



## **Volume I**

### **2004 State Plan for Postsecondary Education Implementation Report**

## **Summary**

### **Segments and State Agencies**

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## Executive Summary

The purpose of this report is to provide an account of the progress made by the Maryland Higher Education Commission, appropriate state agencies and the segments of higher education in the implementation of the *2004 Maryland State Plan for Postsecondary Education*.

The *2004 State Plan for Postsecondary Education (Plan)* embodies the Commission's vision for postsecondary education in Maryland and emphasizes that Maryland has a duty to ensure that all its citizens have access to quality postsecondary education. This vision will be achieved through the overarching goal, which calls for the development of a comprehensive model to guide policy decisions relating to postsecondary education, and five goals considered critical to the ongoing development of postsecondary education in Maryland. The five goals focus on the following areas:

(1) Quality and Effectiveness; (2) Access and Affordability; (3) Diversity; (4) A Student-Centered Learning System; and (5) Economic Growth and Vitality. To achieve these goals, forty-six action recommendations were developed. The Maryland Higher Education Commission, appropriate state agencies, and the segments of higher education, individually or as a group, have been designated as the lead agency responsible for implementing, coordinating and monitoring the progress of each action recommendation and for preparing and submitting progress reports to the Commission.

This report, which is a compilation of the progress reports submitted by each designated lead agency, features two volumes. Volume I is a summary matrix document which lists each goal and action recommendation in the Plan, briefly explains the progress made and the status or completion date of each action recommendation. Volume II is a comprehensive document which provides a detailed account of the progress made by each designated lead agency to achieve each action recommendation. These progress reports, also organized by goals followed by action recommendations, were compiled in the same format as submitted by the lead agency.

Significant progress has been made over the past two years to achieve the goals of the Plan and many action recommendations have been accomplished. However, it is recognized that on-going commitment to the Plan is needed to ensure Maryland has a high quality, postsecondary education system that is accessible and affordable for all students and meets the State's economic needs. The Maryland Higher Education Commission, appropriate state agencies, and the segments of higher education remain committed to the implementation of the Plan and continue to work diligently to achieve the agreed upon goals within the time frame established.

The Commission hopes that you find this report of great value. Periodic updates on the implementation of the Plan will be provided as all appropriate organizations continue to work collaboratively to enhance postsecondary education and strive to meet workforce needs in the State.

## 2004 State Plan for Postsecondary Education Implementation Report

### OVERARCHING GOAL

The State has a responsibility to ensure that all sectors are adequately and effectively coordinated to make postsecondary education a key and integral component of public education for Maryland citizens. To fulfill this responsibility, a comprehensive framework should be developed to guide decisions relating to postsecondary education in Maryland. The actions relating to this framework envelop all of the goals that follow and serve as a preface to the goals.

<i>Action Recommendations</i>	<i>Lead</i>	<i>Progress Report</i>	<i>Status/ Completion Date</i>
<p>The Maryland Higher Education Commission (MHEC) should host a public forum to discuss the development of a <b>postsecondary education model</b>. This model should address the linkage of tuition policy, State support to institutions, and institutional and State financial aid in regard to student access and the needs of the State. The public debate should include but not be limited to consideration of:</p> <ul style="list-style-type: none"> <li>○ How access can be provided to all Maryland residents who can benefit from postsecondary education and desire to attend a college, university, or private career school.</li> <li>○ The appropriate balance between the student share and the State share of the cost of higher education.</li> <li>○ The economic and civic benefits to the State from having an educated population.</li> </ul> <p>The postsecondary education model should be the foundation for the development of a coordinated statewide 10-year growth plan for postsecondary education.</p>	MHEC	<p>MHEC selected a consultant group, led by Gordon Van de Water, to study how higher education is funded in Maryland and several peer states and to make recommendations for consideration by Maryland policy makers.</p> <p>The consultant's report will be reviewed by the Commission to Develop the Maryland Model for Funding Higher Education that was established by SB 959 during the 2006 session. This Commission will develop recommendations on higher education funding and the future of higher education in Maryland. The Commission will convene its first meeting in April 2007.</p>	<p>Consultant's report to MHEC completed.</p> <p>Final report from the Commission to Develop the Maryland Model for Funding due December 2007.</p>

**GOAL 1**

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

<i>Action Recommendations</i>	<i>Lead</i>	<i>Summary Progress Report</i>	<i>Status/Completion Date</i>
<p><b>1.1:</b> Provide appropriate funding levels for higher education based on <b>funding guidelines</b> and statutory formulas presently in State law to ensure predictable tuition levels and maintain institutional quality.</p> <p>Fully fund guidelines and statutory guidelines.</p>	MHEC	<p>The State appropriated \$1.4 billion to higher education for FY 2007. Funding guideline attainment for four-year public institutions was 83% overall, with four institutions above 100% and three more institutions at 90% or higher.</p> <p>Independent institutions were fully funded through the Joseph A. Sellinger program.</p> <p>Community Colleges were fully funded through the Senator John A. Cade formula. Baltimore City Community College received \$2.6 million above full funding of its formula aid in FY 2007.</p>	On-going
<p><b>1.2:</b> Continue to provide <b>State matching funds</b> to promote donations from the private sector and to encourage public higher education institutions to increase the public's level of gifts and donations to institutions' endowments and encourage institutions to increase private fund-raising for student financial aid programs through a program such as the Private Donation Incentive grant fund</p>	MHEC, General Assembly	<p>The General Assembly reauthorized the Private Donation Incentive Program (PDIP) in 1999 and made several modifications to the program, including extending the eligibility period for Maryland's Historically Black Institutions (HBIs) to January 2010.</p> <p>The FY 2007 appropriation of \$2.5 million meets the statutory obligation for all institutions and \$2.4 million has been provided in the FY 2008 base budget.</p>	To be completed FY 2010
<p><b>1.3:</b> Examine existing practices, procedures, and requirements to identify those that result in duplication of effort, redundancy of reporting, and bureaucratic barriers; and develop cost-effective methods to achieve needed outcomes and objectives.</p>	Institutions, Segments	<p>The community colleges implemented initiatives to improve efficiency and cut costs while maintaining the quality of education services, saving a total of \$17.2 million and \$9.6 million in FY 2004 and FY 2005, respectively.</p>	On-going

<p>Examine established <b>best practices in cost management</b> and develop enhanced approaches to support capital and operating investment. These examinations may include review of reporting requirements of the Code of Maryland Regulations (COMAR) and of alternative and cost-effective methods of (a) instructional delivery (e.g. definitions of “seat time” requirements) and (b) innovative facility acquisition, expansion, and management</p>		<p>Independent colleges and universities prepared an Efficiency and Effectiveness brief documenting actions taken to provide quality education at reasonable cost, including:</p> <ul style="list-style-type: none"> <li>a. faculty workload and efficient faculty payrolls;</li> <li>b. time-to-degree performance;</li> <li>c. use of on-line and out-of-classroom learning;</li> <li>d. efficient procurement and innovative collaborative efforts.</li> </ul> <p>Morgan State University (MSU) implemented new software to improve effectiveness of administrative processes. The university is giving priority to developing infrastructure appropriate for its mission.</p> <p>St. Mary’s College of Maryland (SMCM) has undertaken a rolling 5-year Strategic Plan, updated annually to include ways to operate existing business processes and procurement more efficiently.</p> <p>Maryland Technology Development Corporation (TEDCO) is supporting research consistent with Maryland’s needs including innovations that have the potential to improve the efficiency and speed of both deployment and military operations and encouraging private Maryland firms to consider the relevance of their intellectual property to military missions.</p>	
<p><b>1.4:</b> Provide funds to support <b>faculty development</b> to make optimal use of advanced technologies in instruction and to develop skills in meeting the increasing needs of a more diverse student population</p>	<p>Institutions, Segments</p>	<p>MHEC requested \$350,000 in its FY 2007 budget for MarylandOnline. This funding would also support faculty development in the use of advance technologies instruction. This request was declined.</p> <p>MHEC continues to support and seek funding for the Quality Matters peer review process used to review online courses against national standards of best practice, research</p>	<p>On-going</p>

		<p>literature and instructional design principles. This initiative includes the training and certification of faculty Peer Reviewers.</p> <p>Additional state funding is required for the following initiatives:</p> <ul style="list-style-type: none"> <li>a. creation of a website that informs and markets the features of Quality Matters within the State. The ultimate goal is to increase the number of member Maryland institutions, especially senior higher education institutions,</li> <li>b. training of faculty on how to use the on-line tools for developing and evaluating on-line courses.</li> </ul> <p>The request for funding was revised and resubmitted for consideration in the FY 2008 budget.</p>	
<p><b>1.5:</b> Continue to work to ensure that Historically Black Institutions (HBIs) are comparable and competitive, both in terms of programs and infrastructure, with Maryland's Traditionally White Institutions (TWIs) with comparable missions.</p>	<p>MHEC, USM, DBM, HBIs</p>	<p>The Commission's Report to the Office for Civil Rights (OCR) concluded that the State has met the specific commitments for providing funding to the HBIs as delineated in Commitment 9 of the State's Agreement. The Commission found it extremely difficult to determine whether the funding provided to the HBIs has made them "comparable and competitive" to TWIs; since the terms of the Agreement did not provide sufficient benchmarks for this assessment.</p> <p>In the FY 2007 budget, the percentage of the guidelines funded for HBIs matched, and in some cases surpassed the funding of TWIs. The Report to OCR recommended continuing support for the HBIs, which was provided in the FY 2007 budget and is being requested for FY 2008. Further, the Report recommended and the Commission supported the development of measurable indicators on key areas to achieve parity among the TWIs and the HBIs along</p>	<p>On-going</p>

		with annual reports of progress toward the established benchmarks.	
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**GOAL 2**

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

<i>Action Recommendations</i>	<i>Lead</i>	<i>Summary Progress Report</i>	<i>Status/ Completion Date</i>
<p><b>2.1:</b> The Secretary of Higher Education, in consultation with the Secretary of Budget and Management and the higher education community, should examine and recommend <b>revisions to the capital improvement planning process</b>, including any needed revisions of the capital facilities space guidelines for higher education. This study should incorporate data on the actual use of academic facilities and on the impact of distance education to aid in the development of guidelines and should include consideration of the deferred maintenance needs of higher education. Currently, the University System of Maryland (USM) and the Department of Budget and Management (DBM) are conducting a review of several institutions with large space deficits. The results of this review should be considered in any revision to the facilities space guidelines.</p>	<p>MHEC with DBM, DLS, Institutions, Segments</p>	<p>MHEC established a workgroup to study the capital facilities space guidelines that completed its work in October 2006. The workgroup found that Maryland has a sound capital planning process, but needs to study ways in which to incorporate new delivery methods and student enrollment patterns into higher education capital planning process. The recommended actions from this study will inform the development of a 10-year growth plan for higher education.</p>	<p>Completed October 2006</p>
<p><b>2.2:</b> The Maryland Higher Education Commission, in consultation with the segments of higher education, should develop a coordinated statewide <b>10-year growth plan</b> for all of higher education, establish a growth strategy for the State for both traditional and nontraditional students and specify growth goals for each of the public segments, with consideration of the projected growth of the independent segment. This plan should also build upon work that is currently being undertaken by higher education institutions and other State agencies. The plan will be based on guaranteeing access in the most cost-effective manner while meeting the educational aspirations of students. It is</p>	<p>MHEC with DBM, General Assembly Institutions, Segments</p>	<p>The capacity and space guidelines workgroup report and the funding model for postsecondary education will provide a framework for the development of the 10-year growth plan. The capacity and space guidelines workgroup has completed its work. The Commission to Develop the Model for Funding Higher Education will begin meeting in January 2007.</p>	<p>Step 1, completed October 2005 Step 2, to be completed by December 2007 Final report Fall 2008</p>

<p>important that Maryland's HBIs projected to absorb significant growth are enhanced to ensure their appeal to these new students.</p> <p>The plan should also consider the needs of the State for highly trained and skilled professional and technical workforce to serve businesses and attract research investments. The key element will be the proportional distribution of the growth in enrollments among the segments. This growth strategy should be used to inform capital funding decisions.</p>			
<p><b>2.3:</b> The Maryland Higher Education Commission should propose to the Governor and General Assembly by March 15, 2006, a State policy on <b>regional higher education centers</b>.</p>	MHEC	<p>A strategy for funding the regional higher education centers was presented to the Governor and to the General Assembly leadership. Funding, based on the MHEC's recommended strategy, has been included in its budget for FY 2008.</p>	Completed May 2006.
<p><b>2.4:</b> Obtain funding for the expansion of <b>MarylandOnline</b> as a Web gateway to online courses offered by all Maryland postsecondary institutions.</p>	MHEC	<p>Requested \$350,000 in the MHEC FY 2007 budget. This request was declined.</p> <p>MarylandOnline is a fee-based consortium of 23 institutions formed to provide a robust web portal as a clearing house for all online education and training in Maryland, to provide high quality online student services to distance learners, and to market Maryland education to the world. It is a concern that many Maryland colleges and universities do not have the baseline equipment and services necessary for the fastest growing form of post secondary education and training, online instruction.</p> <p>The current revenue gathered from fees are insufficient for providing essential structural supports and services needed to achieve a level playing field with the other state-funded virtual universities.</p> <p>The request for funding was revised and resubmitted for consideration in the FY 2008 budget.</p>	

<p><b>2.5:</b> Obtain funding for the development of the <b>Maryland Digital Library</b> in the areas of the digitization and sharing of library collections, the development of a statewide online union catalog, and for expanded online resources available to all Maryland campuses.</p>	<p>MHEC</p>	<p>Requested \$500,000 in MHEC’s budget for FY 2007. This request was declined. The Maryland Digital Library is a fee based consortium of Maryland colleges and universities for the joint purchasing of expensive online databases and research tools, thereby making these resources available to every student and faculty member at every college and university in the state. However the funding structure is not sufficient to provide the scope of services provided by virtual libraries in other states.</p> <p>The request for funding was revised and resubmitted for consideration in the FY 2008 budget.</p>	<p>On-going</p>
<p><b>2.6:</b> Expand matching grant program to support the acquisition, maintenance and upgrading of <b>campus technology infrastructure</b>.</p>	<p>MHEC</p>	<p>The General Assembly reauthorized the Innovative Partnerships for Technology program in 2002, extending it until FY 2009. The first year donations were matched in this program was FY 2005. Over \$2.9 million has been budgeted for FY 2007 meeting all statutory obligations, leaving \$1.2 million for future budget cycles.</p>	<p>To be completed FY 2009</p>
<p><b>2.7:</b> MHEC should propose a mechanism for the <b>joint purchase of information technology</b> and software.</p>	<p>DBM Institutions</p>	<p>Higher education institutions now have a variety of joint purchasing vehicles that they can access. Among these are the following:</p> <ol style="list-style-type: none"> <li>1. The Procurement Liaison Office of the Department of Budget and Management currently administers several IT Master Contracts for the State of Maryland for the purchase of hardware, software, and consultant services.</li> <li>2. USM facilitates consortium purchases including, but not limited to, software, hardware and consultative services. In addition, the University of Maryland Academic Telecommunications System (UMATS) is the backbone for Maryland’s Education Group</li> </ol>	<p>On-going.</p> <p>The goal of the recommended action has been achieved.</p>

		<p>Partners (MEGP) network. UMATS, networkMaryland, and the Sailor Library Network collaboratively work together in a variety of resource share agreements that increase services and lower costs, and extends to all segments of the State of Maryland.</p> <p>3. The State of Maryland, UMATS, and the Maryland Department of Transportation have formed a partnership that will replace much of networkMaryland between Annapolis, Baltimore, and College Park. This resource share agreement provides unlimited networking services for Internet 1 Service, Internet 2, video conferencing, and other next generation networking that supports state government, education, and research.</p>	
<p><b>2.8:</b> Expand the amount of need-based financial aid provided by secondary institutions by encouraging the institutions to review their aid programs and to target more funds to support students, including transfer students, with financial.</p>	<p>Institutions</p>	<p>Community college institutional aid increased by approximately \$1.3 million between FY 2003 and FY 2004. Community colleges have continued these efforts by raising funds through donations.</p> <p>MICUA institutional and private financial aid increased by 70% from FY 2001 to FY 2005 (\$200 million to \$340 million). Many MICUA institutions have targeted scholarship programs for disadvantaged students</p> <p>Morgan has historically reallocated a high percentage of its tuition and fee revenue to need-based aid. Over \$5 million has been provided in each of the three prior fiscal years.</p> <p>St. Mary's institutional need-based aid budget has increased from \$910,393 in FY 2004 to over \$2 million in FY 2007.</p> <p>USM's institutional need-based aid has increased from \$19.7 million in FY 2004 to \$21.6 million in FY 2005. This</p>	<p>On-going</p>

		trend is expected to continue with the full implementation of the 2004 USM Financial Aid Task Force Recommendations. Many initiatives are underway on campuses to minimize student loan debt and provide more aid to needy students.	
<b>2.9:</b> Increase funding to award eligible students for the <b>Educational Excellence Awards</b> Program, the Part-Time Grant, and the Graduate and Professional Scholarship. Awards should increase each year based on tuition and fee increases.	MHEC	Need-based aid has increased by 96%, or \$40.9 million, from FY 2004 to FY 2007 to award more full-time and part-time, graduate and undergraduate students. Awards have been adjusted for tuitions and fees and the maximum awards have increased in each program.	On-going
<b>2.10:</b> Revise State need-based aid programs to promote a high level of student access and choice that is flexible enough to accommodate students from a variety of circumstances. Educational Excellence Awards Program modifications could include: <b>2.10: a. Expand the campus-based Educational Assistance Grant program</b> to further address the needs of many low-income students who for extenuating circumstances may miss financial aid deadlines.	MHEC	Funding has increased from \$2 million to \$3 million in the program. The funding level will be assessed and increased as necessary	On-going
<b>2.10: b.</b> Revise the <b>Educational Assistance Grant</b> program (EAG) to provide more student choice by increasing the percent of need provided to improve access and affordability and to minimize loan debt. Implementation of this policy is contingent upon additional funding for need-based aid.	MHEC	The Community College Access Initiative has been implemented to award community college students based on 60% of need, increase the percent of need used for four-year institutions to 40% and increase the overall maximum award in the program to \$3,000.	Completed FY 2007
<b>2.10: c.</b> Treat commuter students and residential students equitably; <b>adjust the living cost formula</b> to encourage commuter students or non-residential students.	MHEC	Standard allowances for students living off campus increased from \$4,000 to \$5,100 and for students living with parents from \$2,500 to \$3,200. MHEC will survey institutions every two years to determine average living costs for all students and continue to make adjustments as necessary.	On-going

**GOAL 3**  
**Ensure equal educational opportunity for Maryland's diverse citizenry.**

<p><b>3.1:</b> MHEC in consultation with the segments should develop a <b>statewide workshop</b> on “cultural competence” and for sharing successful strategies for marketing to a diverse student population.</p>	<p>MHEC</p>	<p>MHEC staff has met with several campus diversity services administrators to discuss the timing and logistics for a statewide all-day workshop on cultural competence. Funding needs to be identified (conference fees, identifying grants, etc.). Attendees of the workshop would include campus diversity administrators, freshman orientation staff, department faculty and academic advisors.</p>	<p>Planning is underway.</p>
<p><b>3.2:</b> Campuses should offer programs that encourage cultural awareness</p>	<p>Institutions, Segments</p>	<p>Colleges and universities have developed programs to increase cultural awareness as this relates both to minorities and to international cultural differences. Many colleges have created offices of cultural diversity and specific programs such as:          Community College of Baltimore County - Students Taking Action to Reach Success          Frederick Community College - Multicultural Student Support Services and Office of Diversity and Global Awareness          Montgomery College - designates different cultures for emphasis on a monthly basis          Hood College - National Hispanic Scholars program          Ten Maryland Independent College and University Association institutions - the Urban Scholars Program for Baltimore City students          Johns Hopkins University - An annual CultureFest; a scholarship program that allows Baltimore City high school graduates to attend JHU tuition free          Loyola College - A Diversity Committee develops campus-wide programs to increase cultural awareness, such as ALANA (African, Latino, Asian, and Native American) Student Services; Diversity Reading Series,</p>	<p>On-going.</p>

		<p>Diversity Course Requirement, and Multicultural Infusion Workshop for faculty.</p> <p>St. Mary's College of Maryland - a Multicultural Advisory Committee; cross-disciplinary studies, such as Asian Studies, African Diaspora Studies, and Women, Gender and Sexuality studies.</p> <p>University System of Maryland - Each USM campus has developed a diversity statement and/or strategic goals for diversity. Most campuses have an Office of Diversity. Student organizations are available for Latino, Black, African, Lesbian, Gay, students as well as non-traditional age students.</p> <p>Campus chapters of national organizations exist such as National Coalition Building Institute, International Students, Thai, Chinese, European, Indian, Middle East, and Muslim student organizations</p> <p>Cultural venues are provided such as African-American Centers, an Asian Arts and Culture Center, a Hillel Center, Women's center.</p> <p>Morgan State University (MSU) - MSU provides students with opportunities to understand the nature of urban life. As a campus with a student body that is predominantly African American, Morgan's cultural activities and social events are organized with the goal of appealing to the interests of minority students.</p>	
<p><b>3.3:</b> Campus publications should reflect diversity of the student body.</p>	<p>Institutions</p>	<p><b>Community colleges:</b> All have incorporated statements embracing cultural diversity on their websites, and all include these values in their catalogs and brochures. Every college is careful to reflect the diversity of their communities and enrollment in the text and the photographs included on their websites, and printed publications.</p> <p><b>USM:</b> System-wide councils, workgroups, and committees meet regularly to share best practices and</p>	<p>On-going.</p>

		<p>discuss issues that include the appropriateness of the reflection of diversity in institutional publications. These discussions lead to a heightened sensitivity to this particular issue. Additionally, institutional units that focus on diversity matters routinely monitor campus publications.</p> <p><b>Morgan State University:</b> MSU has engaged a marketing firm to broaden its appeal through advertisements, the web, and its publications. A major focus of this effort is to ensure that students of all racial and ethnic backgrounds are represented in the University’s marketing materials.</p> <p><b>St. Mary’s College of Maryland:</b> Diversity is reflected in publications including an admissions brochure for underrepresented populations, View Book for all potential students, Catalog for current students, and Factbook for faculty, staff, administrators, and visitors. SMCM’s achievements in diversity are further noted in State reports and popular media, such as the Baltimore Sun, Washington Post, and the Chronicle of Higher Education.</p> <p><b>Maryland Independent Colleges and Universities Association (MICUA) institutions:</b> MICUA has encouraged all of its member institutions to produce publications that reflect the diversity of their campuses. Recently, MICUA produced the publication, <i>Providing Solutions for Maryland</i>. The focus of the publication is access, affordability, diversity, and success.</p>	
<p><b>3.4:</b> MHEC should work with the Cahnccellor of the University System of Maryland and the presidents of Bowie State University, Coppin State University, and the University of Maryland Eastern Shore; the president of Morgan State University; representatives of the Department of Budget and Management; and the budget</p>	<p>MHEC</p>	<p>The Committee to review Commitment 9, <i>Enhancing Maryland’s Historically Black Colleges and Universities</i>, of the Partnership Agreement with the Office of Civil Rights concluded that the State met the specific commitments for providing enhancement funding to the</p>	<p>On-going</p>



