augustine shared numerous statistics with the commission, 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.D.s 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.

As the data indicates, 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.

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. (17)

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 independent 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 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. (41)

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 Maryland. 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 the Maryland Higher Education Commission's (MHEC) reporting, research, and accountability measures. In 2007, MHEC began an initial evaluation of the issue of linking PreK-12 and higher education longitudinal data systems as part of an inter-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 systems (SLDSs). 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 (SHEEO), the Council of Chief State School Officers (CCSSO), the Data Quality Campaign of the National Center for Educational Achievement, and the National

Center for Higher Education Management Systems (NCHEMS) 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 independent 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. (24)**

Accountability

Another aspect of improving efficiency is setting performance goals and measuring the results. In a word, accountability. The federal Commission on the Future of Higher Education (*i.e.*, the Spellings Commission) has made the creation of more robust systems of accountability and transparency a top recommendation. The Commission to Develop the Maryland Model for Funding Higher Education also reviewed the work of the National Commission on Accountability in Higher Education. The guiding principle of the National Commission 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:

- ***Agreement on a limited number of fundamental statewide priorities*** that serve as a framework for state investments, public policies, and state and institutional goals.
- ***Development of a meaningful division of responsibilities for addressing state priorities.***
 - State policy makers 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.
 - Faculty are responsible for teaching, research, and service; students, for learning.

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. Progress toward meeting the Maryland State Plan for Postsecondary Education goal attainment should be assessed on an annual basis and reported to provide policy makers and the public with important information on the progress of the higher education commitments. The Commission to Develop the Maryland Model for Funding Higher Education developed statewide guiding principles that it considered 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 makes the following recommendation:

Develop statewide higher education accountability measures and benchmarks 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). Use an online format (as suggested in the prototype below – *Maryland Higher Education’s Return on Investment*) 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. (22)

MARYLAND HIGHER EDUCATION'S RETURN ON INVESTMENT

As of December 1, 2009

STATE FUNDING GOAL Commentary		Goal	FY 2009	Progress Toward Goal
State Investment		75 th %		
Tuition and Fees		50 th %		
Financial Aid		75 th %		
STATEWIDE MEASURES		Goal 2013	Percent Goal Attainment	↑ / ↔ / ↓ Change from Prior Year
Quality & Effectiveness Commentary				
1	Student Success	Definition Metric	100	↑
2	National Eminence	Definition Metric	100	↔
3	Graduate Satisfaction and Employment	Definition Metric	100	↑
4	Licensure Exam Pass Rate	Definition Metric	100	↑
5	Employer Satisfaction	Definition Metric	100	↔
Access and Affordability Commentary				
6	High School Graduate Participation Rate	Definition Metric	100	↔
7	Adult Resident Degree Attainment	Definition Metric	100	↓
8	Affordability	Definition Metric	100	↔
9	Unmet need	Definition Metric	100	↓
Diversity Commentary				
10	Minority Access	Definition Metric	100	↔
11	Minority Student Success	Definition Metric	100	↔
12	Success/Achievement Gap	Definition Metric	100	↑
Teacher Preparation/Student-Centered Learning System Commentary				
13	K-12 Teacher Production	Definition Metric	100	↔
14	Student Learning Assessment	Definition Metric	100	↔
Economic Growth and Vitality Commentary				
15	Research support and competitiveness	Definition Metric	100	↔
16	Research commercialization/technology transfer	Definition Metric	100	↔
17	Workforce development	Definition Metric	100	↑
18	Graduates employed in Maryland	Definition Metric	100	↓

Key / Explanation

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.

Another issue related to accountability and efficiency is that of ensuring 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:

Create a coordinating group 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, the Maryland Higher Education Commission should convene a group 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. (23)

Workforce Development

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 the Maryland State Department of Education.

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 the Maryland Higher Education Commission; 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.

This workforce data not only informs 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 for 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; the Maryland State Department of Education; 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 independent four-year institutions, that train the technicians needed to support the new economy. (29)

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; we used to have a surplus of teachers, but now we do not. 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. (8)

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 many of its independent colleges survey their graduates to learn about their experiences in their first year after graduation. The 16 community colleges use the same questionnaire, but 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 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 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.