<p>committees of the Maryland General Assembly to identify <b>enhancement funds needed to ensure the State’s four HBIs are comparable and competitive</b> with the State’s TWIs, both in terms of programs and infrastructure, with Maryland’s TWIs with comparable missions. The cost of these enhancements should be determined and a timetable developed by the State for providing the necessary funding to accomplish them.</p>		<p>HBIs as delineated in Commitment 9, but found it extremely difficult to determine whether the funding provided to the HBIs have made them “comparable and competitive” to the TWIs since the terms of the Agreement did not provide sufficient benchmarks for this assessment. The Committee recommended continuing support for the HBIs, which was provided in the FY 2007 budget and is being requested for FY 2008. Further, the Committee recommended and the Commission supported the development of measurable indicators on key areas to achieve parity among the TWIs and the HBIs along with annual reports of progress toward the established benchmarks.</p>	
<p><b>3.5:</b> MHEC should continue its <b>annual evaluation</b> of the progress of the State’s performance in meeting its commitments in its partnership agreement with the U.S. Department of Education Office for Civil Rights (OCR), identifying areas that still require attention and determining how to further the progress that has been made.</p>	<p>MHEC</p>	<p>The Commission will develop measurable indicators on areas required to achieve parity among the Traditional White Institutions (TWIs) and Historically Black Institutions (HBIs) and publish annual progress reports. The first of these reports will appear in fall 2007.</p>	<p>First annual report in Fall 2007.</p>
<p><b>3.6:</b> MHEC should form an intersegmental group to discuss, promote, and implement <b>academic advising practices</b> and initiatives for ensuring the academic success of all students, including narrowing the gap for all students.</p>	<p>MHEC</p>	<p>An intersegmental group will be formed to address the current practices associated with student advising and retention. It will consider best practices in the area of student advising that have been proven to provide positive and measurable results related to retention and academic success. It is anticipated that the academic advisory group will form in mid-late Fall, 2006 and work throughout 2007.</p>	<p>Report due Winter 07-08</p>
<p><b>3.7:</b> Colleges and universities should implement aggressive recruitment programs to attract African American and other ethnically under-represented students to advanced degree programs, particularly doctorates. These efforts should include identifying and establishing</p>	<p>Institutions, Segments</p>	<p>In FY 2006, the Commission submitted a budget request for \$2 million to add a component to the current Diversity Grant Program, which provides scholarships to graduate students. The proposal would provide funds to campuses, on a competitive basis, to enable them to provide or</p>	<p>On-going.</p>

<p>communications with talented undergraduates at Maryland institutions, explaining the benefits of graduate education, and providing adequate financial support in the forms of fellowships, teaching and research assistantships, tuition waivers, and similar aid.</p> <p>.</p>		<p>supplement programs that will prepare and recruit more minority students into graduate programs. The request was not funded.</p> <p>Bowie State University, Coppin State University, University of Maryland Baltimore County, and the University of Maryland College Park operate the federally funded Ronald E. McNair Post baccalaureate Achievement Program designed to prepare participants for doctoral studies through involvement in research and other scholarly activities. McNair participants are from disadvantaged backgrounds and have demonstrated strong academic potential. The goal of McNair is to increase the attainment of the Ph.D. by students from underrepresented segments of society.</p> <p><b>Coppin State University</b> - McNair graduates have earned 103 masters and six doctorates. Ph.D. fields include pharmacology, education, criminal justice, higher education administration, and psychology from institutions such as Duke, Harvard, Howard, Illinois-Champaign-Urbana, Lehigh and The Ohio State University.</p> <p><b>Towson University</b> has implemented “Teachers for Tomorrow” a collaborative program with Coppin and Baltimore City Public Schools to provide Master Degree Programs for certified teachers. Since 2001-2002, there have been 31 graduates, 21 of whom are minority.</p> <p><b>University of Maryland, Baltimore County</b> has efforts such as, institutionalized best practices through “Diversifying on Campus Scholars” (UMBC DOCS), an initiative with the goal of increasing diversity of all kinds among the doctoral students. PROMISE: Maryland’s Alliance for Graduate Education and the Professoriate</p>	
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		<p>(AGEP), is a coalition of UMBC (as lead institution) UMCP, and UMB dedicated to increasing the number of minorities who earn Ph.D.s in science, engineering, and mathematics.</p> <p><b>Morgan</b> is a leader in doctoral education for minorities in the state and nationally, even though its doctoral programs are of recent vintage. Nationally, among all traditional campuses, the University ranks 18<sup>th</sup> in the number of doctoral degrees awarded to African Americans. Nationally, Morgan ranks 4<sup>th</sup> on this measure in engineering, 8<sup>th</sup> in education, and 11<sup>th</sup> in the health sciences.</p>	
<b>3.8:</b> Expand and leverage the Doctoral Scholars Program	Institutions	The Commission has submitted a funding request to add a component to the current Diversity Grant Program, which provides scholarships to graduate students. The additional component will provide or supplement programs that will prepare and recruit more minority students into graduate programs. The campus programs will identify and recruit minority students who have completed 60 or more credit hours and provide a variety of services to these students.	On-going

**GOAL 4**

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

<i>Action Recommendations</i>	<i>Lead</i>	<i>Summary Progress Report</i>	<i>Status/ Completion Date</i>
<p><b>4.1:</b> The State and colleges and universities should work to increase the capacity of teacher education programs to meet the hiring needs of local school systems, particularly in content fields that are declared critical shortage areas and with regard to hiring males and minorities.</p>	<p>Institutions, Segments, MSDE, MHEC</p>	<p>Enrollments in teacher education are expected to increase as a result of 59 new Associate of Arts in Teaching (AAT) Degree Programs approved to be offered by Maryland community colleges. This includes 32 AAT programs in the following critical teacher shortage areas: mathematics, chemistry, physics, and Spanish.</p> <p>In addition, in Fall 2006, a Teacher Workforce Steering Committee was established by the Governor’s Workforce Investment Board (GWIB) to bring together higher education institutions, private industry, government, and other interested parties to identify strategies to increase the supply of teachers and meet the hiring needs of local schools systems in Maryland.</p> <p>The Commission works to meet the need for teachers in areas of critical shortage through two financial assistance programs:</p> <p><u>The Sharon Christa McAuliffe Memorial Teacher Education Award</u> - It is estimated that 65 students will receive this award in FY 2007. Currently, 346 service obligations are being tracked. Of this number, 264 have completed their service or are currently in service. The remaining individuals are either repaying the award, are in deferment, or have already repaid the award in full.</p> <p><u>The Janet L. Hoffman Loan Assistance Repayment Program (LARP)</u> - Teachers working in a critical shortage area designated by MSDE or in Title I Schools or those</p>	<p>On-going.</p>

		designated for improvement are eligible to apply. The FY 2006 budget is \$1.8 million and 230 teachers have received an award	
<b>4.2:</b> Colleges and universities should develop wide-ranging master's programs to address content needs of in-service teachers (e.g., M.A. in mathematics, master's degrees for middle school teachers)	Institutions, Segments	<p>Eleven <b>MICUA</b> institutions offer teacher education programs. Of those, eight institutions offer graduate degrees, such as the MA in teaching. In addition, Hood, Loyola, and McDaniel offer master's degrees in Reading; Johns Hopkins offers a master's program in music; Maryland Institute College of Art offers a master's program in art education; and Loyola offers a master's in education technology.</p> <p><b>Morgan State University</b> offers an MAT program.</p> <p><b>St. Mary's College of Maryland</b> expects that their new MAT program will assist pre-service teachers by allowing students to focus on one or more academic disciplines in their first four years of study.</p> <p><b>Coppin State University</b> offers a Master of Arts in Teaching Program – (English, mathematics, Science (Biology/Chemistry), History/Social Studies</p> <p><b>Salisbury University</b> offers a Master of Arts in Teaching in collaboration with <b>UMES</b></p> <p><b>University of Maryland Baltimore County</b> offers a Master of Arts in Education with 18 credits in cognate area (science, math, STEM) and 18 credits in teacher leadership. Certificates are available in cognate areas for teachers who do not need the master's degree.</p>	On-going.
<b>4.3:</b> MHEC in consultation with the segments will (1) study the actions taken or planned to reduce the average <b>time-to-degree</b> at the public institutions of higher	MHEC with Institutions,	This study is behind schedule. An intersegmental advisory group will be constituted to develop recommendations by late-summer or fall 2007.	Report due by Fall 2007.

<p>education; and  (2) work with the segments to develop and implement a statewide program to reduce time-to-degree, including but not limited to:</p> <ol style="list-style-type: none"> <li>a. accelerating baccalaureate programs;</li> <li>b. revising graduation requirements;</li> <li>c. studying State policies that may be changed or enacted to reduce time-to-degree;</li> <li>d. examining statewide competency tests that may equate to “seat-time” credits and are accepted by all State –supported institutions;</li> <li>e. considering providing mandatory “critical path” credits year-round.</li> </ol>	<p>Segments</p>	<p>Planned approach includes the following:</p> <ol style="list-style-type: none"> <li>a. reviewing of the recommendations and responses from the 1996 Time-to-Degree Study;</li> <li>b. identifying initiatives currently employed by USM, Morgan State University, St. Mary’s College, MACC, and the Community Colleges that are intended to address time-to-degree issues;</li> <li>c. developing a study to determine the impact of these initiatives</li> </ol>	
<p><b>4.4:</b> MHEC should endorse and support recommendations of the Maryland Partnership for Teaching and Learning preK-16, especially those related to greater collaboration between institutions of higher education and preK- 12 schools</p>	<p>MHEC</p>	<p><i>The Maryland Partnership for Teaching and Learning, PreK-16</i> is an alliance of the Maryland State Department of Education (MSDE), the Maryland Higher Education Commission (MHEC), and the University System of Maryland (USM). Strategies implemented include:</p> <ol style="list-style-type: none"> <li>1. \$2 million in state funding for Professional Development Schools (PDS)</li> <li>2. Development of specific Associate of Arts in Teaching (AAT) degrees, the teacher preparation seamless transfer program, in several disciplines</li> <li>3. The Teacher Education Capacity Study</li> <li>4. Approved COMAR regulations for middle school certification</li> <li>5. Guidelines for the principals’ instructional leadership framework</li> <li>6. Approved COMAR revisions for highly qualified administrators</li> </ol>	<p>Support continues</p>
<p><b>4.5:</b> MHEC should work with the segments to ensure space is available at public four-year colleges for students transferring from Maryland’s community colleges.</p>	<p>Institutions, Segments</p>	<p>The Transfer and Access Committee of the University System of Maryland and the Maryland Association of Community Colleges Joint Leadership Council completed its 2005 annual report on transfer policies, <i>Growing Our Own: Effective Transitions to the Bachelor Degree in</i></p>	<p>On-going</p>

		<i>Maryland.</i>	
<p><b>4.6:</b> MHEC should work with the segments to study <b>methods to ease the transfer of students</b> from community colleges and private career schools to four-year institutions, to include consideration of:</p> <ol style="list-style-type: none"> <li>current policies and practices in Maryland;</li> <li>methods to minimize “wasted” credits during transfer;</li> <li>methods to maximize the amount of transferred credit in academic major;</li> <li>a system of “statewide” courses;</li> <li>simultaneous community college and upper division enrollments;</li> <li>transferability of credits from Maryland’s private career schools.</li> </ol>	MHEC with Institutions, Segments	<p>An inter-segmental advisory group will be appointed to begin work in January 2007. A baseline study will be undertaken by Commission staff to determine where the State stands today and to examine “best practices” in other states. Steps taken include:</p> <ol style="list-style-type: none"> <li>Providing financial assistance to students, for the continuation of their education when transferring from a community college to a senior higher education institution, with funding from the Distinguished Scholar Community College Transfer Scholarship established in FY 2006.</li> <li>Seamless transfer programs in teacher preparation, the Associate of Arts in Teaching, remain the national model.</li> <li>MHEC’s Student Transfer Advisory Council is determining methods by which 2+2+2 transfer partnerships can be reinvigorated to include all parties.</li> <li>The USM’s online articulation system (ARTSYS) is a repository of courses offered in all segments of Maryland higher education. ARTSYS serves as a continually updated warehouse for course equivalences, recommended transfer programs, and transcript evaluations.</li> <li>The development of a joint Committee between the USM and MACC on Transfer and Success to encourage transfer and articulation agreements between community colleges and 4-year public institutions.</li> </ol>	Report due in late-fall or early spring 2007-2008.
<p><b>4.7:</b> Colleges and universities should initiate partnerships with schools with large numbers of minority students for the purpose of developing and implementing programs that provide for a successful transition to higher education, such</p>	Institutions	<p>Morgan partners with many Baltimore City Schools. St. Mary’s partners with many high schools and all USM institutions have pre-college outreach programs. MACC reports that many colleges have programs targeted</p>	On-going

<p>as: Bridge programs, outreach to parents, and preparation to take standardized tests.</p>		<p>to at-risk students. MICUA reports that campus outreach activities aim to reach middle and high-school students who are historically underrepresented. MHEC, in partnership with the Maryland State Department of Education (MSDE), was awarded a new federal GEAR UP grant.</p>	
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**GOAL 5**

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

<i>Action Recommendations</i>	<i>Lead</i>	<i>Summary Progress Report</i>	<i>Status/ Completion Date</i>
<p><b>5.1:</b> Promote public policies that support and enhance academic research and development efforts and eliminate barriers not found in competing states.</p>	<p>DBED, GWIB</p>	<p>The Maryland Technology and Development Corporation (TEDCO) works with the University System of Maryland’s Work Group on Technology Transfer and with other groups using public policy avenues to lend its expertise to enhance the transfer of technology. TEDCO has also developed a set of performance metrics that compare local universities’ performance against national universities to measure the development and commercial efficacy of Maryland universities’ intellectual property.</p>	<p>On-going.</p>
<p><b>5.2:</b> Promote the concept that academic research and development efforts have benefits for the State extending beyond royalty payments and issued patents.</p>	<p>Institutions Segments MHEC, DBED</p>	<p>The Maryland Transfer Technology Transfer Fund, the University Patent Support Fund, the University Technology Development Fund, as well as the federal technology transfer initiatives comprise the foundation of TEDCO’s efforts to foster academics’ commercialization of their intellectual property while demonstrating the benefits of research and development. No segments or institutions report that they have any initiatives in this area.</p>	<p>On-going</p>
<p><b>5.3:</b> Support and acquire private, federal, and other funding for research activities consistent with the economic and workforce needs of Maryland’s key industries.</p>	<p>Institutions, Segments</p>	<p>Johns Hopkins University and Hood College are developing research parks to support technology transfer and to support information technology and life science companies. Hopkins has a long history of successful collaboration with NASA and has launched 61 spacecraft and 200 spacecraft instruments and operates the Hubble Space Telescope.</p>	<p>On-going</p>

<p><b>Item 5.4:</b> Establish appropriate benchmarks for expanding the amount of research and development performed at Maryland higher education institutions</p>	<p>Institutions, Segments</p>	<p>Johns Hopkins University compares itself to other national universities as measured and reported by the National Science Foundation. For each of the University System of Maryland institutions, the president is responsible for establishing appropriate benchmarks. TEDCO has a set of performance metrics that compare local universities' performance against national universities to measure average research expenditures, invention disclosure rate, and licensing rate and other factors. TEDCO's measures show that Maryland is above average for research expenditures, but below average for invention disclosure and licensing.</p>	<p>Benchmarks are being used by TEDCO.</p>
<p><b>5.5:</b> Consider developing virtual centers of excellence in scientific research (nanotechnology, advanced materials, information technology)</p>	<p>Institutions Segments</p>	<p>Hopkins is starting The Institute for NanoBioTechnology to establish Hopkins as the world's top research center for nanobiotechnology and medicine. Hopkins operates the Center of Excellence in Advanced Materials Characterization and partners with the Army Research Laboratory. Hopkins also operates the Information Security Institute. Capitol College has been designated a Center of Academic Excellence in Information Assurance Education by NSA. The University of Maryland Baltimore and College Park operate jointly the Center for Nanotechnology and Cellular Delivery.</p>	<p>Several centers exist.</p>
<p><b>5.6:</b> Provide state incentives or support the transfer of research to help more technology transfer from universities to commercial applications.</p>	<p>Institutions Segments DBED</p>	<p>The Department of Business and Economic Development, TEDCO, institutions and segments all report a number of significant initiatives in this area. DBED has funded and supported a number of initiatives with higher educational institutions including business incubation programs and university research.</p> <p>The University System of Maryland's Innovation and</p>	<p>TEDCO and DBED have funded incentives for technology transfer.</p>

		Commercialization Group helps guide the USM approach to best practices, collaboration, metrics and commercialization of USM assets. The Maryland Technology Transfer Fund is one of TEDCO's several initiatives; it has completed 55 projects and has leveraged a \$108,000,000 return on an investment of \$3,149,063. John's Hopkins University helped start 24 new companies and was awarded 96 patents.	
<b>5.7:</b> MHEC will collaborate with DLLR, GWIB, and others to improve the available data by regularly compiling, validating, and reporting supply and demand data for industry clusters on a state and regional basis.	MHEC, GWIB, DBED DLLR	MHEC is working with DLLR and GWIB to provide supply and demand data for industry clusters. In 2004, MHEC prepared the report on " <i>Maryland's Top 25 Demand Healthcare Occupations</i> ". In 2006, MHEC compiled supply data for the aerospace industry and the hospitality and tourism industry. In 2007, a report on the supply and demand for science, technology, engineering and math (STEM) will be produced.	The industry cluster approach has been adopted by MHEC, GWIB and DLLR.
<b>5.8:</b> MHEC will collaborate with DLLR, GWIB, and others to improve the available data required by educational institutions to include defining a process for identifying emerging demand fields and workforce shortage areas based on supply and demand data that are appropriately validated.	DLLR MSDE DBED MHEC GWIB	In 2006, legislation was passed to consolidate Maryland's career and occupational scholarship programs and establish a process for identifying workforce shortage areas for which scholarships should be directed. In Fall 2006, an advisory council was appointed to assist in developing this process. In Fall 2007, the council will recommend new occupations to be included in the scholarship program for the 2008-2009 academic year.	Discussions are underway.
<b>5.9:</b> MHEC will collaborate with DLLR, GWIB, and others to improve the available data required by educational institutions to include: a. periodically measuring the supply of graduates to determine progress in expanding the pipeline of graduates for the demand fields and workforce shortage areas.	MHEC with DLLR, GWIB	In 2006, MHEC conducted a " <i>Teacher Capacity Study</i> " and " <i>Maryland Nursing Program Capacity Study</i> " to assess the current enrollment capacity of these high demand programs and the ability of these programs to expand to meet an increasing demand for nurses and teachers. In 2007, MHEC will update the report on " <i>Maryland's</i>	A model for workforce studies has been completed. Staffing is insufficient at present to broaden the use of the model.

<p>b. collecting and reporting comparable enrollment and graduate data for all types of postsecondary education, including noncredit workforce training.</p>		<p><i>Top 25 Demand Healthcare Occupations</i>". For purposes of the federal Workforce Investment Act (WIA), MHEC annually collects and reports comparable enrollment and graduate data for all types of postsecondary education including noncredit workforce training.</p>	
<p><b>5.10:</b> Increase the supply of graduates in identified high-demand fields and workforce shortage areas by adopting strategies tailored to specific occupational fields. High demand fields and workforce shortage areas currently identified are biotechnology, construction, education, health and nursing, high technology, and hospitality and tourism. Strategies include:</p> <ul style="list-style-type: none"> <li>• Improving retention and reducing dropouts;</li> <li>• Expanding enrollment capacity;</li> <li>• Improving access to education throughout the State;</li> <li>• Designing fast-track programs for career-changers with related degrees and/or experience;</li> <li>• Increasing the interest of a diverse and non-traditional population to pursue programs in demand fields;</li> <li>• stabilizing program costs by improving <b>institutional effectiveness and efficiency</b>; and</li> <li>• increasing funding to <b>loan assistance programs</b> that encourage graduates to work in workforce shortage fields.</li> </ul>	<p>Institutions, Segments, MHEC GWIB</p>	<p><u>Nursing</u>: In 2005, a record 2,612 graduated from Maryland nursing programs. A 46% increase was reported in graduates of registered nursing (RN) programs from FY 2001 to FY 2005. These increases were due to:</p> <ol style="list-style-type: none"> <li>1. improved student retention;</li> <li>2. increased access to education through weekend programs, on-line instruction, and programs offered at regional higher education centers;</li> <li>3. expanded RN to BSN programs and new master's level nursing programs for career changers; and</li> <li>4. increased funding for financial aid including a 34% increase (from \$1.3 to \$1.7) for Nursing Scholarships from FY 2002 to FY 2006 and a sharp rise in funding for the Loan Assistance Repayment Program (LARP) in FY 2006 with 193 nurses and 10 nurse faculty receiving awards totaling \$365,466;</li> </ol> <p>Because of the ever increasing demand for nurses, the Nurse Support Program II (NSP II) was established in 2006 to provide over \$8.8 million annually for 10 years, to expand the capacity of Maryland's nursing programs and increase supply of hospital bedside nurses.</p> <p><u>Teacher Education</u>: Enrollments in teacher education are expected to increase as a result of 59 new Associate of Arts in Teaching (AAT) Degree Programs approved</p>	<p>On-going</p>

		<p>to be offered by Maryland community colleges. This includes 32 AAT programs in the following critical teacher shortage areas: mathematics, chemistry, physics, and Spanish.</p> <p><u>Engineering:</u> To increase the supply of engineers, MHEC is leading a new initiative in Fall 2006 to establish an Associate of Science in Engineering (ASE) Degree to be fully transferable to baccalaureate programs and modeled after the successful AAT Degree.</p> <p>Funding for the Janet L. Hoffman Loan Assistance Repayment Program has increased by \$1.5 and a new awarding methodology has been implemented to provide a greater incentive for students to enter the eligible occupations and retain them over a multi-year time frame.</p>	
<p><b>5.11:</b> Promote, facilitate, and coordinate the participation and support of all postsecondary institutions in workforce development to include:</p> <ol style="list-style-type: none"> <li>institutional participation in Maryland Business Works, the Workforce Investment Act, and Partnerships for Workforce Quality (PQW);</li> <li>using industry clusters as a basis for data collection and analysis;</li> <li>support for the multi-step approach to workforce development of the GWIB</li> </ol>	<p>GWIB Institutions, Segments MHEC</p>	<p>In 2005, a record 99 postsecondary institutions participated in WIA, a federal workforce program. When possible, employers are encouraged to use the expertise of community colleges in delivering training funded through PWQ.</p> <p>Postsecondary institutions are serving on GWIB's Board and promoting GWIB's multi-step industry cluster approach to workforce development. To date, GWIB has launched 4 of the 13 industry initiatives with the remaining 9 scheduled to begin by Fall 2006. Postsecondary institutions are actively participating in GWIB's industry workforce steering committees and summits.</p>	<p>The WIA program continues with expanded participation.</p>
<p><b>5.12:</b> Establish an Education Committee of the GWIB to promote and maximize employer participation in education,</p>	<p>GWIB, Institutions,</p>	<p>According to GWIB, preliminary findings indicate a strong interest in developing an Education Committee</p>	<p>Discussions continue on the creation of this</p>

<p>research, and workforce development:</p> <ul style="list-style-type: none"> <li>a. Curriculum development;</li> <li>b. Internship and clinical sites;</li> <li>c. Visiting and on-loan faculty;</li> <li>d. Tuition reimbursement and scholarship assistance;</li> <li>e. Solicitations for grants and outside funding; and</li> <li>f. Direct donations of personnel, time, money, and equipment.</li> </ul>	<p>Segments</p>	<p>(preK-16) to promote employer participation in education, research, and workforce development. GWIB and MHEC are working collaboratively to define the proposed Committee's charge, structure, membership and relationship with other employer groups.</p>	<p>committee.</p>
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## **Volume II**

### **2004 State Plan for Postsecondary Education Implementation Report**

### **Segments and State Agencies**

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## 2004 State Plan for Postsecondary Education Implementation Report

### Overarching Goal

The State has a responsibility to ensure that all sectors are adequately and effectively coordinated to make postsecondary education a key and integral component of public education for Maryland citizens. To fulfill this responsibility, a comprehensive framework should be developed to guide decisions relating to postsecondary education in Maryland. The actions relating to this framework envelop all of the goals that follow and serve as a preface to the goals.

#### Action Recommendations:

- The Maryland Higher Education Commission (MHEC) should host a public forum to discuss the development of a postsecondary education model. This model should address the linkage of tuition policy, State support to institutions, and institutional and State financial aid in regard to student access and the needs of the State. The public debate should include but not be limited to consideration of:
  - How access can be provided to all Maryland residents who can benefit from postsecondary education and desire to attend a college, university, or private career school.
  - The appropriate balance between the student share and the State share of the cost of higher education.
  - The economic and civic benefits to the State from having an educated population.
- The postsecondary education model should be the foundation for the development of a coordinated statewide 10-year growth plan for postsecondary education.

**Lead:** The Maryland Higher Education Commission

#### Progress Made/Action Taken:

The Maryland Higher Education Commission has engaged a consulting firm to perform a study of the appropriate relationship between and among tuition levels, state appropriations to higher education, and institutional, state, and federal financial aid; examine postsecondary education statewide models that effectively integrate policies on tuition levels, state appropriations to higher education, and institutional, state, and federal financial aid; make recommendations on a possible model for Maryland postsecondary education; and to participate in the subsequent development of a model for Maryland postsecondary education. The consultant has been asked to:

1. Study the appropriate relationship between and among tuition levels, state appropriations to higher education, and institutional, state, and federal financial aid;
2. Examine postsecondary education models that effectively integrate policies on tuition levels, state appropriations to higher education, and institutional, state, and federal

financial aid to ensure access for State citizens to postsecondary education and to meet the needs of the State for an educated workforce;

3. Make recommendations on a possible model for Maryland postsecondary education; and
4. Participate in the subsequent development of a model for Maryland postsecondary education.

The examination and analysis will include:

1. Examination of the effectiveness of postsecondary education models that work to integrate policies on tuition levels, state appropriations to higher education, and institutional, state, and federal financial aid.
2. Identification of key state policies or conditions that result in a well-coordinated and effective state system;
3. Consideration of the unique composition and governance of Maryland's postsecondary education system;
4. Examination of the most recently available data on outcomes to demonstrate the effectiveness of the models reviewed;
5. Identification of appropriate accountability measures for a Maryland model; and
6. Consideration of the structure and history of higher education and financial aid in Maryland.

In preparation for the development of recommendations, an analysis of effective postsecondary education models should include:

1. Identification of key state policies or conditions that result in a well-coordinated and effective state system;
2. An assessment of the impact of state policies on the access to and affordability of postsecondary education for the average family with low- to moderate-income;
3. Consideration of relevant policies in other states related to the funding of higher education, tuition levels at public institutions of higher education, and financial aid policies;
4. Evaluation of established measurements of outcomes and the most recently available data on outcomes;
5. A thorough understanding of Maryland's history and fiscal policies regarding higher education;
6. Consideration of the context and goals of the 2004 Maryland State Plan for Postsecondary Education;
7. An understanding and sensitivity to the unique composition and governance structure of Maryland's higher education system; and
8. Interviews of key policymakers and stakeholders in Maryland

Recommendations should address:

1. Proposed policy changes that would integrate policies on tuition levels, state appropriations to higher education, and financial aid to ensure access for Maryland

citizens to postsecondary education and to meet the needs of the State for an educated workforce;

2. The impact of proposed policies on the balance between the student share and the State share of the cost of higher education;
3. A timeline for implementing policy changes; and
4. Possible accountability measures of outcomes to evaluate the effectiveness of the adopted model.

In preparing the report and recommendations, to date, the consultant has reviewed Maryland planning documents and reports; reviewed national data and models; conducted interviews with over 30 Maryland leaders in the executive and legislative government, associations, and higher education institutions; identified peer states based on income and tuition levels; and collected data for Maryland and peer states.

The report and recommendations, received in September 2006, will be presented at a one-day statewide conference. Conference participants will include: college and university presidents, other representatives from Maryland's various sectors of higher education, representatives of the Governor's Office, legislators, business community representatives, representatives from nonprofit organizations, student and parent representatives, and other stakeholders.

During the 2006 legislative session, the legislature passed Senate Bill 959 and House Bill 1381 enacting the "Tuition Affordability Act of 2006." In addition to imposing limits on tuition increases, the Act establishes a Commission to Develop the Maryland Model for Funding Higher Education. This 27-member legislative commission includes senators, delegates, college presidents, higher education leaders, business community representatives, and members of the public. The commission will review the consultant's report and make recommendations to the Governor and General Assembly by December 31, 2007.

## **Goal 1**

### **Quality and Effectiveness**

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

#### **Action Recommendation 1.1:**

Provide appropriate funding levels for higher education based on funding guidelines and statutory formulas presently in State law to ensure predictable tuition levels and maintain institutional quality:

- a. Continue to use funding guidelines for four-year public institutions, with modifications as appropriate, and achieve full and sustainable funding.
- b. Fully fund independent institutions at 16 percent of the State's general fund appropriation per full-time equivalent student (FTE) at four-year public institutions.
- c. Continue to fund St. Mary's College of Maryland at the statutory formula level.
- d. Fully fund community colleges at 25 percent of the State's general fund appropriation per FTE at four year public institutions.
- e. Fully fund Baltimore City Community College at 66 percent of the State's general fund appropriation per FTE at four-year public institutions.

**Lead:** Maryland Higher Education Commission

#### **Progress Made/Action Taken:**

The State appropriated \$1.4 billion to higher education for fiscal 2007. Funding guideline attainment for four-year public institutions was 83% overall, with four institutions above 100% and three more institutions at 90% or higher.

Independent institutions were fully funded through the Joseph A. Sellinger program, receiving the full 16 percent of the State appropriation per FTE student at the four-year public institutions totaling almost \$50 million in fiscal 2007. Community Colleges were fully funded at 25 percent of the State appropriation per FTE student at the four-year public institutions through the Cade formula and received over \$205 million in 2007. Baltimore City Community College received \$2.6 million over the formula amount of 66 percent of the State appropriation per FTE student at the four-year public institutions for a total appropriation of over \$35 million in fiscal 2007.

MHEC is studying higher education funding with the goal of developing a model for funding to higher education that will coordinate State appropriations to higher education institutions, tuition and fee levels, and financial aid. The General Assembly also passed legislation in 2006 that formed a separate Commission to study the same issue.

#### **Action Recommendation 1.2:**

Continue to provide State matching funds to promote donations from the private sector and to encourage public higher education institutions to increase the public's level of gifts and donations to institutions' endowments and encourage institutions to increase private fund-raising

for student financial aid programs through a program such as the Private Donation Incentive Program (PDIP) grant fund.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

In 1999, the General Assembly reauthorized the program for an additional six-year period for eligible institutions. The grant period began in fiscal 1999 and, with the exception of the State's Historically Black Institutions (HBIs), all donation payments were to be made by June 30, 2004. Since its reauthorization, the General Assembly has made several modifications to this program. As part of the implementation of the State's agreement with the U.S. Department of Education, Office for Civil Rights, the General Assembly extended the eligibility period for Maryland's HBIs to January 2010 and increased the maximum payments to \$1.5 million. In addition, the General Assembly passed legislation that increased the maximum State match for eligible donations made to the University of Maryland, Baltimore County to \$1.25 million as a result of a change in its Carnegie classification.

**Action Recommendation 1.3:**

Examine existing practices, procedures, and requirements to identify those that result in duplication of effort, redundancy of reporting, and bureaucratic barriers; and develop cost-effective methods to achieve needed outcomes and objectives. Examine established best practices in cost management and develop enhanced approaches to support capital and operating investment. These examinations may include review of reporting requirements, of Code of Maryland Regulations (COMAR), and of alternative and cost-effective methods of (a) instructional delivery (e.g., definitions of "seat time" requirements) and (b) innovative facility acquisition, expansion, and management.

**Lead:** Institutions and Segments

**Progress Made/Action Taken:**

*Maryland Association of Community Colleges (MACC)*

The community colleges implemented initiatives to improve efficiency and cut costs while maintaining the quality of education services. The colleges' cost containment activities saved a total of \$17.2 million and \$9.6 million in FY 2004 and FY 2005, respectively. The colleges' largest category of savings (\$4.5 million in 2005) came from personnel related initiatives, such as hiring freezes, hiring delays, and using part time or adjunct staff and faculty versus full time. The second major contributor (\$3.1 million in 2005) to the colleges' bottom line was savings from leveraging the volume of purchasing by the Maryland community colleges in the form of discounts, especially on information technology. The colleges also achieved savings in reducing travel and transportation, renegotiating insurance policies, and relying more on internal staff for IT services and maintenance and repair of facilities and equipment

*Maryland Independent College and Universities Association (MICUA)*

Recently MICUA prepared an informal Efficiency and Effectiveness brief that documents the many actions that MICUA institutions are taking to meet their mission of providing high quality

education at a reasonable cost. These actions include efficiency efforts, collaborative programs, and creative opportunities for partnering, including:

- Comparatively high faculty workloads and efficient faculty payrolls;
- Highly effective time-to-degree performance;
- Effective use of on-line and out-of-classroom learning;
- Efficient procurement and innovative collaborative efforts; and
- Consistent dedication to education quality.

One particular item above is worth additional discussion. MICUA institutions have recently initiated programs to purchase collaboratively in the areas of energy management, administrative services, and student services. The program's goal is to reduce institutional costs with no impact on educational quality.

#### Morgan State University (MSU)

The University continues to seek to take advantage of cost-saving opportunities whenever possible. One area in particular merits emphasis. Like a number of other campuses, the University recently has implemented new integrated administrative software that has the potential to improve the effectiveness of its administrative processes. As part of the process of implementing the new systems, some processes were re-engineered. However, most such changes lie ahead. Now that the new software has been implemented, the campus is beginning to identify processes and practices for re-engineering and will on a continuing basis seek to improve them with the goal of gaining efficiencies and improving effectiveness.

The University is giving priority to developing an infrastructure appropriate for its mission. It requires additional resources to accomplish this. For example, most faculties have teaching loads typical of a non-research institution. The campus lacks sufficient space to house research centers. And, Morgan has yet to gain commitment from the state for a technology transfer center. The campus has a good record of increasing grant and contract funding but with proper support it could do much better. Its enhancement plans submitted to MHEC in 2001 and again in 2005 provide for adequate support for its mission.

#### St. Mary's College of Maryland (SMCM)

St. Mary's College has undertaken a rolling 5-year Strategic Plan, updated annually. Not only does this format permit the College to respond to a changing environment for higher education, it allows the community to focus specifically on those tactics estimated to result in the most improvement. These efforts are amplified by the College's desire to operate existing business processes and procurement more efficiently; this is reflected annually in the MFR section dedicated to cost savings.

#### Maryland Technology Development Corporation (TEDCO)

Through its federal technology transfer initiatives, TEDCO is supporting research that is consistent with Maryland's needs. The armed forces are always looking for innovations that have the potential to improve the efficiency and speed of both deployment and military operations. By encouraging private Maryland firms to consider the relevance of their intellectual property to military missions, TEDCO is essentially presenting federal installations as additional

and alternative markets for the most sophisticated innovations. Through these funding initiatives, TEDCO provides private firms with access to the military technology acquisition managers who are responsible for inserting innovative technologies into military systems. Participating firms also gain access to military technology transfer personnel who are in a position to make recommendations regarding how a particular laboratory innovation can be enhanced and ultimately commercialized to improve the overall security and eminence of the state. It should be noted that these programs also grant access to unique facilities and federal equipment, a privilege that far exceeds the monetary value of the financial award.

The TEDCO programs that fall under the federal technology transfer program include the Aberdeen Technology Transfer Initiative (ATTI), the Fort Detrick Technology Transfer Initiative (FDTTI), and the NAVAIR Technology Commercialization Initiative (NTCI). These projects are funded by federal Congressional appropriations. Table 1 below lists the number of projects that have been approved for funding since the inception of the federal technology transfer initiatives.

**Table 1: Federal Technology Transfer Initiative Program Details**

<b>Program</b>	<b>Funded Projects</b>	<b>Total Funding</b>
<b>ATTI</b>	<b>12</b>	<b>\$646,789</b>
<b>FDTTI</b>	<b>11</b>	<b>\$550,000</b>
<b>NTCI Phase I</b>	<b>10</b>	<b>\$500,000</b>
<b>NTCI Phase II</b>	<b>15</b>	<b>\$1,111,661</b>
<b>All Programs</b>	<b>48</b>	<b>\$2,808,450</b>

Snapshot of the Federal Technology Transfer Programs:

ATTI - Aberdeen Proving Ground (APG) Science and Technology Board, the APG Business Development Office, and TEDCO working to help innovators develop and commercialize technologies that meet the needs of the Army. This program also supports the commercializing research that originates at APG.

FDTTI - The U.S. Army Medical Research and Material Command (USAMRMC), the Frederick County Office of Economic Development (FCOED), and TEDCO collaboration supports research into medical technologies of interest to USAMRMC.

NTCI - The Naval Air Warfare Center Aircraft Division (NAWCAD), the Patuxent Partnership (TPP), and TEDCO facilitate the transfer of technologies that meet the specific needs of the U.S. Navy.

University System of Maryland (USM)

The USM has joined with ACE in the “Solutions for Our Future” campaign that promotes all of the benefits of higher education.

Phase II of the USM Effectiveness and Efficiency Initiative is well underway. During this four-year budget cycle, the USM will be conducting feasibility analyses, including the examination of potential benefits, developing business plans for implementation and evaluating outcomes of

initiatives in the following areas: *Transforming the Academic Model*, *Enrollment Strategies*, *Student Support Strategies*, and *Transforming the Administrative Model*.

**Action Recommendation 1.4:**

Provide funds to support faculty development to make optimal use of advance technologies instruction and to develop skills in meeting the increasing needs of a more diverse student population.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

MHEC requested \$350,000 in the FY 2007 budget for MarylandOnline. This funding would also support faculty development in the use of advance technologies instruction. This request was declined.

MHEC continues to support and seek funding for the Quality Matters peer review process used to review online courses against national standards of best practice, research literature and instructional design principles. This initiative includes the training and certification of faculty Peer Reviewers. Quality Matters was originally funded as a grant project of MarylandOnline and sponsored by the U.S. Department of Education Fund for the Improvement of Postsecondary Education (FIPSE). The Quality Matters rubric provides a continuous improvement model for assuring the quality of online courses through a faculty review process. Quality Matters not only enables faculty to ensure that online courses achieve the learning outcomes specified in the course objectives but it also provides guidelines and training for faculty members regarding the development of online courses and the evaluation of their quality. Quality Matters is a Maryland initiative that has received the WCET Outstanding Work Award (2005), the United States Distance Learning Association's (USDLA) 21<sup>st</sup> Century Best Practice Award (2005), and the Maryland Distance Learning Association's Program of the Year Award (2005). Current membership is primarily comprised of the community colleges. Only two senior higher education institutions are members – the University of Baltimore and the University of Maryland University College. Additional state funding is required for:

1. Creating a website to inform and market the features of Quality Matters within the State. The ultimate goal is to increase the number of member Maryland institutions, especially senior higher education institutions.
2. Training of faculty on how to use the on-line tools for developing and evaluating on-line courses.

MHEC is in the process of reviewing the Southern Regional Education Board's Sharable Content Object Repositories for Education (SCORE) initiative. The goal of this initiative is to improve the quality of digital learning course content, to improve teaching and learning using digitized content, and to achieve costs savings. SCORE was conceived to help state educational agencies, colleges, universities, and schools work together to create and share quality digital learning course content through the use of federated state repositories. MSDE is actively involved in the creation and sharing of digital repositories for the use of public school teachers. The cost for



Maryland's higher education institutions to become active in this initiative is \$20,000. The request for funding will be revised and resubmitted for consideration in the FY 2008 budget.

Between fiscal 1999 and fiscal 2005, Maryland's public colleges and universities raised over \$46.5 million from private donors and claimed \$18.6 million in eligible State matching funds. Through fiscal 2006, Maryland's four HBIs received almost \$4.9 million in State matching funds for the Private Donation Incentive Program (PDIP). The fiscal 2007 appropriation includes almost \$2.5 million in State matching funds, which will meet the statutorily obligated balance for all institutions.

**Action Recommendation 1.5:**

The Maryland Higher Education Commission should work with the chancellor of the University System of Maryland and the presidents of Bowie State University, Coppin State University, and the University of Maryland Eastern Shore; the president of Morgan State University; representatives of the Department of Budget and Management; and the budget committees of the Maryland General Assembly to identify the enhancement funds needed to ensure the State's four HBIs are comparable and competitive, both in terms of programs and infrastructure, with Maryland's traditionally white institutions with comparable missions. The cost of these enhancements should be determined and a timetable developed by the State for providing the necessary funding to accomplish them.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

In November 2005, the Maryland Higher Education Commission convened Committee II to review Commitment 9, *Enhancing Maryland's Historically Black Colleges and Universities* under the Partnership Agreement with the Office of Civil Rights. The Committee examined each activity or objective included under the commitment as well as comparative and performance data on the HBIs and comparable Traditional White Institutions (TWIs). The Committee also reviewed requests for additional funds submitted by each HBI and met with each HBI president to discuss their respective institutions' progress and future needs.

The Committee concluded that the State met the specific commitments for providing funding to the HBIs as delineated in Commitment 9, but found it extremely difficult to determine whether the funding provided to the HBIs have made them "comparable and competitive" to the TWIs since the terms of the Agreement did not provide sufficient benchmarks for this assessment. The Committee recommended continuing support for the HBIs, which was provided in the FY 2007 budget and is being requested for FY 2008. Further, the Committee recommended and the Commission supported the development of measurable indicators on key areas to achieve parity among the TWIs and the HBIs along with annual reports of progress toward the established benchmarks.

The report from Committee II was submitted to the Maryland Higher Education Commission. The Commission accepted the report and forwarded it to the Office for Civil Rights along with a report from Committee I, which reviewed Commitments 1 through 8 of the agreement along with a letter from the Secretary of Higher Education and the Chairman of the Commission. The letter

provides analysis and data, along with the committee reports, to support the Commission's finding that Maryland has complied with all nine of the commitments made in the Partnership Agreement. The letter further indicates that the State is committed to the continued support of equal access to higher education for all and the continued development of Maryland's historically black institutions. Therefore, the Commission will develop measurable indicators on areas required to achieve parity among the TWIs and HBIs and publish annual progress reports.

## **Goal 2**

### **Access and Affordability**

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

#### **Action Recommendation 2.1:**

The Secretary of Higher Education, in consultation with the Secretary of Budget and Management and the higher education community, should examine and recommend revisions to the capital improvement planning process, including any needed revisions of the capital facilities space guidelines for higher education. This study should incorporate data on the actual use of academic facilities and on the impact of distance education to aid in the development of guidelines and should include consideration of the deferred maintenance needs of higher education. Currently, the University System of Maryland and the Department of Budget and Management are conducting a review of several institutions with large space deficits. The results of this review should be considered in any revision to the facilities space guidelines. The study of the capital planning process should be completed by October 30, 2005.

**Lead:** The Maryland Higher Education Commission

#### **Progress Made/Action Taken:**

MHEC established a workgroup to study the capital facilities space guidelines in the fall of 2005. The goal of this recommendation was to complete the study by October of 2005; however, the study was completed in September of 2006. Over the past year the final report, with findings and recommendations for changes and/or revisions to the guidelines, was developed. In reviewing the space guidelines, the workgroup consulted earlier reviews performed by the University System of Maryland (USM) and Department of Budget and Management (DBM). This study will inform the Capital Improvement Planning (CIP) process and indicate whether any revisions to the CIP process are needed.

#### **Action Recommendation 2.2:**

The Maryland Higher Education Commission, in consultation with the segments of higher education, should develop a coordinated statewide 10-year growth plan for all of higher education, establish a growth strategy for the State for both traditional and nontraditional students and specify growth goals for each of the public segments, with consideration of the projected growth of the independent segment. This plan should also build upon work that is currently being undertaken by higher education institutions and other State agencies. The plan will be based on guaranteeing access in the most cost-effective manner while meeting the educational aspirations of students. It is important that Maryland's HBIs, projected to absorb significant growth, are enhanced to ensure their appeal to these new students. The plan should also consider the needs of the State for highly trained and skilled professional and technical workforce to serve businesses and attract research investments. The key element will be the proportional distribution of the growth in enrollments among the segments. This growth strategy

should be used to inform capital funding decisions. This plan should be completed by January 31, 2006.