The Governor's Workforce Investment Board (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.
(36)

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; 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 the Governor's Workforce Investment Board should be assessed. Reports of study findings shall be posted to the Maryland Return on Investment in Higher Education accountability web site. (37)

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 forgiveness 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. (16)

Through the 2005 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.

Therefore, 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 independent 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 science, technology, engineering, and mathematics (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 the Maryland Higher Education Commission (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 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. (38)

Ensuring Future Progress

Alternative Funding for Capital Projects

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 used \$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. (19)

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. (20)

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:

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. (18)

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 which 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 University System of Maryland (USM) has explicitly recognized the importance of technology transfer and has created a Board of Regents' 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 on the University of Maryland, Baltimore campus and the Tech Ventures program at the University of Maryland, College Park, 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 the University of Maryland, Baltimore 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 independent 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 independent 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 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.

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. (31 and 42)

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 the University System of Maryland (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 historically black institutions, 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 75th Percentile TWI and 80th Percentile HBI of Competitor States⁶</u>	<u>Difference Between Competitor State Funding Guideline and FY 2009 Appropriation</u>	<u>Funding Guideline Based on 50th Percentile of Competitor States</u>
Bowie State University ^{1,2}	\$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 ⁴	33,037,002	45,601,466	12,564,464	52,963,961	19,926,959	21,919,296
UM University College ³	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
Total	\$1,158,042,778	\$1,627,554,550	\$469,511,772	\$1,823,855,386	\$665,812,608	\$1,418,677,232

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Source: Maryland Higher Education Commission, University System of Maryland

¹ Funding for Bowie State equated to Funding per FTE for Coppin State using MA/M and MA/S Institutions.

² Tuition revenue for Bowie State backs out tuition revenue for European Operations.

³ University College FTE Enrollment reduced for NonMaryland Online Enrollments and tuition revenue reflects statewide revenue only.

⁴ UMES funding guideline based on peer group including MA/S, MA/L and RU/H institutions.

⁵ Tuition Revenue Estimates equal fiscal 2009 Tuition revenue increased by 4 percent.

⁶ Funding for HBI institutions set at eightieth percentile and for TWI institutions set at seventy-fifth percentile of Competitor State Peers.

⁷ 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 75th Percentile TWI and 80th Percentile HBI of Competitor States⁶</u>	<u>FY 2009 Appropriation Attainment Under 75th Percentile TWI and 80th Percentile HBI of Competitor States</u>	<u>Difference Between 75th Percentile Competitor State Funding Guideline and FY 2009 Appropriation</u>
Bowie State University ^{1,2}	\$35,856,960	\$46,381,193	77%	\$46,506,381	77%	\$10,649,421
Coppin State University	35,138,565	34,315,892	102%	39,198,542	90%	4,059,977
Frostburg State University	33,456,543	41,145,864	81%	41,390,883	81%	7,934,340
Salisbury University	39,640,679	59,745,756	66%	66,629,616	59%	26,988,937
Towson University	91,384,025	134,697,504	68%	153,018,904	60%	61,634,879
University of Baltimore	31,380,444	63,094,712	50%	54,983,048	57%	23,602,604
UM, Baltimore	184,715,976	296,532,216	62%	311,679,096	59%	126,963,120
UM Baltimore County	91,464,824	132,824,401	69%	180,478,417	51%	89,013,593
UM, College Park	420,028,576	571,045,070	74%	643,538,510	65%	223,509,934
UM Eastern Shore ⁴	33,037,002	45,601,466	72%	52,963,961	62%	19,926,959
UM University College ³	28,986,826	64,706,137	45%	63,396,556	46%	34,409,730
UM Biotechnology Institute	20,624,785	28,072,770	73%	31,599,858	65%	10,975,073
UM Center for Env. Science	17,885,006	24,343,608	73%	27,402,160	65%	9,517,154
USM Office	19,730,846					
USM Total	1,083,331,057	1,542,506,589	70%	1,712,785,932	63%	649,185,721
Morgan State University	74,711,721	85,047,961	88%	111,069,454	67%	36,357,733
Total	\$1,158,042,778	\$1,627,554,550	71%	\$1,823,855,386	63%	\$665,812,608

Source: Maryland Higher Education Commission, University System of Maryland

¹ Funding for Bowie State equated to Funding per FTE for Coppin State using MA/M and MA/S Institutions.