This planning document should be based on the following assumptions and principles:

1. All Maryland residents who can benefit from postsecondary education and desire to attend a college, university, or private career school should have a place in postsecondary education and should be able to afford it;
2. The people of Maryland expect quality in all aspects of public higher education: teaching, research, and public service.
3. The State will respond to this expectation of access and quality with the financial commitment necessary to build the facilities and infrastructure that make these goals attainable;
4. The duplication of undergraduate and graduate programs will be limited to the extent possible and still provide adequate access;
5. The growth of programs that address specific shortages in the Maryland workforce will be encouraged; and
6. The State should consider incentives to enable prospective students to attend institutions and use delivery methods that are cost-effective for both the State and the students, including community colleges, regional higher education centers, and distance learning.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

MHEC will use the results of the review and the update of space guidelines and the development of a model for postsecondary education in the State activities that are currently in progress - to provide the framework for the ten-year growth plan.

**Action Recommendation 2.3:**

The Maryland Higher Education Commission should propose to the Governor and General Assembly by March 15, 2006, a State policy on regional higher education centers.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

MHEC proposed a funding strategy for all regional higher education centers that fall outside the governance of the University System of Maryland, and under the Commission's oversight. This was provided in a report, "A Funding Strategy Proposal for the Regional Higher Education Centers," published in November 2005 responding to a 2005 budget committee narrative request.

In the spring of 2006, MHEC approved a State policy on regional higher education centers titled "Regional Higher Education Center Guidelines". The policy defines requirements for new regional higher education centers, delineates the appropriate role of centers and recommends a funding mechanism based on the strategy proposed to the General Assembly in 2005. This

funding mechanism will be used for development of the FY 2008 operating budget request for regional higher education centers within MHEC's operating budget.

**Action Recommendation 2.4:**

Expand MarylandOnline as a Web gateway to online courses offered by all Maryland postsecondary institutions.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

MHEC requested \$350,000 in its FY 2007 budget. This request was declined.

MarylandOnline is a fee-based consortium of 23 institutions formed to provide a robust web portal as a clearing house for all online education and training in Maryland, to provide high quality online student services to distance learners, and to market Maryland education to the world. MarylandOnline is similar to the state-funded virtual universities of other states (Pennsylvania, New Jersey, Virginia, Kentucky, and Florida) but its services are far less extensive.

It is a source of concern that many Maryland colleges and universities do not have the baseline equipment and services necessary for the fastest growing form of postsecondary education and training, online instruction. If Maryland's institutions of higher education are to be competitive with public and independent institutions in other states and with entrepreneurial institutions capable of serving global markets (e.g. Capella University, Jones International University, the British Open University), and with commercial purveyors of educational services, the technology gap among Maryland institutions must be addressed. No longer are the educational choices of Maryland residents limited to campuses within driving distance. Now, it is convenient for Marylanders to stay in their homes and take courses that originate in Illinois, Florida, California, or England.

The current revenue gathered from fees are insufficient for providing essential structural supports and services needed to achieve a level playing field with the other state-funded virtual universities. State funding is needed to accomplish the following:

- a. provide the infrastructure needed to support online services;
- b. market Maryland's on-line courses and programs through an international recognizable branded website for all Maryland institutions; and
- c. provide economic online student services.

The request for funding will be revised and resubmitted for consideration in the FY 2008 budget.

**Action Recommendation 2.5:**

Funding for the development of the Maryland Digital Library in the areas of digitization and sharing of library collections, the development of a statewide online union catalog, and for expanded online resources available to all Maryland campuses.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

MHEC requested \$500,000 in the FY 2007 budget. This request was declined. Funding for the Maryland Digital Library is required for the digitization and sharing of library collections, the development of a statewide online union catalog, and for expanded online resources available to all Maryland campuses.

The Maryland Digital Library is a fee based consortium of Maryland colleges and universities for the joint purchasing of expensive online databases and research tools, thereby making these resources available to every student and faculty member at every college and university in the state. However the funding structure is not sufficient to provide the breadth and depth of services provided by virtual libraries in other states. One such service is the digitization of existing library collections now only available to students and faculty at the University of Maryland College Park and Johns Hopkins University. The digitization of these collections would make them available to students and faculty at all Maryland colleges and universities.

The request for funding will be revised and resubmitted for consideration in the FY 2008 budget.

**Action Recommendation 2.6:**

The Maryland Higher Education Commission should propose to the Governor and General Assembly digital education initiatives to encourage the increased use of distance learning, especially online learning, by both the institutions of higher education and by potential students. Components of these initiatives should include expansion of the matching grant program to support the acquisition, maintenance, and upgrading of campus technology infrastructure.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

In 2002, the General Assembly passed legislation that extended the eligibility period of the Innovative Partnerships for Technology (IPT) program for four additional fiscal years and changed the maximum State match amount. With the modification and extension of this program the State agreed to match a maximum of \$300,000, disbursed in two increments of \$150,000 over a four-year period, between fiscal 2003 and fiscal 2006 for each community college. The State is required to fund this match in the third fiscal year following the eligible donation. Therefore, FY 2005 was the first year in which donations up to \$150,000 must be matched and FY 2009 will be the fourth and final year for providing State matching grants.

The fourth eligible period began in FY 2005 with all but 3 institutions eligible, with \$1.4 million of donations reported as eligible matching funds, and with some institutions reporting well over

the maximum match rate of \$150,000. Over \$2.9 million is budgeted for FY 2007, meeting the statutory obligation and leaving \$1.2 million for future budget cycles. Fiscal year 2006 will be the last opportunity for the eligible institutions to meet their maximum matching rate of \$150,000.

**Action Recommendation 2.7:**

The Maryland Higher Education Commission should propose to the Governor and General Assembly digital education initiatives that include as a component a mechanism for joint purchasing of information technology hardware and software by all public and independent colleges and universities to leverage the State's purchasing power.

**Lead:** Institutions/Segments

**Progress Made/Action Taken:**

State of Maryland

The Procurement Liaison Office of the Department of Budget and Management currently administers the following IT Master Contracts for the State of Maryland:

Consulting and Technical Services (CATS) is a master contract vehicle that allows authorized government entities to issue task orders for information technology services. CATS is a replacement vehicle for the Technical Services Procurement (TSP) master contract, which expired April 30th, 2006. CATS provides for timely competitive solicitations among 217 companies in the following 15 functional areas:

- Enterprise Service Provider
- Web and Internet Systems
- Electronic Document Mgmt.
- Geographical Information Systems (GIS)
- Software Engineering
- Systems/Facilities Mgmt. And Maintenance
- Information System Security
- Application Service Provider
- IT and Telecom Financial and Auditing Services
- IT Mgmt. Consulting Services
- Business Process Consulting Services
- Preparations for Proposed Tower Sites
- Electronic Benefits Transfer
- Media and Training Center Support
- Documentation/Technical Writing

Consulting Services Procurement (CSP) is a master contract that allows authorized government entities to issue a task order to obtain IT consulting services in three functional areas:

1. Financial & Auditing Consulting Services
2. Management Consulting Services
3. Business Process Consulting Services

Microcomputers, Printers, and Software (DBM 2020 Desktop) provide the means for authorized government entities to purchase major manufacturer's desktops, laptops, servers, printers and COTS software at discount prices from various resellers.

Software Enterprise License Agreements (ELA) is an agreement that provides significant discounts on software licenses to state and local agencies.

Telecommunications Contracts are vehicles for purchase of Data Infrastructure equipment and services, Voice Systems and services, and Wireless infrastructure equipment and services.

In addition, the Procurement Liaison Office (PLO) provides guidance and assistance to agencies preparing IT requests-for-proposals (RFP) so that RFPs and resulting contracts are high quality, can be approved by the Board of Public Works, and yield successful projects.

USM continues to facilitate consortium purchases including, but not limited to, software, hardware and consultative services. In addition, the University of Maryland Academic Telecommunications System (UMATS) is the backbone for Maryland's Education Group Partners (MEGP) network. UMATS, networkMaryland, and the Sailor Library Network collaboratively work together in a variety of resource share agreements that increase services and lower costs, and extends to all segments of the State of Maryland.

networkMaryland - Dense Wave Division Multiplexing (DWDM)

The State of Maryland, UMATS, and the Maryland Department of Transportation have formed a partnership that will replace much of networkMaryland between Annapolis, Baltimore, and College Park. This resource share agreement provides unlimited networking services for Internet1 Service, Internet 2, video conferencing, and other next generation networking that supports state government, education, and research virtually eliminating ongoing telecommunication costs between seven locations within the corridor. The State considers this an extension to the Baltimore Education & Research Network (BERnet)

BERnet

Through a proposal to the State of Maryland for the use of a resource share fiber asset, the University System of Maryland (USM) requested and was granted a high capacity interface between the Baltimore and Washington D.C corridor, for the purpose of extending Internet 2 and commodity Internet services to primary and Sponsored Education Group Partners (SEGP) affiliates of the University of Maryland Academic Telecommunications System and the Mid Atlantic Crossroads (MAX). The purpose of the network is to localize traffic between every major network in Maryland and to extend BERnet to education and research institutions in the Baltimore area and to those interested in collaborating on the development and support of a major Point of Presence (POP) in the City of Baltimore. The institutions participating within this major Point of Presence (POP) are: UMATS, University of Maryland, Baltimore, the University of Maryland, Baltimore County, Morgan State University, the Mid Atlantic Crossroads, and the Johns Hopkins University. These universities comprise the group known as the "BERnet". Other partners include SAILOR, the City of Baltimore, grades K-12, etc. This facility is centrally located within the city and is a termination point for a great deal of fiber that is managed by the State, the City of Baltimore, UMATS and a number of telecommunication carriers.



The development and growth of BERnet has improved access for and to local, State, regional, and national research and education organizations. BERnet connects to Internet2 (I-2) and the Abilene network through the Mid Atlantic Crossroad. Future affiliations with the BERnet will include libraries, museums, hospitals, and other organizations that, similar to higher education, can benefit from sharing high-speed networked resources and serve as an economic driver for the region.

A key factor to the development of this BERnet is access to State-owned fiber which terminates within a State facility, central to the City of Baltimore. BERnet presents a unique opportunity for cooperation among organizations that qualify and need access to I-2. The overall strategy of this connection is to provide cost effective and state-of-the-art next generation network services to Baltimore I-2 institutions as well as to other Baltimore research and educational organizations.

The University (System) of Maryland Academic Telecommunications System (UMATS)  
The use of technology in educational institutions continues to grow. Educational institutions need reliable and robust technology services to support teaching, learning, research, scholarship, and business activities.

UMATS was created to provide technology services to support the mission of its member institutions.

UMATS provides the technology infrastructure and services to:

- Connect potential students to member institutions through the Internet to provide recruitment information;
- Connect students, faculty, and staff of its member institutions to the Internet to access Internet based electronic resources, information, and services;
- Connect member institutions for research collaboration;
- Connect students to video and Internet based distance education offerings of its member institutions;
- Connect students to reengineered electronic business services of its member;
- Connect member institutions to shared resources and services;
- Connect member institutions to the State of Maryland to conduct personnel and business transactions and services; and
- Connect member institutions to the next generation Internet infrastructure and services.

The use of the Internet continues to increase dramatically. Educational institutions must continue to expand their technology infrastructure and campus connections to meet the increasing demands of students, faculty and staff for Internet resources and services. With this exponential increase in demand is an exponential increase in cost to build and expand an educational institution's connection to the Internet. UMATS will continue to assist its member institutions by implementing cost-effective collaborative technologies.

The mission of the University System of Maryland Academic Telecommunications System (UMATS) is to provide a seamless telecommunication infrastructure to the university community in order to support the institutional missions of teaching, learning, and research by

providing customers with high quality, robust, scalable, and cost-effective digital telecommunications within the University System of Maryland (USM) and beyond. This infrastructure will support those multi-functional applications that require inter-institution connectivity and connectivity to locations outside of UMATS, using a variety of technologies and delivery methodologies.

UMATS will provide efficient and effective telecommunications services that are focused on the needs of its member institutions as they adapt to emerging technologies. UMATS will be a state of the art resource to its member institutions by providing adequate resources to support the business of education, research and health care. UMATS will work diligently to be inclusive to outside educational partners and find ways to bridge the geographic and social digital divide. UMATS will be a “state-of-the-art” telecommunications network that is forward thinking and recognized as a leader in telecommunications services within and outside the borders of Maryland. UMATS will be open to new ideas and challenges but remain cognizant that cost effective and technically sound networking is the best demonstration of leadership that will ultimately attract the best students, faculty, staff, and partners while extending critically needed technology services.

UMATS has developed a set of guiding principles for how networking technology should be created, managed, and supported. These principles will serve as the foundation of any technology development and will guide decisions on the suitability of future technology and their alternatives.

#### 1. Reliability

Reliable technology services will be developed, managed, and delivered via a solidly established, redundant, and robust core infrastructure. While complete redundancy to each institution is expensive, and in many cases unachievable due to the last mile of service and limited carrier competition, institutions should have the option to choose this approach, at their expense, if determine that it is necessary and available.

#### 2. Cost-Effectiveness

Networking services will be developed to provide cost-effective solutions for its member institutions through volume purchasing, sound engineering principles, partnering, and using existing State of Maryland contracts. UMATS must take advantage of educational discounts and working with the State to globally reduce cost for all member institutions.

#### 3. Shared Governance

The University System of Maryland Telecommunications Council (USMTC) was established to oversee the UMATS telecommunications infrastructure and operations, establish membership, define fair and equitable funding guidelines and access, and provide for the future needs of member institutions. A representative is appointed from each member institution to serve as a voting member of the Council.

Maryland Association of Community Colleges

The community colleges collaborated to establish joint purchasing agreements which provide discounts for the colleges and their constituents. These include:

Dell Premier web stores - established for each participating MD Community College; providing increased discounts for institutional, faculty, staff and student PCs and increased institutional discounts for all other products sold by Dell

MD Education Enterprise Agreement for Microsoft products – provide additional discounts on Microsoft Windows, Office and other software products

MD Education Enterprise Agreement for McAfee Security Software – provide additional discounts on McAfee anti-virus, anti-spam, and other security software

MD Education Enterprise Agreement for Symantec Security Software – providing additional discounts on Symantec anti-virus, anti-spam and other security products

MD Education Enterprise Agreement for Hardware – negotiations underway for additional discounts on major hardware products

National Purchasing Consortia – community colleges have used the purchasing power of national consortia to reduce costs including:

1. US Communities - [www.uscommunities.org](http://www.uscommunities.org)
2. E&I (Education and Institutional Cooperative Service, Inc) - [www.eandi.org](http://www.eandi.org)

MD State Contracts – continued use of MD State Contracts for many technology purchases including:

1. MD State Contract for PCs, Cameras, Projectors and all PC-Attached Equipment – a multi-vendor contract
2. MD State Contract for Fiber & Copper Wiring through FiberPlus
3. MD State Contract for Telephone Equipment & Services through Verizon
4. MD State Contract for Telephone Long Distance through AT&T

Maryland Independent College and University Association

MICUA and its member institutions are participating in the Microsoft Academic Select Environment Program. MICUA is pursuing other opportunities for joint purchasing using the collective purchasing power of its member institutions and several similar institutions in Pennsylvania.

### Morgan State University

Morgan State University has been a member of the Maryland Education Enterprise Consortium (MEEC), since the inception of the arrangement. Through this consortium the campus has obtained its annual license for Microsoft products and anti-virus software at a significant discount. Morgan is also a member of UMATS, the USM academic telecommunication network. Through this network, Morgan obtains access to Internet II at a steep discount and has access to low-cost internet service. Morgan also is a charter member of BERNet, a Baltimore area consortium (Baltimore Education and Research Network) that supports high speed access between the research campuses in Baltimore and UM College Park, where a connection is made to Internet 2.

### St. Mary's College of Maryland

St. Mary's College is eligible to purchase hardware and software through the Maryland Education Enterprise Consortium (MEEC). In addition to the use of the MEEC agreement, the College currently collaborates with the University System of Maryland in activities such as the use of Internet2 service and USMAI.

### University System of Maryland:

Develop mechanism for joint purchasing for IT technology to leverage State's purchasing power: The USM continues to facilitate consortium purchases including, but not limited to software, hardware, and consulting services.

### **Action Recommendation 2.8:**

Expand the amount of need-based financial aid provided by postsecondary institutions by encouraging the institutions to review their aid programs and to target more funds to support students, including transfer students, with financial need.

**Lead:** Institutions and Segments

### **Progress Made/Action Taken:**

#### Maryland Association of Community Colleges

The community colleges increased the total amount of institutional financial aid by about \$1.3 million between FY 2003 and FY 2004, or 11%. Over half of the institutional aid is in the form of tuition waivers, most of which are mandated by the State. These waivers are required to provide education services, at the institutions' expense, to senior citizens, disabled students, etc. Less than a quarter of the tuition waivers are used by employees and their dependents as a fringe benefit for employment at the community colleges. The majority (56%) of tuition waivers, regardless of the category, are used by students with annual family income of less than \$20,000.

Community colleges increased institutional grants by \$31,805 between 2003 and 2004. The number of grants awarded increased by 96 students or 4%. Grants are typically awarded based on students' financial need. However, regardless of the form of financial aid, the majority of dollars is awarded to lower income students. 65% of all institutional aid dollars go to students reporting less than \$40,000 in annual income, only 8% is awarded to students with family

income of more than \$80,000. This compares with 65% of institutional grants awarded to students with less than \$40,000 in income, and 2% with more than \$80,000.

Virtually all the community colleges have increased fundraising activities through their foundations. The funds raised by the foundations are directed in large part to scholarships for students at the institutions, which increased 16% in FY 2004.

In addition to continuing efforts to hold the line on tuition and fee increases (up only 2% statewide Fall 2006 versus Fall 2005) community colleges have increased their institutional commitment to financial aid. Allegany College Foundation established a continuing education scholarship fund / workforce development scholarship. The Cecil Community College Foundation obtained in the first year of a five-year campaign pledges for \$2.8 million to be used for scholarships, technology and special operating needs. The colleges have renewed efforts in dual enrollment for high school students, with many colleges offering partial tuition waivers. Garrett College's Commissioners Scholarship Program provides tuition free education for all Garrett County 2006 high school graduates entering the community college, in addition to dual enrolled students still in high school.

Maryland Independent College and University Association

Student aid from federal and State sources has not kept pace with students' financial needs. Therefore, Maryland's independent institutions are dedicating increasing amounts of institutional resources for student financial aid in order to facilitate student access. Over the past several years, nearly all MICUA State-aided institutions have given financial assistance to higher proportions of full-time undergraduates and higher proportions of all students. All institutions have increased the size of their average student financial aid package, and nearly all have seen their financial aid budgets grow disproportionately compared to their revenues.

MICUA institutional and private financial aid increased by 70%, from \$200 million in FY 2001 to \$340 million in FY 2005. From fiscal 2004 to fiscal 2005, the amount of aid increased by \$25 million. The amount of institutional financial aid awarded in FY 2006 is not yet available. Eighty percent of all full-time undergraduate students at MICUA institutions received some type of financial aid in FY 2005. Most institutional financial aid was awarded based on need. In addition, a significant portion of institutional academic scholarship funds also support needy students. Therefore, actual institutional need-based award levels may be higher than the reported totals.

In FY 2004, the vast majority of need-based financial aid to undergraduate students at independent institutions was provided by the institution; only 27% came from public sources. The sources of need-based grant aid for undergraduates at MICUA State-aided institutions in fiscal 2004 are as follows:

Institutional aid	73%
Federal Aid	17%
State Aid	10%

Along with the public higher education institutions, MICUA colleges and universities submit various financial aid data reports to the Maryland Higher Education Commission including unit

record data for Maryland residents who receive state financial aid. The Financial Aid Information System (FAIS) will provide more comprehensive information on student financial aid. Although all State-aided MICUA institutions submitted FAIS data for Academic Year 2004-05, MHEC has not yet completed its analysis of the information. Therefore, MICUA is unable to report on FAIS data at this time. However, national information (NPSAS: 2003-2004) reveals the following:

- Independent colleges and universities enroll students from all income levels in similar proportions to public institutions across the nation.
- The proportion of low-income students (those with parental incomes of less than \$25,000 per year) enrolled at independent four-year colleges and universities is the same as at public four-year institutions nationally.
- Regardless of academic preparation, students are as likely to earn their degree in four years at a private college or university as they are in six years at a state institution.
- Students who earn bachelor's degrees are able to do so sooner at private colleges and universities than at state institutions, avoiding additional tuition and beginning their careers earlier.

#### MICUA Institutional Initiatives to Promote Access

In addition to providing financial aid for needy students, MICUA institutions strive to minimize tuition increases to promote access and affordability. Over the last four years, MICUA institutions have held tuition increases to an average of 5.8%, a rate that is significantly lower than public institutions. Tuition at independent institutions must remain affordable to middle-income families and student financial assistance must be available to assist needy students. If tuition rises too quickly or financial aid is not available, independent institutions will price themselves out of the market.

Affordability and access are priorities for MICUA member institutions. For example, at Columbia Union College (CUC), the tuition and fees have shown modest increases of 5% or less over the last five years. While tuition and fees have increased, the College has offset this increase by using financial aid as leverage to provide access. This strategy allows the College to optimize distribution of available financial aid resources and serve more students. From fiscal 2004-2005, the percent of freshmen and all full-time undergraduates receiving financial aid increased at CUC. In 2006, nearly 60% of CUC students received the Federal Pell Grant; 85% are recipients of non-merit need-based aid. U.S. News and World Report this year rated CUC as one of the most diverse institutions in the nation, with students of color making up 68% of total enrollment.

Capitol College locks tuition rates; the tuition one pays as a senior is the same as paid as a freshman. Further, in the past two years, Capitol has held their freshman tuition-rate increase to under three percent.

Two member institutions, Villa Julie College and Sojourner-Douglass College, hold tuition levels at minimal levels to achieve student access. In fact, the tuition level at Sojourner-

Douglass College, located in Baltimore City, is lower than many public four-year institutions. The focus of the College is to provide higher education for previously educationally “by-passed” persons. The college’s predominately African American student body with an average age of 37, is 85% female; 80% have children; and 70% are heads of household.

Many MICUA institutions have targeted scholarship programs for disadvantaged students, including:

- The Kent County Vincent Hynson '87 Scholarship at Washington College was established in 2006. The scholarship reaches out to local minority students who are graduates of a secondary school in Kent County and meets 100% of the recipient's annual educational expenses—full tuition, room, board, and book costs.
- Loyola College in Maryland offers approximately 20-30 scholarships that are specifically targeted to high-need Baltimore area residents. The scholarships basically serve as a “Loan Replacement Award” and provide substantial financial aid to the neediest of families.
- One hundred percent of the institutional aid at St. John’s College is need-based to provide access to capable and disadvantaged students. Similarly, the vast majority of institutional financial aid at Johns Hopkins University is based on need.
- The Johns Hopkins University Baltimore Scholars Program provides full-tuition scholarships to graduates of Baltimore City public schools accepted into the university's undergraduate programs. The Program began with the class entering Johns Hopkins in the fall of 2005 and gives the city schools' best and brightest students the opportunity to stay near home and study at one of America's premier universities.
- The College of Notre Dame of Maryland has numerous scholarship programs targeted to needy students. Last year, 15% of the undergraduate student body at the College had income levels below \$25,000.

Ten of the MICUA member institutions participate in the Independent College Fund of Maryland (I-Fund). The purpose of the fund is to raise scholarship aid for students attending independent institutions. One hundred percent of the funds raised are distributed to students. The costs of the operation are paid by the participating institutions. Many of the I-Fund scholarships are targeted to areas of workforce shortages. Other awards are targeted to needy or disadvantaged students.

For example, a partnership with the Baltimore City Chamber of Commerce offers scholarships and a road map to employment to Baltimore City students with financial need. The program provides high school seniors who have met college admission standards an annual \$10,000 scholarship for each of four years plus the opportunity to attend seminars at which they can network with local business leaders. All scholars also receive paid internships every summer. Preference is given to minority students and those with a demonstrable interest in diversity.

### Morgan State University

Morgan historically has reallocated a higher percentage of its tuition and fee revenue to need-based aid than any public campus in the state. For FY 2004-2006, the amount of institutional need-based awards totaled \$5.0 million, \$5.5 million, and \$5.2 million, respectively. The number of students aided in each of these years was 1,004, 1,133, and 1,088, respectively.

### St. Mary's College of Maryland

Enhancing economic diversity is one of the key desired outcomes of the College's Strategic Plan. Over the last three fiscal years, increases to financial aid have been substantial for an institution our size; the budget for institutional financial aid has increased by a third, with the entirety of that increase dedicated solely to supplementing need-based aid. During the fiscal year 2003-2004 the college spent \$910,393 on need-based aid and the estimate for the 2006-2007 school year is \$2,020,945. Further, the College understands that a significant percentage of its merit aid is directed to high-achieving students with high financial need. Transfer students have benefited as well, with the increases in the number and average award for transfer scholarships. Furthermore, the College recently completed a \$40 million comprehensive campaign in which \$9 million of new scholarship gifts were recorded.

### University System of Maryland

All USM institutions have begun the implementation of the recommendations of the USM Financial Aid Task Force approved by the Board of Regents in December 2004. Institutional implementation plans were submitted fall 2005. Included in the recommendations:

1. Lower student loan debt
2. Allocation of funds realized from tuition increase revenues that would be necessary to implement the recommendation on decreasing undergraduate student loan debt
3. To the extent possible, provision of commensurate increases in financial aid to qualifying undergraduate students to offset increases in tuition rates, holding harmless those student with the highest need
4. Establishment of a goal for institutions to reach at least the 75th percentile of institutional peers in the average percent of need met
5. Development of a plan to phase in the allocation of any new unrestricted institutional aid funds to need-based programs
6. Whenever possible, consideration of financial need in awarding merit aid
7. Development of additional proactive measures to increase the proportion of institutional aid allocated to need-based programs.

The FY 2006 S-5 data will be submitted to the Maryland Higher Education Commission in November. It is expected that the full implementation of the 2004 USM Financial Aid Task Force Recommendations will result in a continued trend to increase need-based institutional aid.



	<b>FY '04 Need-based Institutional Aid</b>	<b>FY '04 # of Students Awarded</b>	<b>FY '05 Need-based Institutional Aid</b>	<b>FY '05 # of Students Awarded</b>
BSU	\$1,214,221	683	\$1,339,763	823
CSU	\$54,428	59	\$241,550	216
FSU	\$1,171,191	1,071	\$1,258,920	1,271
SU	\$570,764	543	\$582,773	658
TU	\$3,283,447	1,539	\$4,706,561	1,817
UB	\$191,557	153	\$250,974	207
UMB	\$362,702	176	\$398,782	182
UMBC	\$773,651	791	\$1,021,425	945
UMCP	\$8,857,889	4,522	\$7,990,873	3,692
UMES	\$2,310,993	1,176	\$2,240,103	1,085
UMUC	\$919,667	1,002	\$1,600,764	1,579
<b>USM</b>	<b>\$19,710,510</b>	<b>11,715</b>	<b>\$21,632,488</b>	<b>12,475</b>

Source: UMS FAIS files

Note: Frostburg State University provided revised institutional work study funds in FY 2004. Diversity grants are included in institutional aid.

Notably, the USM institutions have engaged in extensive and creative inter-system collaborations to more effectively implement outreach programs for the elementary and secondary stakeholders and to enhance their own academic missions. For example, the SU and UMES collaborations “expose students on both campuses to greater opportunities for social and academic interaction.”

Several system-wide committees meet regularly to share promising practices, discuss issues, provide support for activities, and develop collaborations. The committees include the USM Minority Achievement Committee, the Diversity Network, the Vice Presidents for Student Affairs, and the Academic Affairs Advisory Council.

Each of the USM institutions has developed diversity statements and/or strategic goals for diversity. The majority of the Traditionally White Institutions (TWIs) monitor their diversity initiatives and strategies via an Office of Diversity, with leadership coming from the President’s Office. Sponsored activities include multicultural awareness programs, curriculum and performances in the arts.

Examples of Institutional Initiatives in Response to the USM Financial Aid Task Force Recommendations

Coppin’s goal is to utilize all funding sources to increase retention of each cohort while decreasing loan debt to students. Upon review of the fall 2004 cohort, 68% of the students who failed to return for the Spring semester had outstanding balances. Therefore, the first year retention rates are decreasing due to financial burdens upon the students.

Strategies employed to address this issue include:

- a. decreasing loan debt by 5% each year;
- b. allocating a portion of the incremental tuition revenue to need-based financial aid;
- c. targeting the Campus based EAG for incoming students who enroll later in the process; and
- d. implementing the New Student Forum where students learn about options that are available to them including how to be a “smart borrower” if loans are the only source of funding.

Some strategies Frostburg State University has started to implement and examine in order to assist high need students include:

- a. increasing Frostburg’s Grant funding to Pell Eligible students;
- b. contacting students eligible for the Guaranteed Access Grant awarded by the State of Maryland and encourage the students to apply for the funding;
- c. contacting student and parents reminding them to apply for financial aid early in order to receive the best financial aid packages;
- d. advertising and simplifying the institutional scholarship process; and
- e. providing additional merit scholarship funds to high need recipients.

In its financial aid plan, Salisbury University seeks to increase its institutional based aid from 5.23% (projected for FY 2006) to no less than 7.2% (Fall 2010) of total tuition revenue. To better assist transfer students, the University has developed dual admissions programs that help to identify students with need earlier in the process when more aid is available.

Towson University is working to reduce the maximum debt for students in the target population of Pell eligible students to at least 25 percent below the average debt for all undergraduate students. The target reduction has been set to at least 5 percent per year from 2005 through 2010. The University has set a goal to extend the target population of “highest need” students from those who are Pell eligible to all students having EFCs less than 25 percent of the cost of attendance. Each year, Towson University will determine the increase in revenue that results from an increase in student tuition. Pell Grant recipients will receive a portion of the increase for the purpose of reducing the need for them to borrow additional funds to pay the higher cost. To the extent possible, the university will offer Institutional Grant funds and Federal Work-Study rather than Federal Perkins Loan to the Pell cohort. In addition, Towson will work to develop an initiative to encourage high need students at the high school level to apply for aid early and to ensure that they apply for state scholarships and grants.

Beginning with fall 2005, the *Access UB grant* was awarded to incoming full-time undergraduate students with an Expected Family Contribution (EFC) of 0-3850 (Pell eligible) and a transfer grade point average of 2.5. Students are awarded \$1000 per academic year with awards renewable annually based on 2.5 grade point average (gpa). Forty-seven first-time undergraduates at UB were able to take advantage of this new program.

The University of Maryland, Baltimore has set a goal of a 5% reduction in the aggregate yearly debt load for the Pell eligible students by decreasing the loan to grant ratio for these students

from the current 60-40% distribution of funds. The Financial Aid Office first targets reducing the Unsubsidized Stafford loan by increasing the percentage of university grant need-based funds as part of the award package. Pell eligible students are packaged first to ensure the grant/loan distribution of funds is met.

UMBC has set a goal to allocate from various revenue sources, including those from tuition rate increases, the amount needed to increase the funding base for need-based financial aid by the tuition rate increase, plus an additional 5%, beginning in FY 2007. A baseline amount of \$ 3.34M in aid to students with demonstrated financial need has been allocated. Over the next 5 years UMBC intends to increase this baseline annually by the percentage increase in the tuition rate plus 5%, depending on available resources, including additional revenue from tuition rate increases

*UMCP Maryland Pathways Program:* In the fall of 2004, the University of Maryland implemented the Maryland Pathways Work/Grant Program. The work/grant program is for students of families that have no financial resources to pay for college, as determined by the Free Application for Federal Student Aid (FAFSA). These families have an automatic zero expected family contribution (EFC). Maryland resident students qualifying for the Pathways program are awarded Federal Work Study where they work on campus for 5 to 8 hours per week to contribute to their "Cost of Attendance" (tuition, fees, room and board, etc.), After Federal Pell Grant and SEOG funds are awarded, the remaining cost is met with a combination of Maryland State funds, and University of Maryland Pathways Grant. These students graduate from the University of Maryland free from all federal loan debt. For the Fall 2004 term, UMCP had 53 admitted freshman students who qualified for this program. For the Fall 2005 semester, 174 admitted freshman and continuing sophomore students qualified for this program.

In addition, it was recognized that there are families whose socio economic status is not accurately reflected because the student works. For those students who would have received a Federal Pell Grant but did not because the student worked, the University provides a Pathways Pell Equivalent grant at the same funding as the Pell Grant based on the parent's contribution (PC).

Although these two paths are a tremendous help to low-income families, the University feels that it must do more to help the low to middle income families in Maryland, with estimated incomes in the \$22,000 to \$60,000 range. Therefore, the University is launched a third Path of the Pathways program, called the Senior Debt Cap Program. Beginning in Fall 2005, the program awarded seniors, who have accumulated considerable debt, a university grant covering his/her remaining financial need in the fourth year. In order to qualify for the grant in the 2005-2006 academic year, a student had to have accumulated \$15,900 or more in federal need based loans. This Debt Cap is effectively equivalent to the direct cost of attendance (tuition & fees, and room & board). Each year, the debt cap will be reassessed and any adjustments will be made in time to inform the next year's senior class.

UMES currently awards over 80% of unrestricted institutional aid to students with financial need.

UMUC is significantly increasing the proportion of need-based aid with institutional funds. UMUC will continue to reserve more than 90% of institutional grant funding to need-based aid.

**Action Recommendation 2.9:**

Increase funding to award eligible students for the Educational Excellence Awards Program, the Part-Time Grant, and the Graduate and Professional Scholarship. Awards should increase each year based on tuition and fee increases.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

Need-based aid has increased by 96%, or \$40.9 million, from FY 2004 to FY 2007. This funding impacts full-time, part-time, graduate and undergraduate students. Funding for the Education Excellence Awards Program has increased by \$35 million, or 85%. The Part-Time Grant Program has increased by \$4.65 million, or 344%; and the Graduate and Professional Scholarship Program has increased by \$1.3 million or 701%. Over 12,000 additional students have been awarded through this increase in funding. In addition, awards have been adjusted for tuitions and fees within the maximum awards established for each program, and the maximum award for the Part-Time Grant Program has been increased to \$1,500.

**Action Recommendation 2.10:**

Revise State need-based aid programs to promote a high level of student access and choice that is flexible enough to accommodate students from a variety of circumstances. Educational Excellence Awards Program modifications could include the following:

- a. Expand the campus-based Educational Assistance Grant program to further address the needs of many low-income students who for extenuating circumstances may miss financial aid deadlines.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

MHEC has achieved the modification listed above. The campus-based Educational Assistance Grant was implemented in FY 2004 using \$2 million in carry forward funds. An increase in funding for need-based aid enabled MHEC to secure base funding at this level in the FY 2005 budget. The allocation for this program has increased to \$3 million in FY 2006 and FY 2007. MHEC will continue to assess the funding level of this program and increase it as necessary.

- b. Revise the Educational Assistance Grant program to provide more student choice by increasing the percent of need provided to improve access and affordability and to minimize loan debt. Implementation of this policy is contingent upon additional funding for need-based aid.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

MHEC achieved the modification listed above and began revising the percent of need used to calculate awards in the Educational Assistance Grant program in FY 2006 with the implementation of the Community College Access Initiative. This initiative, designed to make Maryland's lower cost colleges more affordable, was to be implemented over four-years and increase the percent of need used to calculate community college awards from 35% to 60%. Increased need-based aid funding has enabled MHEC to fully implement this initiative at the 60% level in FY 2007. In addition, MHEC has been able to increase the percent of need used for four-year institutions to 40% and increase the overall maximum award in the program to \$3,000.

- c. Treat commuter students and residential students equitably; adjust the living cost formula to encourage commuter or non-residential students.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

MHEC has achieved the modification listed above. In FY 2005, the standard allowance for students living off campus increased from \$4,000 to \$4,500. In FY 2006, OSFA was able to increase the standard allowance for students living off campus to \$5,100 and for students living with parents from \$2,500 to \$3,200. MHEC will survey institutions every two years to determine average living costs for all students and continue to make adjustments as necessary.

## **Goal 3 Diversity**

**Ensure equal educational opportunity for Maryland's diverse citizenry.**

### **Action Recommendation 3.1:**

The Maryland Higher Education Commission and the colleges and universities should work with the higher education sectors to develop a statewide workshop for dealing with the enhancement of “cultural competence” and for sharing successful strategies for marketing postsecondary education to the increasingly diverse student population.

**Lead:** Maryland Higher Education Commission

### **Progress Made/Action Taken:**

MHEC's staff met with several campus diversity services administrators to discuss the timing and logistics for a statewide all-day workshop on cultural competence for late fall 2006. Funding for logistical purposes need to be identified (conference fees, identifying grants, etc.). Attendees of the workshop would include campus diversity administrators, freshman orientation staff, department faculty and academic advisors.

The following two organizations are nationally known for their work in higher education and cultural competency and could be potential sources for a keynote speaker/presenters or partner for conducting the workshop:

1. National Association for Multicultural Education, [www.nameorg.org](http://www.nameorg.org)
2. University of Colorado at Boulder: Counseling and Psychological Services' Multicultural Development Team, [www.colorado.edu/sacs/counseling/imd.html](http://www.colorado.edu/sacs/counseling/imd.html)

To assist with increasing diversity on Maryland's campuses, MHEC has employed a number of outreach efforts to promote access to postsecondary education. These efforts are in collaboration with high schools, community groups, colleges and universities, faith-based organizations, and the media, with an emphasis being placed on schools in economically disadvantaged areas.

Financial aid workshops and presentations such as guidance counselor workshops, financial aid nights at high schools, college fairs, college open house programs, and legislative workshops are held in many different venues. In addition to working with community groups and faith-based organizations, MHEC is now providing training for organizations such as College Bound, Private Career schools, foster care parents, juvenile justice case workers and mentors, and social workers. By partnering with higher education institutions, MHEC has been able to significantly increase the number of workshops and presentations from 79 in FY 2002 to 178 in FY 2005.

Many new publications have also been produced for middle and high school students to inform them of what they need to do to be prepared for college. This includes a 12-month calendar for GEAR UP students, which has been transformed into a 16-month calendar for the general student population.

Finally, to better reach Maryland's Hispanic population, MHEC's *Student Guide to Higher Education and Financial Aid in Maryland* and a few smaller publications have been produced in Spanish. MHEC is planning a comprehensive Hispanic outreach initiative for FY 2007.

**Action Recommendation 3.2:**

Campuses should offer ongoing programs that encourage cultural awareness.

**Lead:** Institutions and segments

**Progress Made/Actions Taken:**

Maryland Association of Community Colleges

The colleges have expanded their initiatives targeted to providing enhancing awareness of different cultures and supporting students of diverse backgrounds. In addition to curriculum emphasizing minority studies, the colleges have implemented creative programs to make their campuses more welcoming. Baltimore City Community College (BCCC) offers customized training in managing cultural diversity in the workplace. Community College of Baltimore County (CCBC) Students Taking Action to Reach Success (STARS) program hires and trains students to mentor new minority students. Frederick Community College is strongly committed to enhancing diversity and has a Director of the Office of Diversity and Global Initiatives (ODGI) devoted to this mission. FCC's Multicultural Student Support Services Mentoring Program fulfills the ODGI goals with regards to assisting and encouraging African American students. Carroll Community College implemented the Global Awareness Advisory Board to assess and encourage integration of global awareness and diversity into all aspects of campus life. Several of the larger community colleges have dedicated staff to enhancing diversity and cultural awareness on their campuses and in their communities. Anne Arundel Community College makes available cultural awareness training and resources on its website. Montgomery College highlights awareness of different cultures by designating several months of the academic year for different cultures with related programs and events.

Maryland Independent College and Universities Association

Many MICUA institutions offer regular seminars to address cultural differences. In addition, diversity and cultural awareness are listed among the accrediting standards for each institution as a whole (i.e., Middle States) as well as for particular disciplines, such as teaching and nursing. Institutions utilize strategies to incorporate diversity into academic programs in the Utilization of Funds required for State-aided institutions.

MICUA institutions encourage cultural awareness through a variety of programs, offering scholarships for underserved populations, organizing multi-cultural arts festivals and specials events, hosting speakers to address cultural differences, and fostering diverse student groups. The following are detailed examples from a range of MICUA institutions, including liberal arts colleges, a large research university, and a specialized institution with a predominantly African-American student body.

Many MICUA institutions have targeted scholarship programs for disadvantaged and minority students, including the William Randolph Hearst Foundation scholarships at Goucher College; the National Achievement Scholars and National Hispanic Scholars at Hood College; the

Funstone V. Collins and the Bolivar San Martin Scholarships for African-American and Hispanic students at Mount St. Mary's University; and the Alcanza Scholarship, Project Excellence, and the McTeer-Smothers Book Scholarship for Minority Freshmen Scholars at McDaniel College.

Ten of the MICUA member institutions participate in the Urban Scholars Program for Baltimore City students administered by the Independent College Fund of Maryland.

Underscoring their commitment to diversity, Goucher College, Washington College and McDaniel College have a consortium that brings top African-American visiting scholars to their campuses.

Capitol College operates the NASA Pre-College Minority Engineering Program, designed to provide opportunities for minority and female students.

Access to education is important at College of Notre Dame of Maryland. Students of color comprise 33% of College of Notre Dame of Maryland's students in the Women's College, based on fall 2005 statistics. Additionally, 17% of Women's College students come from families with incomes of \$25,000 or less. Ninety-four percent of first-time degree-seeking students applied for financial aid in fall 2005, and 92% received financial assistance.

The College of Notre Dame reaches out to its students and community to ensure equal educational opportunity for Maryland's diverse citizenry. Among the student groups on campus are the Black Student Association, Hispanic Society and International Student Organization. For example, during Black History Month, a campus wide committee of students, faculty and staff develop a theme for the month and plan activities to celebrate African American heritage. These events are open to the public and are publicized in area media. For example, a soul food dinner in February 2005 was included in a listing of Baltimore events in *The New York Times*. Diners from the Greater Baltimore community participated in the event. During Hispanic History Month in 2005, a poster display was hung in a prominent, well-traveled building on campus.

Publications, from the view book to intro pieces to annual fund brochures, incorporate racial, ethnic and cultural diversity in photos as well as copy. Additionally, photos that hang in various hallways in buildings throughout the campus reflect the students of color who make up the College of Notre Dame of Maryland community.

Campus events bring diverse speakers to Baltimore. Recently, Najah Abdallah, a professor and communications expert from Lebanon, spoke about "Women and the Media in the Arab World." Dr. Shawn Copeland, an African American professor at Boston College, discussed rereading the Civil Rights movement through a theological lens. Former Secretary of State Madeleine Albright visited College of Notre Dame in April 2005, speaking to a standing-room only crowd on topics as diverse as women's education to peace in the Middle East.

The College participates in the Latin America CIS tour. This tour brings together a variety of colleges from across the United States to reach out to students in Central and South America. College of Notre Dame also participates in college fairs targeted to students in urban areas of



Baltimore and Washington, D.C. College of Notre Dame students have the opportunity to travel abroad through short-term and long-term study abroad programs. Additionally, some members of the Morrissy Honors Program traveled to Japan in 2003 and 2005 to visit Aoyama Gakuin, a sister women's college in Tokyo.

The Baltimore Scholars program provides tuition and mentoring for students from Baltimore City public schools who are admitted to Johns Hopkins University, many of them from minority backgrounds. The program, which allows Baltimore City public high school graduates admitted to JHU to attend the university tuition-free, is intended to give the city schools' best and brightest students the opportunity to stay near home and study at one of America's premier universities.

Johns Hopkins sponsors the annual CultureFest, a weeklong celebration of the diverse nationalities and ethnicities that the campus community comprises. In addition, Johns Hopkins mentors talented city high school students in JHU labs, including students who have become finalists in the last two Intel national science talent searches. JHU has engaged in a recent effort to greatly increase financial aid for students (middle and high school) who are academically eligible for programs at Johns Hopkins' Center for Talented Youth. Several of those scholarships are specifically targeted to students from Baltimore or the Baltimore-DC area.

Loyola College in Maryland maintains a wide variety of programs and services designed to ensure respect for diversity at the College. Most notably, the College's Diversity Committee provides leadership on diversity in undergraduate and graduate student populations. The goals of the committee include: curricular diversity in undergraduate and graduate programs; recruitment, mentoring, and retention of faculty, staff, and administrators of color; creating a campus climate that assumes, accepts, and engages diversity as necessary to the pursuit of the Jesuit educational mission and a variety of other issues. Specific programs at Loyola College include:

- ALANA (African, Latino, Asian and Native American) Student Services: facilitates the success of all ALANA students at the College through cultural programming, leadership development, retention support, advocacy and educational resources. The African Student Union, Asian Students Association, Black Student Association, Caribbean Student Union, and the Hispanic Club all receive support from ALANA Student Services.
- ALANA Alumni Network: an organization of ALANA Alumni who act as academic and personal mentors for ALANA undergraduate students.
- Diversity Reading Series: Each fall, College community members are invited to participate in one (or more) of several reading groups considering books that address issues of diversity.
- Diversity Course Requirement: Beginning with the Class of 2010, every Loyola student is required to complete at least one course with a focus on global awareness, justice awareness or domestic diversity awareness.
- Martin Luther King, Jr. Convocation: an annual address by a nationally known speaker focusing on the issues of race in America. The January 2006 address by Dr. Michael Eric

Dyson attracted more than 700 attendees, many of whom were from the broader community surrounding Loyola.