² Tuition revenue for Bowie State backs out tuition revenue for European Operations.

³ University College FTE Enrollment reduced for NonMaryland Online Enrollments and tuition revenue reflects statewide revenue only.

⁴ UMES funding guideline based on peer group including MA/S, MA/L and RU/H institutions.

⁵ Tuition Revenue Estimates equal fiscal 2009 Tuition revenue increased by 4 percent.

⁶ Funding for HBI institutions set at eightieth percentile and for TWI institutions set at seventy-fifth percentile of Competitor State Peers.

⁷ Total includes USM Office

Appendix 1.3

Recommended State Funding Per FTE

<u>Institution</u>	<u>FY 2009 Appropriation with Cost Containment</u>	<u>FY 2010 Funding Guideline</u>	<u>80th Percentile HBI – 75th Percentile TWI Competitor States</u>	<u>Competitor State 80th Percentile HBI – 75th 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 Approp</u>	<u>FY 2011 using FY 2010 Guideline</u>	<u>FY 2011 using FY 2010 Competitor States Guideline</u>	<u>% increase over FY 2009 Approp</u>	<u>% increase Over FY 2010 Guideline</u>
Community Colleges (28% in FY11)	\$2,424.08	3,055.70	3,510.48	45%	15%
BCCC (69% in FY11)	6,443.38	7,530.12	8,650.82	34%	15%
Selling (16%)	1,253.87	1,746.11	2,005.99	60%	15%

Sources: Maryland Higher Education Commission, Department of Legislative Services

Appendix 1.4

Resident Undergraduate Tuition and Fees Flagship Universities

<u>State</u>	<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	\$7,426	\$7,821	\$7,906	\$7,969	0.8%	17.9%
Competitor States (CS)							
California	\$5,250	\$5,956	\$7,434	\$7,800	\$8,385	7.5%	59.7%
Massachusetts	7,482	9,008	9,278	9,600	9,924	3.4%	32.6%
Minnesota	7,116	8,029	8,622	9,432	9,598	1.8%	34.9%
New Jersey	7,927	8,564	9,237	9,958	10,686	7.3%	34.8%
New York	5,852	5,977	6,068	6,129	6,218	1.5%	6.3%
North Carolina	4,072	4,451	4,613	5,033	5,340	6.1%	31.1%
Ohio	6,412	7,446	7,795	8,667	8,676	0.1%	35.3%
Pennsylvania	9,206	10,856	11,508	11,905	12,844	7.9%	39.5%
Virginia	5,964	6,600	7,180	7,845	8,500	8.3%	42.5%
Washington	4,863	5,181	5,505	5,880	6,280	6.8%	29.1%
National Average	\$5,221	\$5,701	\$6,172	\$6,618	\$7,029	6.2%	34.6%
CS 50th Percentile	\$6,188	\$7,023	\$7,615	\$8,256	\$8,588		
Maryland Higher (lower) than CS 50th percentile	\$571	\$403	\$207	-\$350	-\$619		

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

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%
Competitor States (CS)							
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%
National Average	\$4,173	\$4,547	\$4,872	\$5,201	\$5,526	6.2%	32.4%
CS 50th Percentile	\$5,006	\$5,325	\$5,567	\$5,971	\$6,243		
Maryland Higher (lower) than CS 50th percentile	\$742	\$927	\$1,189	\$971	\$925		

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%
Competitor States (CS)							
California ¹	\$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%
National Average	\$2,155	\$2,329	\$2,488	\$2,626	\$2,737	4.2%	27.0%
CS 50th Percentile	\$2,532	\$2,703	\$2,892	\$3,048	\$3,128		
Maryland Higher (lower) than CS 50th percentile	\$143	\$172	\$166	\$46	\$2		

¹Fees 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

Estimated State-funded Need-based Grant Dollars per Undergraduate Enrollment Competitor States 2006-2007