- **Multicultural Infusion Workshop:** an annual five-day curricular development and teaching enhancement program that supports faculty members as they design and revise course syllabi in their disciplines to reflect today's more diverse classrooms and the wealth of culturally diverse teaching resources available.

In partnership with the NAACP, the Maryland Institute College of Art has a yearlong enrichment program designed to encourage high academic and cultural achievement among African-American high school students.

During spring 2006, McDaniel College students had the opportunity to travel to Broadway and see "The Color Purple," and to learn from speakers like Donald Trump's "Apprentice" winner Randall Pinkett and Donna Brazile, the first African-American to lead a major presidential campaign. Students are encouraged to take advantage of the College's rich multicultural offerings through its Cultural Passport program, which rewards them for attendance with prizes ranging from gift certificates to electronics and cash prizes. During the College's annual Diversity Week, the spoken word poetry group "El Grito de Poetas" shared their perspective of growing up Latino. The Women's Issues group staged performances of "The Vagina Monologues," and the Black Student Union packed the house for a fashion show fundraiser. Movies including "Hotel Rwanda" and "Mighty Times: The Legacy of Rosa Parks" were featured on big screens around campus, and urban radio station 92Q broadcast live from the College.

This year, McDaniel College's multicultural mentoring program, Sankofa, enrolled its highest numbers to date, with more than 60 active participants.

During the summer, hundreds took part in the 12th annual Common Ground on the Hill Tradition Weeks held July 1-14. Common Ground on the Hill, in-residence at McDaniel College, seeks to bridge the cultural gap between people from diverse groups through art and music. The summer courses, performances and activities range from learning the harmonica, fiddle, Celtic harp or guitar to studying African drumming or Latin Dance. Participants may learn juggling, yoga, knitting or woodturning. The program also boasts a Distinctive Lecture series and Nonviolence Institute forum.

The only predominantly black, independent college in Maryland, Sojourner-Douglass College honors the legacies of African-American abolitionists Sojourner Truth and Frederick Douglass by helping working adults to increase their capacities for self-development and self-expression. From a child-care program to a weekend and evening class schedule, the college demonstrates its dedication to providing working adult learners with the support system they need to thrive in a college program. Not only is Sojourner-Douglass College meeting the educational needs of the adult market segment, it also serves the population who could have the greatest impact on the success of future generations. The most accurate predictor of minority college persistence is having at least one college-educated parent in the household.

Washington College cultivates a campus community where cultural diversity and enrichment are fostered in a spirit of tolerance, mutual respect for individual differences, and an openness to other points of view. The following academic programs and resources at Washington College support this mission:

- Gender Studies, a newly launched Black Studies minor;
- The Center for the Study of Black Culture;
- The Frederick Douglass Fellowships that fund independent undergraduate student research in the areas of minority history, culture, and social issues; and
- Student associations such as the Black Student Union, W.E.B DuBois Society, Washington College Coalition for Peace and Justice, and Cleopatra's Daughters.

A host of endowed and institutionally-funded scholarship programs for students from traditionally underserved communities, Washington College cultivates a campus community where cultural diversity and enrichment are fostered in a spirit of tolerance, mutual respect for individual differences, and openness to other points of view.

Baltimore Hebrew University (BHU) teaches Jewish civilization against the wider background of world civilization. BHU is well-positioned to bridge the academic study of Jewish language, literature, history, and culture. The Joseph Meyerhoff Library at BHU houses a rare books collection containing items of special significance dating from the 15<sup>th</sup> to the 20<sup>th</sup> century.

### Morgan State University

Morgan provides students with extensive opportunities to understand the nature of urban life and culture and to work in such an environment. Its teacher preparation program, for example, ensures that all teaching candidates have experience at an urban school. Students in the architecture program, as another example, devote a good deal of time working on issues of neighborhood development in Baltimore. Experiences such as these are found throughout Morgan's courses and programs. In addition, the University maintains a very large student volunteer program that engages in a variety of community service programs, including tutoring and mentoring in the public schools.

As a campus with a student body that is predominantly African American, many Morgan cultural activities and social events are organized with the goal of appealing to the interests of minority students.

### St. Mary's College of Maryland

As an institution dedicated to cultural awareness and diversity as cornerstones of its public mission, St. Mary's College of Maryland has a number of curricular and extra-curricular offerings. The College has a representative Multicultural Advisory Committee of faculty, staff, and students that serves in an advisory capacity to the Strategic Planning Committee. Cross-disciplinary study areas are seeing growing enrollments, including: Asian Studies; Africa and African Diaspora Studies; and Women, Gender and Sexuality Studies. Our Office of Multicultural Affairs and Academic Departments collaborate on co-curricular and extra-

curricular activities. Our Public and Media Relations Office was recently honored with a Thoth Award from the National Capital Chapter of the Public Relations Society of America (PRSA) for our annual Martin Luther King Day remembrances which drew over 400 community members to campus. An increasing number of our students and employees have academic experiences abroad, crucial for understanding in a rapidly changing global environment. Student organizations, including the Black Student Union, Raíces Hispanas, and STARS, provide further programming on cultural awareness.

### University System of Maryland

The University System of Maryland (USM) institutions have engaged in extensive inter-system collaborations to more effectively implement outreach programs for the elementary and secondary stakeholders and to enhance their own academic missions.

Several system-wide committees meet regularly to share promising practices, discuss issues, provide support for activities, and develop collaborations. The committees include the USM Minority Achievement Committee, the Diversity Network, the Vice Presidents for Student Affairs, and the Academic Affairs Advisory Council.

Each of the USM institutions has developed *diversity statements and/or strategic goals for diversity*. The majority of the Traditionally White Institutions (TWIs) monitor their diversity initiatives and strategies via an Office of Diversity, with leadership coming from the President's Office. Sponsored activities include multicultural awareness programs, curriculum and performances in the arts.

Specific programs offered at USM institutions that encourage cultural awareness cover a broad spectrum and vary according to the distinctiveness and resources of each institution within the USM. Examples of such programmatic activity include, but are not limited to, the following:

- **Student Organizations:** Latino, Black, African, Lesbian, Gay, Bisexual, and Transgender students, as well as those for non-traditional age undergraduate students, Campus Chapters of National organizations such as National Coalition Building Institute, International Students, Thai, Chinese, European, Indian, Middle East, Muslim, Student Government Associations.
- **Cultural Venues, Events, and Programming:** African-American Cultural Centers, Asian Arts & Culture Centers, Hillel Center, women's centers, various campus ministries; provost's conversations; Open Houses; Dialogues; Recognition and Appreciation programs and conferences; various disciplinary societies; The Mosaic: Culture and Diversity Center; Interfaith Center; Events and programming may be campus wide or unit specific.
- **Providing and sustaining access to resources** for publications, organizations, and Web sites.
- **Curricular:** Institutions encourage and promotes inclusion of multicultural perspectives in the curriculum including required courses in certain disciplines such as teacher preparation. Faculty development workshops, arranging off-campus learning experiences

- **Publications:** Newsletters and brochures, literary journals; USM and institutional Web sites; testimonials of alumni, students, and faculty; and press releases **Grants:** varies as to availability of institutional resources to support small initiative grants for faculty projects related to cultural awareness
- **Collaborations:** intra-institutional-departments, schools, and colleges; inter-institutional; as well as between an institution and community
- **Conferences:** Annual USM Diversity Network Faculty Initiatives Committee Conference on Diversity
- **Study Abroad programs**
- **Services:** Students with Disabilities

### **Action Recommendation 3.3:**

Campus publications should reflect the diversity of their institutions.

**Lead:** Institutions and Segments

#### **Progress Made/Actions Taken:**

##### Maryland Association of Community Colleges

All of the community colleges have incorporated statements embracing cultural diversity on their websites, and all include these values in their catalogs and brochures. Every college is careful to reflect the diversity of their communities and enrollment in the text and the photographs included on their websites, and printed publications.

##### Maryland Independent Colleges and Universities Association

Prepare campus publications that reflect diversity of institutions:

MICUA has encouraged all of its member institutions to produce publications that reflect the diversity of their campuses. Recently, MICUA produced the publication, *Providing Solutions for Maryland*. The focus of the publication is access, affordability, diversity, and success. *Providing Solutions for Maryland* reflects the diversity of our member institutions and highlights our efforts to increase access to a racially and economically diverse student population.

##### Morgan State University

Although the overwhelming majority of Morgan's student body is African American, it is the policy of the campus to feature students, faculty, and staff of all races and ethnicities in its publications.

Morgan has engaged a marketing firm to broaden its appeal through advertisements, the web, and its publications. A major focus of this effort is to ensure that students of all racial and ethnic backgrounds are represented in the University's marketing materials

##### St. Mary's College of Maryland

Our campus' diversity is reflected in publications including an admissions brochure for underrepresented populations, our View Book for all potential students, Catalog for current students, and Factbook for faculty, staff, administrators, and visitors. Specific effort is also taken

to ensure that our photo library accurately reflects the diversity of our campus, as these photos are used for future publications. Our achievements in diversity are further noted in State reports and popular media, such as the Baltimore Sun, Washington Post, and the Chronicle of Higher Education.

#### University System of Maryland

The USM institutions publications will continue to reflect the diversity in our student, faculty and staff population.

USM system-wide councils, workgroups, and committees meet regularly to share best practices and discuss issues that include the appropriateness of the reflection of diversity in institutional publications. These discussions lead to a heightened sensitivity to this particular issue.

Additionally, institutional units that focus on diversity matters routinely monitor campus publications to reasonably ensure the depiction of diversity in the publications reflective of the respective institutions in the USM.

#### **Action Recommendation 3.4:**

The Maryland Higher Education Commission should continue its annual evaluation of the State's performance in meeting its commitments in its partnership agreement with the U.S. Department of Education Office for Civil Rights (OCR), identifying areas that still require attention and determining how to further the progress that has been made.

**Lead:** Maryland Higher Education Commission

#### **Progress Made/Action Taken:**

In December 2000, the State of Maryland entered into a partnership agreement with the United States Department of Education's Office for Civil Rights (OCR). The OCR Partnership Agreement with the State covers a five-year period from December 2000 to December 2005.

The purpose of the Partnership Agreement is to eliminate any vestiges of segregation in Maryland's public colleges and universities.

In fall 2005, MHEC convened two committees comprised of leading Maryland citizens and stakeholders among the higher education community to evaluate the progress made toward the nine commitments in the Partnership Agreement since December 2000. Committee I examined Commitments 1 through 8, and Committee II examined Commitment 9 of the OCR Partnership Agreement with the State. Reports from both committees were reviewed by the Commission along with the fiscal 2007 budget as passed by the Maryland General Assembly in April 2006.

MHEC forwarded the reports from the committees to the Office for Civil Rights along with a letter from the Secretary of Higher Education and the Chairman of the Commission. The letter, along with the committee reports, provides analysis and data to support the Commission's finding that Maryland has complied with all nine of the commitments made in the Partnership Agreement. The letter further indicates that the State is committed to the continued support of equal access to higher education for all and the continued development of Maryland's historically black institutions. Therefore, the Commission will develop measurable indicators on

areas required to achieve parity among the Traditional White Institutions (TWIs) and Historically Black Institutions (HBIs) and publish annual progress reports.

**Action Recommendation 3.5:**

The Maryland Higher Education Commission should form an intersegmental statewide advising group – comparable to the Maryland intersegmental chief academic officers group – comprised of campus deans, directors of undergraduate and graduate studies, and representatives of academic disciplines, to discuss, promote, and implement academic advising practices and initiatives for ensuring academic success for all students, including narrowing the graduation gap for minority students.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

MHEC convened a group that includes representatives from the public USM senior institutions, Morgan State University, St. Mary's College, the community colleges, the independent senior institutions, for-profit institutions, USM, MACC, and MICUA. The first meeting was held on March 29, 2006 and a schedule of meetings has been established for the group. It was decided that the group would begin by addressing the guidelines related to the establishment of new degree-granting institutions followed by academic program proposals. In working through these guidelines, special attention will be given to incorporating policies for ensuring academic success for all students.

As a separate initiative, following the review of guidelines, the group will address the current practices associated with student advising and retention. It will consider best practices in the area of student advising that have been proven to provide positive and measurable results related to retention and academic success. It is anticipated that the academic advisory group will segue into this phase of its mission in mid-late fall, 2006.

**Action Recommendation 3.6:**

Colleges and universities should implement aggressive recruitment programs to attract African American and other ethnically under-represented students to advanced degree programs, particularly doctorates. These efforts should include identifying and establishing communications with talented undergraduates at Maryland institutions, explaining the benefits of graduate education, and providing adequate financial support in the forms of fellowships, teaching and research assistantships, tuition waivers, and similar aid. To engage the private sector, the State should expand and leverage the Doctoral Scholars Program, a program designed to increase the number of minorities with doctoral degrees.

**Lead:** Institutions and Segments

**Progress Made/Actions Taken:**

Maryland Association of Community Colleges

Implement recruitment programs to attract under-represented minorities to advanced degree programs: Not applicable to community colleges

Maryland Higher Education Commission

In FY 2006, MHEC submitted a budget request for \$2 million to add a component to the current Diversity Grant Program, which provides scholarships to graduate students. The proposal would provide funds to campuses, on a competitive basis, to enable them to provide or supplement programs that will prepare and recruit more minority students into graduate programs. The campus programs would identify and recruit minority students who have completed 60 or more credit hours and provide a variety of services to these students. Such services would involve extensive contact with one or more faculty members in their major, and might include mentoring, research opportunities, introduction to academic publishing, etc. After attaining the undergraduate degree, the students would be assured of a Diversity Scholarship to attend graduate school.

The increase in the Diversity Grant Program was not funded. MHEC will revise and resubmit a request for consideration in FY 2008.

Maryland Independent Colleges and Universities Association

Over the past 10 years, MICUA institutions have dramatically increased the participation of under-represented minorities in its advanced degree programs. For example, the number of African American graduate students at MICUA institutions increased by 122% between 1994 and 2004. Further, because of the supportive atmosphere at MICUA institutions, minority graduate student at MICUA institutions are more likely to graduate than graduate students at public institutions. For example, MICUA institutions enroll 23% of African American graduate students; but produce 27% of African American graduate degrees.

Once these minority students receive their advance degrees, MICUA institutions are an important recruiter for these students. MICUA institutions have increased minority representation among their faculty. Between 2000 and 2004, minority faculty as a percent of all faculties has increased from 9% to 12% on average.

Morgan State University

Morgan is a leader in doctoral education for minorities in the state and nationally, even though its doctoral programs are of recent vintage. Nationally, among all traditional campuses, the University ranks 18<sup>th</sup> in the number of doctoral degrees awarded to African Americans. Nationally, Morgan ranks 4<sup>th</sup> on this measure in engineering, 8<sup>th</sup> in education, and 11<sup>th</sup> in the health sciences. The increase in Morgan's doctoral degree production has been instrumental in increasing the percentage of blacks receiving doctorates statewide, which for over a decade had been stable at an average of less than 5%. Morgan considers its doctoral programs an opportunity to diversify its student body through attracting non-black students. Because of its tradition, however, it is a natural magnet for African Americans at all levels of study, including the doctoral level. Morgan's doctoral programs are for the most part quite new and have had to rely



quite heavily on federal funding for their development. However, their ability to attract African Americans is evident from national statistics concerning degrees awarded. The most recent national data available indicate that for the 2005-06 academic year, Morgan ranked 20<sup>th</sup> nationally in the number of doctorates awarded to African Americans. Among traditional campuses Morgan ranks 14<sup>th</sup>. For education doctorates, Morgan ranks 10<sup>th</sup> nationally (7<sup>th</sup> among traditional campuses). The University ranks 7<sup>th</sup> in engineering doctorates and 8<sup>th</sup> in doctorates in the health sciences.

Morgan historically has offered master’s degrees for teachers in a wide variety of content areas. These include: mathematics, science, economics, history, English, history, music, and sociology.

St. Mary’s College of Maryland

SMCM will offer a single graduate degree as of summer 2006. This degree, the Master of Arts in Teaching, is aimed primarily towards students that complete their undergraduate education at the College. As the College has an increasing minority population and traditionally ranks as a State leader in retention and graduation, we hope to encourage many of these minority students to obtain their graduate degree and teaching credentials here. In addition, our MFR data demonstrates that many alumni attend graduate and professional schools upon leaving SMCM.

University System of Maryland

The USM institutions continue to be ranked in the top tier of institutions in the award of first-professional and graduate degrees to African-American students. In most areas, there has been an increase in the number of under-represented students including females and minority students. This has been accomplished through recruitment and outreach programs to students in geographic regions with large minority populations, utilization of alumni in recruitment and outreach programs.

AFRICAN-AMERICAN FIRST PROFESSIONAL DEGREES	
Rank	All Disciplines Combined
8	University of Maryland, Baltimore
	<b>Dentistry</b>
12	University of Maryland, Baltimore
	<b>Law</b>
12	UB
13	University of Maryland, Baltimore
	<b>Medicine</b>
19	University of Maryland, Baltimore

<b>AFRICAN-AMERICAN MASTER'S</b>	
<b>Rank</b>	<b>All Disciplines Combined</b>
7	University of Maryland University College
28	Bowie State University
71	University of Baltimore
71	University of Maryland College Park
79	University of Maryland Baltimore
91	Towson University
<b>Biology</b>	
27	University of Maryland University College
<b>Business</b>	
5	University of Maryland University College
20	Bowie State University
<b>Computer and Information Sciences</b>	
11	Towson University
<b>Engineering</b>	
7	University of Maryland College Park
<b>Health Professions</b>	
25	University of Maryland Baltimore
<b>Mathematics</b>	
6	University of Maryland, College Park
<b>Psychology</b>	
9	Bowie State University
31	Towson University
49	University of Maryland, College Park
<b>Social Science and History</b>	
6	University of Maryland, College Park
50	University of Maryland, ES

AFRICAN-AMERICAN DOCTORATES	
Rank	All Disciplines Combined
13	University of Maryland, College Park
71	University of Maryland, Baltimore
97	University of Maryland, Baltimore County
Education	
9	University of Maryland, College Park
Health Sciences	
2	University of Maryland, Baltimore
Psychology	
18	University of Maryland, College Park
30	University of Maryland, Baltimore County
Social Sciences and History	
4	University of Maryland, College Park

Source: *Diversity, 2005*

There is some variation in the programming that encourages and supports attracting African-American and other ethnically underrepresented students to advanced degree programs, particularly doctorates. Bowie, Coppin, UMBC, and UMCP operate the federally funded Ronald E. McNair Post baccalaureate Achievement Program designed to prepare participants for doctoral studies through involvement in research and other scholarly activities. McNair participants are from disadvantaged backgrounds and have demonstrated strong academic potential. Institutions work closely with these participants through their undergraduate requirements, encourage their entrance into graduate programs, and track their progress to successful completion of advanced degrees. The goal of McNair is to increase the attainment of the Ph.D. by students from underrepresented segments of society.

Examples of Institutional Initiatives in Response to ensuring equal educational opportunity for Maryland's diverse citizenry.

- **Coppin State University** McNair graduates have earned 103 masters and six doctorates. PhD fields include pharmacology, education, criminal justice, higher education administration, psychology from institutions such as Duke, Harvard, Howard, Illinois-Champaign-Urbana, Lehigh and The Ohio State University. Fifteen Coppin McNair graduates are currently enrolled in doctoral programs.
- **Frostburg State University** participates in the UMCP McNair program. FSU has had six African-American, one first-generation, low income Caucasian and ten other students

participate in the program with financial assistance provided through the Office of the Provost at FSU.

- **Salisbury University** provides career advisement that targets minority students by purchasing and distributing germane professional magazines, maintaining web links, maintaining 1 of 4 diverse students assistants for support, and assessing post graduation status( 21 % of May 2005 Black students were going to graduate school versus 14 % of white students).
- **Towson University** has implemented “Teachers for Tomorrow” a collaborative program with Coppin and Baltimore City Public Schools to provide Master Degree Programs for certified teachers. Since 2001-2002, there have been 31 graduates, 21 of whom are minority. Also, TSU has cooperative programs with Prince George’s County Public Schools for Master’s in Instructional Technology and with Montgomery and Baltimore Counties for Post-Master’s in Educational Leadership through the Towson Learning Network. Respectively, the programs started with cohorts of 20 and 12 students, 50 % of who were minority. A total of 46 minority students were enrolled in the Prince George’s, Montgomery, and Baltimore county programs, 8 of whom completed degrees. In 2004-2005, the programs enrolled 52 minority students, 10 of whom completed degrees. In AY 2004-2005 TSU initiated a graduate level program for cohorts of mathematics teachers in Prince George’s County Public School System.
- Between fall 2000 and fall 2004, enrollment of Black students enrolled in the **University of Baltimore**, Merrick School of Business rose from 16.7% to 18.1%. Fifty-three students graduated from a collaborative Coppin State-UB M.S. in Human Services Administration in Academic Year 2005.
- The **University of Maryland, Baltimore County** McNair Program offers seminars on academic excellence and has a strong track record of encouraging students to attend graduate school. This program is complemented by other UMBC efforts such as, institutionalized best practices through “Diversifying on Campus Scholars” (UMBC DOCS), an initiative with the goal of increasing diversity of all kinds among the doctoral students. This is an overarching initiative from which other initiatives have been launched. The Graduate Meyerhoff Program continues to attract graduate African-American and Hispanic students in substantial numbers. As of fall 2005, 39 students were pursuing Ph.D. programs in the life sciences. PROMISE: Maryland’s Alliance for Graduate Education and the Professoriate (AGEP), is a coalition of UMBC (as lead institution) UMCP, and UMB dedicated to increasing the number of minorities who earn Ph.D.s in science, engineering, and mathematics.

### **Action Recommendation 3.7:**

To engage the private sector, the State should expand and leverage the Doctoral Scholars Program, a program designed to increase the number of minorities with doctoral degrees.

**Lead:** The Maryland Higher Education Commission

**Progress Made/Action Taken:**

The Doctoral Scholars Program, which is a partnership with the Southern Regional Education Board (SREB) to address the shortage of minority faculty, supports enrolling minority students into doctoral programs and then providing stipends and mentoring to help students graduate and secure faculty positions. The program particularly encourages applicants in the fields of science, mathematics, engineering, and science and mathematics education, where minority representation is especially low. Currently, funding allows for the support of one Doctoral Scholar per year.

MHEC has submitted a funding request for consideration for FY 2008 to expand the Diversity Grant Program to add a component to provide funds to campuses, on a competitive basis, that will provide or supplement programs for preparing and recruiting more minority students into graduate programs. The campus programs will identify and recruit minority students who have completed 60 or more credit hours and provide a variety of services to these students. Such services may involve extensive contact with one or more faculty members in their major, and might include mentoring, research opportunities, introduction to academic publishing, etc. After attaining the undergraduate degree, the students will be assured a Diversity Scholarship to attend graduate school, including the doctoral program.

To further implement the recommendation, the Maryland Higher Education Commission members will be provided with program information to use in discussions with business leaders, legislators, and other individuals the potential for supplying funds to leverage the State dollars in the Doctoral Scholars Program.

## **Goal 4**

### **A Student-Centered Learning System**

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

#### **Action Recommendation 4.1:**

The State and colleges and universities should work to increase the capacity of Maryland's colleges and universities to fulfill the hiring needs of the local school systems throughout the State, particularly in content fields that are declared critical shortage areas and with regard to hiring males and minorities.

**Lead:** Institutions, Segments

#### **Progress Made/Action Taken:**

##### Maryland Association of Community Colleges

The community colleges increased the number of teacher education transfer graduates from 252 to 346 between 2003 and 2005, a 37% improvement. The number of credit students enrolled in these programs full time have held steady at just over 2,000, while the number of part time students has varied. The increase in graduates and relatively steady enrollments suggests that community colleges have improved the efficiency and effectiveness of their programs and are graduating teacher transfers sooner, in response to the current workforce shortage.

The community colleges are working with individual public school systems to expand their Resident Teacher Certification programs, attracting career-changers to the teaching profession. The presidents of the community colleges have been meeting with superintendents of public schools throughout the state to identify areas of mutual interest in attracting and educating students to become K-12 teachers. Agreements between the colleges and the county public school systems are being developed especially in areas where critical shortages have been identified.

There are several new challenges to expanding alternative paths to teaching. The Maryland State Department of Education (MSDE) has decided to require an 8 week versus a 4 week internship period for teaching candidates. In addition, MSDE has determined that teacher certification through "credit count" (i.e. accumulating credits regardless of institution or whether part of a particular program) will no longer be acceptable after 2009.

##### Maryland Higher Education Commission

MHEC works to meet the need for teachers in areas of critical shortage through the following student financial assistance programs:

- The Sharon Christa McAuliffe Memorial Teacher Education Award

The Sharon Christa McAuliffe Memorial Teacher Education Award provides assistance to students pursuing a career in public school teaching in an area of critical shortage. Students must have a 3.0 grade point average and have completed at least 60 credit hours. Recipients are

required to work in Maryland one year for each year of assistance received. It is anticipated that the FY 2006 budget of \$574,027 will support 70 students. Currently, service obligations of 346 are being tracked. Of this number, 264 have completed their service or are currently in service. The remaining individuals are either repaying the award, are in deferment, or have already repaid the award in full.

- Janet L. Hoffman Loan Assistance Repayment Program (LARP)

The Janet L. Hoffman Loan Assistance Repayment Program (LARP) provides awards to individuals working in specified fields to assist in the repayment of educational loan debt. Teaching is one of many eligible occupational areas. Teachers working in a critical shortage area designated by MSDE or in Title I Schools or those designated for improvement are eligible to apply. The FY 2006 budget is \$1.8 million and 230 teachers have received an award.

Maryland Independent College and University Association

Teacher education is a top priority of MICUA institutions. MICUA institutions attained a 30% increase in teacher education graduates, producing 878 new teacher candidates representing 34% statewide. College of Notre Dame had the largest growth in teacher education graduates nearly doubling output to 228 teacher candidates. MICUA institutions develop strategies for educating and counseling K-12 students, integrating technology into the classrooms, managing classroom behavior, reducing dropout rates, and tutoring local students. Since 1992, Johns Hopkins has provided summer programs to more than 2,500 Baltimore City Public School students.

MICUA institutions produce over 34% of all new teachers certified in Maryland annually. In 2003-04, MICUA colleges attained a 30% increase in teacher education graduates, producing 878 new teacher candidates. While almost all MICUA institutions achieved marked increases, College of Notre Dame of Maryland had the largest growth in prospective teachers, more than doubling their output to 228 candidates.

Eleven MICUA institutions have teacher education programs that are approved by the Maryland State Department of Education. All of them have Professional Development School (PDS) partnerships with local school systems. In fact, these 11 institutions have PDS partnership agreements with 10 school systems and 338 elementary, middle, and high schools in the State. All MICUA institutions offering teacher education programs accept graduates holding an Associate of Arts in Teaching (AAT) degree from a Maryland community college at junior status.

Most student teachers at the College of Notre Dame of Maryland intern in Baltimore City public schools. The college has an accelerated certification program with the City school system and other partnerships for Administration, Special Education, and Library Media.

In May 2004, College of Notre Dame of Maryland received approval to offer a new Ph.D. in Instructional Leadership for Changing Populations, which will prepare graduates to instructional leadership for linguistically and culturally non-mainstream learners.

Hood College faculty, in partnership with the National Oceanic and Atmospheric Administration, train Maryland high school teachers in the collection and interpretation of water quality samples from local streams. In addition to incorporating environmental issues into the secondary school curriculum, the program also assists local, state, and federal water quality experts with critically-needed data collection and analysis.

The independent colleges and universities have several programs to train special education teachers, a Maryland shortage area. Some examples of these programs are:

- Mount St. Mary's University has a dual certification program in elementary and special education, a program that serves both the undergraduate and graduate populations. Program completers are prepared to teach in both inclusive classrooms and special resource environments. More than 90% of program graduates currently teach in Maryland. Furthermore, in the 2005-06 academic year, Mount St. Mary's University debuted a special concentration on the education of students with autism. Participants worked with autistic children in Frederick County schools. In addition to required coursework, students completed service learning credits by volunteering with special needs children.
- Columbia Union College, in response to a request from Montgomery County Public Schools, developed a dual certification program in elementary and special education. Given the current trend toward mainstreaming special-needs students, this program provides vitally needed skills to its students and elementary schools that cannot afford to hire teachers whose only specialty is special education.
- Johns Hopkins University, in partnership with Montgomery County Public Schools, offers a Professional Immersion Special Education Master of Science (ProSEMS) degree. This two-year graduate program is intended for career-changers who already hold a baccalaureate degree and wish to teach children with mild to moderate disabilities in elementary, middle, and high school. The intent is to increase the pool of qualified candidates and fill critical shortage areas.
- McDaniel College has partnered with the Maryland School for the Deaf to develop a unique, nationally-renowned program training students to teach the deaf and hearing impaired. McDaniel currently trains teachers in 13 Maryland counties to work with deaf or hearing impaired children. McDaniel has prepared more than 250 outstanding program graduates, the majority of whom are deaf and fluent users of American Sign Language.

As a partner with Project Lead the Way, Capitol College supports efforts to integrate engineering concepts into middle- and high-school curricula. Students need the basic math and engineering foundations as early as possible to prepare for the advanced-level college courses. Capitol professors train high school teachers in areas such as digital electronics so they can then teach their own students.



At McDaniel College, potential teachers major in an academic discipline and minor in education. This strong emphasis on content serves the students well as they pursue careers in teaching. The College offers teacher certification in 13 areas and has post-baccalaureate certification programs in 19 areas, including school administrator, guidance counselor, school library media specialist, and reading specialist.

The Graduate Institute of St. John's College offers Maryland teachers the opportunity for continuing education. With evening and summer classes, the program is convenient for teachers and administrators seeking an advanced degree.

Maryland Institute College of Art provides leadership in art education through its Center for Art Education, a nationally recognized center of leadership in the preparation of arts educators. The Center also offers graduate programs that provide important professional development opportunities for experienced art educators. Master's students from MICA regularly present and publish the results of their in-classroom research at national conferences and in respected national journals.

Goucher College, in partnership with Dallas Nicholas Elementary School in Baltimore City, established a community center to provide after-school activities for kids, as well as computer training for adults. Goucher students serve as tutors and mentors for community residents. This is one example of the College's strong service-learning program, through which Goucher students learn to use their education as an instrument of positive change in the world outside the campus gates.

Frederick County Public Schools and Hood College created a Resident Teaching Certificate program offered by the college to attract non-teachers with degrees in certain subject areas, replacing the traditional courses normally required for a state teaching certificate.

Johns Hopkins University (JHU) is engaged in over 500 specific school-based collaborations statewide. As an example, listed below are partnership programs with Baltimore City public schools:

- The Aspiring Leaders Program and the Principal Induction Institute (PII) are two programs designed to mentor current and prospective principals and vice principals to prepare them to lead city schools. Participants take coursework, attend seminars, and are assigned mentors to coach them through an induction period.
- Since 1992, the Hopkins program, Teach Baltimore, has provided summer programs to more than 2,500 Baltimore City Public School System students, recruited and trained over 300 college students from 51 institutions, and provided over 78,000 hours of service. College juniors tutor Baltimore elementary school students in reading, writing, and mathematics. Many of these tutors return to Baltimore after graduation to teach and pursue an MAT at Hopkins.

- Since 1998, the Center for Talented Youth has provided summer learning opportunities to approximately 265 gifted city school students.
- Teach for America corps members who are assigned to teach in Baltimore schools participate in a school-based MAT program run by JHU. The program integrates coursework with daily teaching assignments.

Johns Hopkins University's reach extends well beyond Baltimore City. Listed below are examples of partnerships with other school systems:

- The Professional Immersion MAT (ProMAT) is a partnership between JHU and the Montgomery County Public Schools to recruit, train, and support new teachers to fill vacancies in high-need county schools. Candidates enter the program with a strong academic content background and experience as substitutes and/or instructional assistants. Following summer coursework, candidates are placed as teaching fellows while they complete their degree.
- In partnership with the Montgomery County Public Schools, JHU operates the Special Education Teacher Immersion Training (SET-IT). This two-year program allows individuals who are not currently classroom teachers, but hold baccalaureate degrees, to pursue graduate study while gaining practical school-based experience. Interns enroll in courses in the Mild to Moderate Disabilities concentration of Special Education, and participate in seminars and extensive field experiences. In addition, interns are employed as special education instructional assistants.
- JHU, in partnership with Prince George's County Public Schools, recruits and trains special educators to serve students with mild to moderate disabilities. This project was developed to fill 40 of the 72 special education vacancies in PGCPSS. More than half of the courses are offered at the school site.

JHU offers a graduate program, in collaboration with MSDE, to prepare teachers of students with visual impairments. Participants gain knowledge and skills needed to provide accommodations and appropriate instruction to students who are visually impaired. The primary goal of this project is to increase the supply of qualified teachers to serve these special needs. JHU expects that 32 teachers will complete this program over a four-year period.

#### *Morgan State University*

Morgan is one of the leading producers of African-American teachers in the state. The University ranks 9<sup>th</sup> nationally in the number of bachelor's degrees in education awarded to African Americans. The campus graduates most of its teaching candidates in elementary education. Although the staffing shortages in this field are not of the magnitude found in several other fields, there is a significant shortage of African Americans in elementary education, making Morgan graduates very marketable.

Morgan's elementary education and other undergraduate teacher preparation programs are not on the critical shortage list at the present time. Because most of its graduates in these programs are

African American, however, they are highly recruited by school systems seeking to diversify their teacher workforce. If shortages of minority teachers in critical fields persist, Morgan may consider implementing programs in such fields.

St. Mary’s College of Maryland

In the summer of 2006, St. Mary’s College of Maryland implemented a Master of Arts of Teaching degree. This program will ideally increase the number of students obtaining initial certification as teachers through SMCM as it will allow students to complete one or more content-area B.A. degrees at a traditional pace, consider study abroad, and other educational options then complete the MSDE teacher preparation requirements in the fifth year. The MAT program will also permit local career-changers with a B.A./B.S. from an accredited institution to become effective classroom teachers in a compressed time period.

University System of Maryland

The USM Hagerstown Center was opened in January, 2005 and is in the process of developing agreements to offer elementary education and possibly a graduate program in education based on a request from Washington County Public Schools. Towson University is partnering with PGCC and HCC to offer education at the Laurel Center and is in discussion with the HEAT Center and Cecil County in response to the anticipated increase in the region’s population due to the BRAC.

**Examples of Institutional Teacher Education Initiatives**

<b>Program or Initiative</b>	<b>New or Continuing</b>	<b>Number of students if applicable</b>
<b>CSU:</b> Training of provisionally trained teachers at Douglass High school to secure certification in Mathematics, English (reading) Science	New grant (\$86,248.80)	24 teachers
<b>FSU:</b> Added the MAT-Secondary program to FSU’s offerings at the USMH with emphasis on training teachers for critical shortage content areas	New	20 Candidates
Bringing the FSU’s undergraduate Early Childhood Education program to USMH in partnership with area community colleges and marketing to increase male applicants	New	20 – 40 Candidate Target (1 – 2 cohorts)
Awarded Troops to Teachers grant through MSDE in partnership with Frederick and Washington county public schools to provide alternative preparation for individuals retooling to teach in critical shortage content areas	New	6-12 Conditional Certification Teachers (candidates must be employed by the county in order to participate in this program)

<b>Program or Initiative</b>	<b>New or Continuing</b>	<b>Number of students if applicable</b>
<b>SU:</b> Science Academy for Teachers: Teachers take science course(s) for graduate credit; courses taught by SU science faculty members, credit through EDUC dept	New	Approximately 15-20
<b>UMBC:</b> NSF-funded STEM project in partnership with BCPS to provide MAT in STEM areas for high need schools, candidates contracted for 3 yrs service beyond the MAT.	Continuing with \$10.5 million grant	27 new teachers, 6 males, 14 minority
<b>UMCP:</b> Masters Certification Programs: Focus on secondary alternative teacher education program designed for highly educated and capable persons who have baccalaureate degrees in academic fields.	Continuing	Approximately 25-30
Paid Internship Teacher Education: In cooperation with the MCPS, secondary interns are employed by MCPS at long term substitute rate for teaching assignments they take on; these are limited to two or three classes per day for the school year; this makes it possible for two interns to share one regular full time teaching position. The program is focusing on encouraging second career professionals, especially in Mathematics and Science to enter the teacher profession.	Continuing	Approximately 18
Development of a one year masters degree in special education to focus on highly educated and capable persons have baccalaureate degrees in academic fields.	New	
A special education master's certification degree is offered through Department of Defense Schools in Germany.	Continuing	25-30 teachers every three years
<b>UMES:</b> Recruitment and training of provisionally certified teachers to become highly qualified in Somerset County.	New grant (\$100,000)	23 teachers

Program or Initiative	New or Continuing	Number of students if applicable
<p><b>UMUC:</b> Alternative Teacher Preparation Program through MARCO Partnership (Maryland Alternative Route to Certification Options) in conjunction with MSDE, Prince George’s County Public Schools, and Bowie State University. The program recruits and prepares highly qualified teachers for high needs areas.</p>	Continuing	Cohort 4 (begun spring 2006): 38 completers
<p>Master of Arts in Teaching (MAT) has enabled career changers who have strong backgrounds in science, math, and technology to use their skills in teaching MD students.</p>	Continuing through spring 2006	<p>Since its inception, the MAT has graduated 21 students: 12 Biology, 5 Mathematics, 2 Earth/Space Science, 2 Computer Science. This past fiscal year, the MAT graduated 8 students: 4 Biology, 2 Mathematics, 1 Earth and Space Science and 1 Computer Science.</p>

**Action Recommendation 4.2:**

Colleges and universities should develop wide-ranging master’s programs (e.g., M.A. in mathematics, content area master’s degrees for middle school teachers) to address content needs of in-service teachers.

**Lead:** Institutions, Segments

**Progress Made/Action Taken:**

Maryland Association of Community Colleges

Not applicable to community colleges

Maryland Independent College and Universities Association

Eleven MICUA institutions offer teacher education programs. Of those, eight institutions offer graduate degrees, such as the MA in teaching. In addition, Hood, Loyola, and McDaniel offer master’s degrees in Reading; Johns Hopkins offers a master’s program in music; Maryland Institute College of Art offers a master’s program in art education; and Loyola offers a master’s in education technology.

Morgan State University

While the campus offers a MAT program for students majoring in a discipline, it also works closely with more than a dozen schools through professional development centers to provide in-service training at school sites for classroom teachers.

St. Mary’s College of Maryland

St. Mary’s expects that the MAT program will assist pre-service teachers by allowing students to focus on one or more academic disciplines in their first four years of study. No other M.A. degrees are authorized for St. Mary’s, allowing the school to keep a “Baccalaureate, Single Post-

Baccalaureate, Education” designation in the Carnegie classification system. The College actively assists in the content needs of in-service teachers through the PDS program, library use agreements, and partnerships with faculty and staff of the College. Middle school teachers trained at St. Mary’s must have a content area B.A./B.S. before commencing the MAT program. We are beginning a discussion with the St. Mary’s County Public Schools to address the possibility of adding special education to our certification offerings since this is an area of critical shortage in the local school system. We also have submitted a grant proposal to Boeing Corporation that would provide scholarship support for MAT candidates seeking certification in mathematics and science.

University System of Maryland

The University System of Maryland institutions have been developing in-service programs with Local Education Agencies (LEAs) to ensure that teachers are “highly qualified” as defined in the *No Child Left Behind* legislation (NCLB). In addition, MAT programs are being developed that address the specific critical shortage content areas.

<b>Program or Initiative</b>	<b>New or Continuing</b>	<b>Number of students if applicable</b>
<p><b>CSU:</b> Mater of Arts in Teaching Program – (English, mathematics, Science (Biology/Chemistry), History/Social Studies</p> <p>SPED Initial certification (Not included under MAT)</p>	Continuing	<p>46 teachers progressing through the program – approximately 10 enrolled in the content areas; others in ELED: Most are teachers of record</p> <p>36 enrolled (Most are teachers of record)</p>
<p><b>FSU:</b> Worked with Allegany County Public schools through an ITQ grant received in partnership with CSU to provide in-service teachers content specific graduate courses taught by FSU College of Liberal Arts and Sciences faculty to help teachers become “highly qualified”</p> <p>In critical shortage content areas through PRAXIS II examination (FSU will continue this program under our own auspices)</p> <p>Offer a modified MAT-Secondary program in which allows qualified candidate to teach while completing degree and specific content area courses in the College of Liberal Arts and Sciences</p>	<p>New</p> <p>Continuing</p> <p>Continuing</p>	

<b>Program or Initiative</b>	<b>New or Continuing</b>	<b>Number of students if applicable</b>
<b>SU:</b> : Master of Arts in Teaching in collaboration with UMES	Continuing (in existence since fall 1996)	The annual cohort is approximately 20; of that number there are usually 2-3 who are already employed as provisionally hired content area teachers
Master of Science in Math Education	Continuing	Approx 20 at any one time
<b>UMBC:</b> Master of Arts in Education with 18 credits in cognate area (science, math, STEM) and 18 credits in teacher leadership. Certificates available in cognate areas for teachers who do not need the master's degree. Teacher leadership intended to meet needs of counties and help with retention of talented teachers.	Continuing.	With several LEAs: AACPS apprx. 80. QA/Talbot apprx 20. BCPS apprx. 102.
ESOL Certificate on-line for teachers who want to extend their competence or enter ESOL MA program later—12 credits.	New	First cohort to start Fall 06 in BCPS
History courses through USDoE grant, Teaching American History (TAH) to Center for History Education.	Continuing, grant	Apprx 15 teachers/yr for 3 years, from various LEA's
Teacher Quality Enhancement grants for Biology and Chemistry	New grants each year but continuing programs	Apprx. 20 teachers/yr from various LEAs
NSF-funded Project Lead the Way for engineering education for secondary teachers	Continuing, \$300K per summer	105 teachers in summer, about 250 total across state for school year follow up training.
NSF-funded Instructional Materials grant for tech ed teachers	Continuing, \$1.2 million total	20 teachers per summer
NSF-funded Introduction to Middle School math for middle school teachers	Continuing, \$400K	25 teachers per summer
NASA-funded Exploring Mars with Robotics course-for elem/middle school teachers	New grant, but continuing program	25 teachers
USDoE/MSDE grant for Preparing Tomorrow' Teachers for Technology (PT3)	Continuing	15 teachers and interns working together

<b>Program or Initiative</b>	<b>New or Continuing</b>	<b>Number of students if applicable</b>
<p><b>UMCP:</b> A variety of programs exist that are individually designed to meet graduate students' personal and professional goals, which may include educational research, teaching (K-12 and post-secondary), supervising, providing leadership as curriculum specialists within the disciplines, and teacher education at all levels (elementary, secondary and higher education).</p> <p>A master's degree program in human development is provided on site for Montgomery County teachers.</p> <p>Department of Curriculum and Instruction has a joint master's program with the Mathematics department for middle school mathematics teachers.</p>	<p>Continuing</p> <p>Continuing</p> <p>Continuing</p>	<p>35 students</p> <p>12 teachers</p>
<p><b>UMES:</b> Master of Arts in Teaching in collaboration with Salisbury University</p>	<p>Continuing (in existence since fall 1996)</p>	<p>The annual cohort is approximately 20; of that number there are usually 2-3 who are already employed as provisionally hired content area teachers</p>

#### Addressing content needs of in-service teachers

<b>Program or initiative? (which schools/districts)</b>	<b>New or continuing?</b>	<b>Number of students/teachers if applicable?</b>
<p>VIP: University System of Maryland, Montgomery County Public Schools, Montgomery College, and seven USM institutions (Towson University, UM Baltimore County, UM College Park, UM Biotechnology Institute, UM Center for Environmental Science, Maryland Sea Grant College, and Universities at Shady Grove).</p>	<p>Federally funded, National Science Foundation <b>Math Science Partnership</b> MSP grant 2002-2007, \$7.5 Million Dollars, continuing</p>	<p>350 high school science teachers have participated in professional development activities in partnership with university faculty and students.</p> <p>These teachers teach 39,000 high school students.</p>



**Action Recommendation 4.3:**

In consultation with the segments of higher education will:

- a. study the actions taken or planned to reduce the average time-to-degree at the public institutions of higher education; and
- b. work with the segments to develop and implement a statewide program to reduce time-to-degree.

Actions might include but are not be limited to:

- considering accelerated baccalaureate programs,
- revising graduation requirements,
- studying State policies that may need to be changed or enacted to reduce the average time-to-degree,
- examining the effectiveness of introducing statewide competency tests that equate to institutional “seat-time” credits and are accepted at all State-supported institutions, and
- considering the effectiveness of providing mandatory “critical path” credits year-round, including use of summer programs.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

MHEC would lead a study working with representatives from the K-16 Leadership Council. Planned approach includes the following:

- Review of the recommendations and responses from the 1996 Time-to-Degree Study
- Identification of initiatives currently employed by USM, Morgan State University, St. Mary’s College, MACC, and the Community Colleges that are intended to address time-to-degree issues.
- Develop a study to determine the impact of these initiatives
- The Commission plans to use the results from Action Recommendation #5 to initiate the effort to develop and implement a statewide program to reduce time-to-degree.