	State Need-based Grant Aid Awarded	Undergraduate FTEs	Estimated Need-based UG/Grant Dollars/UG FTE	Need-based Grant Dollars as % of State Appropriations for Higher Ed. Operating Expenses
Maryland	\$93,536,000	195,042	\$465.18	6.5%
Competitor States				
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%
Competitor States – 75th percentile	359,104,000	477,858	824.68	12.3%
Difference – 75th percentile	265,568,000	282,816	359.50	5.8%

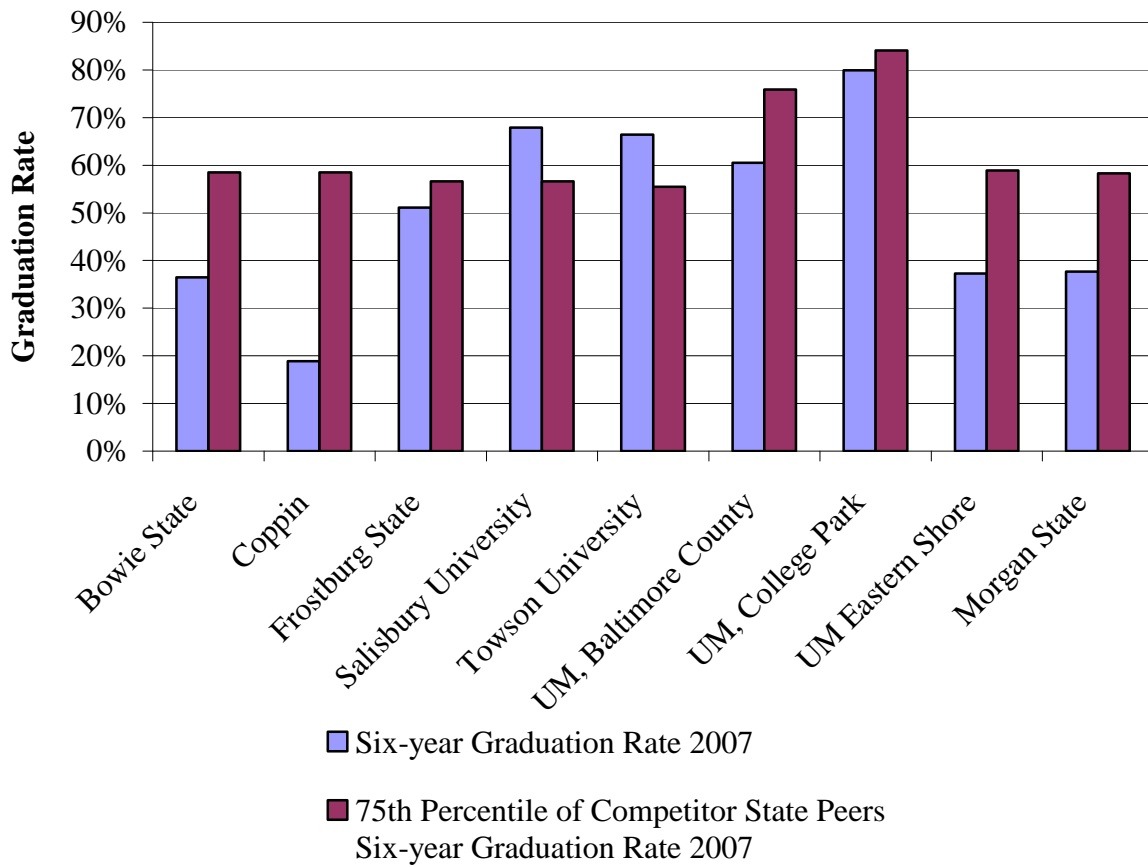
Funding needed to reach the comparison states 75th percentile need based grant dollars per FTE: \$70,117,599

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

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

Appendix 1.8

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



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Appendix 1.9

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

Fiscal or Calendar Year	Average Tuition & Mandatory Fees	Annual % Change Tuition & Mandatory Fee	Nominal Median MD Income	Annual % Change Median Family Income	3 year % Change Median Family Income
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