**Action Recommendation 4.4:**

The Maryland Higher Education Commission should endorse and support the recommendations of the Maryland Partnership for Teaching and Learning preK-16, especially those related to greater collaboration between institutions of higher education and preK-12 schools. Areas receiving special attention should include:

- a. Administering the PSAT to all 10th-grade students to be used as a diagnostic tool by teachers and parents to make sure that all students are adequately prepared for college;
- b. Offering college credit courses, either through distance learning or in the classroom, in high schools for high school seniors during the normal school day; and
- c. Aligning high school graduation requirements with the academic requirements of first-year entry level college courses.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

*The Maryland Partnership for Teaching and Learning, K-16* is an alliance of the Maryland State Department of Education (MSDE), the Maryland Higher Education Commission (MHEC), and the University System of Maryland (USM). The Partnership is supported by a Leadership Council comprised of education, community and business leaders. The K-16 Workgroup facilitates the work of Council. The K-16 Leadership Council is co-chaired by the institution heads of MSDE, MHEC, and USM, with an annual rotation of presiding chair duties. Accordingly, the current and upcoming presiding chairs of the K-16 Leadership Council are:

1. July 1, 2005-June 30, 2006: Chancellor of USM
2. July 1, 2006-June 30, 2007: State Superintendent of Schools
3. July 1, 2007-June 30, 2008: Secretary of Higher Education

In 2004, the K-16 Leadership Council charged the K-16 Workgroup to develop a series of action plans in response to the *No Child Left Behind* federal legislation. In the *Report of the K-16 Workgroup*, the work was divided into three categories through a committee structure covering highly qualified teachers; highly qualified principals; and standards and curriculum alignment. The committees have since been restructured, but the progress continues on the strategies.

Implemented strategies include:

- \$2 million in state funding for Professional Development Schools (PDS)
- Development of specific Associate of Arts in Teaching (AAT) degrees, the teacher preparation seamless transfer program, in several disciplines
- The Teacher Education Capacity Study
- Approved COMAR regulations for middle school certification
- Guidelines for the principals' instructional leadership framework
- Approved COMAR revisions for highly qualified administrators

Continuing progress in the following areas:

The "Analysis of Maryland's Performance on National Assessments" was an agenda item of the March 2006 Maryland State Board of Education meeting. MSDE and College Board staff reported that students who take the PSAT fare better on the SATs than those that do not take the PSAT, adding that many school systems are providing funding for students to take the PSAT where there is a financial need. The Board agreed that providing funding for students to take the PSAT as early as possible is an important step in ensuring a high quality public education to all students.

New committee structures:

1. The Alignment Committee is focusing most of its attention on the American Diploma Project (ADP), a national initiative to align high school curricula with college requirements and workforce needs. Maryland is an active participant state in ADP's Alignment Institute.

2. The Early College/Dual Enrollment Committee has identified the following as issues that need to be examined when considering dual enrollment and early college in Maryland: financial aid, tuition costs, and developing a “middle college” senior year model. The committee is also interested in understanding admissions requirements, location of the programs (at high schools or community colleges), and who is teaching (community college faculty or high school teachers). The committee is looking at promising practices from other states, as reported in the Education Commission of States’ *Jobs for the Future* report. The committee is conducting its work as a statewide collaboration that includes high schools, community colleges and four-year institutions to ensure success.
3. Discussions continue on developing a statewide student data system through the Maryland Data Education Network (MDEN). As with the Professional Development School (PDS) funding initiative, this is a high-priced initiative, and there are currently deliberations on which method would best “track” students through their Maryland educational experience. MSDE has recently received a federal grant to be used for data development. These funds may be used for this MDEN, if deemed appropriate by MSDE.

**Action Recommendation 4.5:**

The Maryland Higher Education Commission should work with higher education institutions to ensure that space is available at public four-year colleges for transferring Maryland community college students

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

The Transfer and Access Committee of the University System of Maryland (USM) and the Maryland Association of Community Colleges Joint Leadership Council completed its 2005 annual report on transfer policies, *Growing Our Own: Effective Transitions to the Bachelor Degree in Maryland*. As stated in the report, its purpose is to increase access to transfer by traditional and alternative delivery methods, using technology to enhance the transfer function, and, applying best practices in transfer. The report also provides a summary of the next steps needed to continue to enhance access and transfer, data that represents the current status of transfer among community colleges and USM institutions, and examples of best practice applications at member institutions.

**Action Recommendation 4.6:**

The Maryland Higher Education Commission should work, in consultation with the segments of higher education, to study statewide methods to ease the transfer of students from the community colleges and private career schools to four-year institutions. This study should examine:

- a. current policies and practices within the state;
- b. methods to minimize ‘wasted’ credits during transfers;
- c. methods to maximize the amount of transferred credit that will count towards completion of the academic major, especially from community colleges to public senior institutions;

- d. system of “statewide courses” so that students can easily identify equivalent courses to improve the transfer of academic credit, especially from community colleges to public senior institutions;
- e. the effectiveness of simultaneous community college and upper division enrollments; and
- f. the transferability of credits from Maryland’s private career schools.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

1. MHEC implemented the Distinguished Scholar Community College Transfer Scholarship in FY 2006 to assist students financially with the continuation of their education by transferring from a community college to a senior higher education institution. Using funds from cancellations in the Distinguished Scholar Program, 50 students were awarded \$3,000 scholarships in FY 2006. This has increased to 100, \$3,000 scholarships in FY 2007. Additional funds will be requested in FY 2008 to fully implement the program.
2. The Associate of Arts in Teaching (AAT) degree remains the national model for seamless transfer in teacher preparation programs. Students who successfully complete the AAT and who are admitted to any public or independent teacher preparation program in Maryland are ensured through regulation that all of the courses earned in an AAT program will transfer without further review. This seamless transfer eliminates “wasted” credits. State education leaders and policy makers are beginning the discussion of implementing a similar seamless transfer program for an Associate of Science in Engineering.
3. MHEC’s Student Transfer Advisory Council (STAC) is determining methods by which 2+2+2 transfer partnerships can be reinvigorated to include all parties. In years past, discussions have been between high school and community colleges, and community colleges and 4-year institutions. STAC is fostering simultaneous collaborations among these three segments to ensure course transfer of student credits, including college credits that may potentially be earned by high school students enrolled in future dual enrollment or “middle college” programs.
4. The USM’s online articulation system (ARTSYS) is a repository of courses offered in all segments of Maryland higher education. ARTSYS serves as a continually updated warehouse for course equivalences, recommended transfer programs, and transcript evaluations offered in Maryland that provides that can be accessed via the Internet by students, guidance counselors, and campus advisors.

**Action Recommendation 4.7:**

Colleges and universities should initiate partnerships with schools with large numbers of minority students for the purpose of developing and implementing programs that provide for a successful transition to higher education. Components of these partnerships could include:

- a. bridge programs;
- b. outreach to parents as well as students; and
- c. programs that help prepare students to take standardized admissions tests.

**Lead:** Institutions, Segments

**Progress Made/Action Taken:**

Maryland Association of Community Colleges

The community colleges have expanded the scope and vigor of their partnerships with the K-12 education segment. Fourteen of the community colleges have programs that allow high school students to take courses at the college for high school and college credit. Six colleges have programs specifically targeted to at-risk students, which include minorities; these programs comprise about a third of the total enrollment in the early college programs.

The Community College of Baltimore County (CCBC) established a Summer Bridge program to improve retention and success of minority students, encouraged by the success of Anne Arundel Community College's (AACC) program. The Summer Bridge Program for Black Scholars at AACC, beginning in 2001, consists of intensive English, Math and reading review classes, serving up to 30 students. The overall retention rate for students enrolling at AACC after enrolling in the Summer Bridge program is 51 percent versus a 34% two year retention rate for all African American students at the college.

Baltimore City Community College's Early College Institute is intended to provide early awareness of college education opportunities to individuals who might otherwise not consider continuing into post secondary education. The new program, replacing the PASS program, began in Baltimore City middle schools in Spring 2004, and was implemented later in high schools. The program brings together numerous community partners – including the Baltimore City Public School System (BCPSS), ancillary resources and new supports for participating students (intensive five-day-a-week classes, counseling, clubs, summer camps, graduation ceremonies, etc.). The new program began in Baltimore City middle schools in Spring 2004, and was implemented later in high schools. The high school component uses Academic Systems' developmental software; because BCPSS lacks funding and middle schools are poorly equipped technologically, the middle school portion of the program is taught traditionally using textbooks.

The Gateway to College© program, established Fall 2004, at Montgomery College serves at-risk youth, 16 to 20 years old, who have stopped attending Montgomery County Public High Schools and for whom high school completion is at risk. The program gives students the opportunity to earn a high school diploma while transitioning to a college campus, and earning college credits. In addition to reading, writing, and math, cohort students take a career development class to help focus their academic goals, and a college survival and success class, to learn how to take effective notes, study for tests, and juggle school, work, and family life. The entire program is delivered on the campuses of Montgomery College using Montgomery College faculty.

Maryland Higher Education Commission

In partnership with the Maryland State Department of Education, MHEC submitted and was awarded a federal GEAR UP grant. This new grant, GEAR UP – Focus on Math, along with

State matching funds from the College Preparation Intervention Program, will provide 10 middle schools in six counties direct student support services, such as: weekend academies, Saturday academies, tutoring, mentoring, as well as campus-based instruction. When possible, embedded instruction is offered to students to address their immediate academic needs. The program follows students from middle school through high school graduation, providing information, encouragement and academic enhancement and remediation. Because students from low-income households often attend schools that have access to fewer resources, GEAR UP also aims to reform and improve schools. GEAR UP programs therefore address school-college curriculum alignment and emphasize the need to raise teacher, staff, and community expectations of all students.

The goals for GEAR UP – Focus on Math are to:

1. Increase the mathematic preparation, readiness, and achievement of GEAR UP students in high-poverty, low-performing schools;
2. Increase to parental involvement for students in high poverty, low-performing schools; and
3. Increase GEAR UP students’ and their families’ knowledge of academic expectations and their awareness of postsecondary education options.

Maryland Independent College and Universities Association

MICUA institutions are engaged in a variety of “outreach” activities for Maryland middle and high school students including students who are historically underserved. Examples of current activities follow:

For more than a decade, Capitol College has been preparing minority high school students for the rigors of collegiate engineering curriculum and introducing them to possible engineering careers. The NASA Pre-College Engineering Program for minority students brings students from throughout the region to Capitol College campus in Laurel for six weeks. Students take courses in math and science, improve their study and communication skills, and visit workplaces, such as the neighboring NASA Goddard Space Flight Center.

The Johns Hopkins University has launched the Baltimore Scholars Program, designed to support and help strengthen the Baltimore City Public Schools and reward the system’s most talented and dedicated students. Baltimore public school graduates who win admission to Johns Hopkins are offered full-tuition scholarships for their four undergraduate years. In the program’s first year, 30 Baltimore public school seniors were offered Baltimore scholarships, more than twice the number of city school students admitted the previous year.

Since 1992, Johns Hopkins Teach Baltimore program has raised \$2 million and provided summer programs to more than 2,500 Baltimore City Public School System students. Teach Baltimore has recruited and trained 316 college students from 51 institutions of higher learning to serve as instructors, providing 78,000 hours of service to local youth.

Goucher College’s Lemmel Middle School Program brings seventh graders from an impoverished Baltimore community to the Goucher campus for a mentoring program designed to

keep them focused on their education. Approximately half the students who participate in the Goucher program are part of a special-needs program within Lemmel for students in the gravest danger of failing or dropping out. The program has a noticeable effect. Some of the extremely high-risk students eventually get mainstreamed back into regular classes. And others begin to express new aspirations that reflect a broader sense of possibility about their future.

Washington College has a “College Preview Program” for Kent County juniors and seniors. It includes meeting with admissions staff and currently enrolled Washington College students, attending college classes, parents’ meeting, financial aid meeting, and participation in a national college fair. The audience is Hispanic and African American students. This joint effort between the College’s Admissions Department and the Office of Diversity Affairs can easily be seen as a successful first attempt. The Office of Diversity Affairs was named a recipient of the 2005 Excellence for Minority Achievement Award from the Maryland State Department of Education. The College Preview Program will be continued in 2005-2006 and extended to include Queen Anne’s County’s two public high schools.

Furthermore, Washington College is in the midst of developing its next strategic plan. Advancing the diversity of its campus community (students, faculty, and staff) and enhancing the preparation of its students for a diverse society have been identified as key objectives of this plan. Strategies outlined under its objectives include a college awareness program for minority students on the Eastern Shore of Maryland, enhancement of support for the academic and social needs and expectations of a diverse student body, and the College’s determination to increase the recruitment and retention of diverse students.

### Morgan State University

Morgan has a variety of partnerships with the schools of Baltimore City to motivate and assist students in preparing for college. The campus supports an extensive tutoring and mentoring program in which Morgan students provide academic assistance to students at all grade levels and serve as role models as well. Morgan is now in the planning stages of a significant effort with a suburban school system to bring students in grades 8-10 to its campus on a regular basis and to stage campus presentations at schools in that system.

Morgan has over 60 partnerships with public schools in the region, primarily with those in Baltimore City. One example is the Center for Excellence in Science and Mathematics Education that has a variety of partnerships with public schools to improve education in science and mathematics among students of all grade levels. The Center sponsors the annual Baltimore City Science Fair. Another example, AMIE (Advancing Minority Interest in Engineering) is a 13 year old joint partnership of Morgan’s school of engineering, federal agencies, and private sector organizations seeking to increase minority enrollment in engineering. As part of this program, Morgan provides tutoring to students in public schools in mathematics and the sciences. CAMRA (Center for Advanced Microwave Research and Applications) is another example of a partnership program of the School of Engineering. With federal support, Morgan works with high schools in Washington, D.C., Philadelphia, Baltimore City, and Prince George’s County to increase the capabilities of science teachers and motivate students to prepare for careers in the sciences.

St. Mary's College of Maryland

St. Mary's has developed partnerships with various high schools to ensure students are aware of opportunities for postsecondary education. In the summer of 2006, SMCM initiated a trial program to provide additional support to recently admitted students who may have difficulty in the transition to college.

As part of the initial GEAR UP/CPIP grant, staff and students of SMCM work with students at a local high school. The College has also expanded its reach to high schools in Baltimore, Washington, D.C., and the surrounding areas. Recently, the College has sent Spanish-speaking faculty and students to Latino PTA meetings as an outreach program to that population underrepresented in postsecondary education. Recruitment activities are further enhanced through a close working relationship with Baltimore's College Bound Foundation. The recent fundraising campaign garnered over \$1.5 million specifically for an endowed scholarship fund for Baltimore City students.

University System of Maryland

All of the USM institutions have pre-college programs designed to expose elementary and/or high school students to higher education opportunities and to ready them to seize those opportunities. Several institutions have available pre-matriculation bridge programs for students with potential but needing a stronger foundation in mathematics, writing, and related areas.

<b>Program or Initiative</b>	<b>New or Continuing</b>	<b>Number of students if applicable</b>
<b>CSU:</b> Training of provisionally trained teachers at Douglass High school to secure certification in Mathematics, English (reading) Science Intent is to improve student achievement through application of best practices, resulting in students enrolling at CSU, hopefully in secondary education	New grant (\$86,248.80)	Unknown
<b>FSU:</b> Through the Redesign of Teacher Education grant, FSU has formed partnerships with public elementary schools in Baltimore City and Charles County to provide candidates with assistantship experiences in schools with large numbers of minority students; positive relationships have developed between our candidates and the students with whom they work that contributes to students awareness of higher education possibilities (reported in the FSU College of Education "Diversity Study Results for 2005 – 2006")  FSU is a partner with Allegany County Public Schools in providing minority students higher education	Continuing  Continuing	12 Candidates 360 Students



Program or Initiative	New or Continuing	Number of students if applicable
experiences through GEAR UP grants		
<b>SU:</b> SU's PDS Coordinator is serving on the Advisory Board for the Somerset County Teacher's Academy	New	Unknown; will just begin in fall of 2006
Program—AAT articulation agreements with community colleges across the state; community colleges have higher proportion of minority students	Continuing	Total enrolled as of F06 will be 25 +/-; To date, enrollees have been in Elem/Early Childhood Education, but with approval of secondary shortage fields, more will be from those areas.
Program – GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) - Somerset County	Continuing (just completed year 6)	160 80% of the first cohort from the two high schools (160 of 200) have been accepted to post-secondary education (2006 graduating class)
Program – GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) - Somerset and Wicomico Counties Working with consortium of Eastern Shore school districts and IHEs to develop recruitment and retention plan for minority students to pursue careers in teaching	New	One cohort from each county (rising 8 <sup>th</sup> graders in fall 2006); 150 from Somerset and 163 from Wicomico; Total = 313
	New	Unknown; plans just getting underway to determine focus of consortium
Program: Todd Foundation Think Big Mentoring Program at Maces Lane Middle School; SU students tutor Maces Lane MS students in basic subject areas	Continuing since 2000	Serves approximately 20 students per year.
<b>UMBC:</b> Articulation agreements with community colleges in state.	Continuing.	
PDS students visit UMBC campus to motivate students.	Continuing	
Children's Defense Fund sponsored "Freedom School" at Digital Harbor HS in BCPSS, a PDS site.	Continuing. Funded privately approx. \$50k/yr.	45-50 high school students/yr.

Program or Initiative	New or Continuing	Number of students if applicable
<p><b>UMCP:</b> The corporate and grant funded Bladensburg (Prince George's County) project of the Maryland Institute for Minority Achievement and Urban Education focuses improving the achievement of students in urban settings. The Institute also works in Region 2 of Prince George's County and is expanding into other regions of the state. The Institute's K-16 Partnership Center is working in Anne Arundel County and jointly with the College of Engineering in Prince George's County.</p>	Continuing and on-going	
<p><b>UMES:</b> The Director of Teacher Education is serving on the Advisory Board for the Somerset County Teacher's Academy</p> <p>Program – Wor Wic Community College (WWCC) AAT Degree in Teacher Education (student population of WWCC is 33% male and 32% nonwhite)</p> <p>Program – GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) - Somerset County</p> <p>Program – GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) - Somerset and Wicomico Counties</p>	<p>New</p> <p>Continuing</p> <p>Continuing – Year #6 (just concluded)</p> <p>New</p>	<p>Unknown; will just begin in Fall 2006</p> <p>Varies; last year 9 students transferred into UMES' teacher education program; all were in critical shortage areas</p> <p>160 80% of the first cohort from the two high schools (160 of 200) have been accepted to post-secondary education (2006 graduating class)</p> <p>One cohort from each county (rising 8<sup>th</sup> graders in fall 2006); 150 from Somerset and 163 from Wicomico; Total = 313</p>

In addition to the campus activities, the University System has been funded through three federal grants to establish ongoing partnerships between high need school districts and USM colleges and universities.

Numerous studies have shown that the recruitment and retention of highly qualified teachers contribute significantly to the successful preparation of students for postsecondary education and work.

Program or initiative? (which schools/districts)	New or continuing?	Number of students/teachers if applicable?
<p>Project LINC: Bowie State University, Towson University, University of Maryland-College Park, Prince George's Community College and <b>Prince George's County Public Schools.</b></p>	<p>Federally Funded, US Dept of Ed Title II TQE grant 1999-2006, \$4.2 Million Dollars, continuing</p>	<p>987 novice teachers participated and were retained in the school system (teacher retention increased from 51% to 77% over the course of the grant)</p> <p>4/7 schools participating in the project improved attendance</p> <p>46,000 students have been in classes with job-alike mentor teachers.</p>
<p>Project E=mc<sup>2</sup>: Partners: <b>Baltimore City Public Schools;</b> Baltimore City Community College; Coppin State University; Towson University, Southside Academy High School, Western High School, Frederick Douglass High School; Maryland Business Roundtable; and University of Maryland, College Park</p> <p>Project E=mc<sup>2</sup> development of the Teacher Academy of Maryland with the following Maryland Districts: Balt. City, Baltimore, Caroline, Carroll, Cecil, Charles, Frederick, Harford, Howard, Montgomery, Prince George's, Somerset, and Talbot</p>	<p>Federally funded, US Dept of Ed Title II TQE grant 2003-2008, \$6 Million Dollars, continuing</p> <p>[Teacher Academy training began in July 2005]</p>	<p>49 Teachers Summer 2005 32 Teachers Summer I 2006 46 Teachers Summer II 2006</p>

## Goal 5

### Economic Growth and Vitality

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

#### **Action Recommendation 5.1**

Promote public policies that support and enhance academic research and development efforts and eliminate barriers not found in competing states.

**Lead:** Department of Business and Economic Development (DBED) and the Pappas Commission

#### **Progress Made/Action Taken:**

##### Maryland Technology Development Corporation

TEDCO representatives serve on the Mid-Atlantic Institute for Space and Technology Board of Directors and the University System of Maryland Regent's Work Group on Technology Transfer. TEDCO lends its expertise to these groups that are using public policy avenues to enhance the transfer of technology and eliminate the barriers that often obstruct it.

TEDCO's programmatic activities are aligned with the State of Maryland's objectives to improve economic vitality by virtue of its support of research ventures originating at federal laboratories and local Maryland universities. To measure the development and commercialization efficacy of nascent Maryland universities' intellectual property, TEDCO has set-up a reliable set of performance metrics that compare local universities' performance against the Association of University Technology Managers (AUTM) universities.

TEDCO has also instituted technology transfer programs that have fostered collaboration between universities, government laboratories, and small businesses. Finally, TEDCO has provided funding that has been shown to increase the likelihood that technologies emerging from these unions – or from academia alone – are developed to the point that they can be licensed and carried through the patent process. By virtue of a variety of business, technology management, and public policy tools, TEDCO will continue to partner with Maryland to nurture the sophisticated innovation that is driving our economy.

#### **Action Recommendation 5.2:**

Promote the concept that academic research and development efforts have benefits for the State extending beyond royalty payments and issued patents.

**Lead:** Department of Business and Economic Development, Institutions and Segments

**Progress Made/Action Taken:**

Maryland Independent College and University Association

The Maryland Independent College and University Association institutions conduct academic research and development efforts that have benefits for the State extending far beyond royalty payments and issued patents.

As noted above in the discussion of Loyola College’s information technology research, a great deal of exciting work is taking place at MICUA’s liberal arts institutions, where undergraduates often have the opportunity to directly assist faculty in cutting edge work. Research often takes place in clinical programs at MICUA institutions, such as Loyola College’s renowned speech pathology program.

The research areas covered by John Hopkins University are those that one might expect surrounding educational, research, and medical institutions (and some issues one might not expect). These issues have broad public implications and include:

- |                         |                            |
|-------------------------|----------------------------|
| Academic Freedom        | Medicine                   |
| Bioscience              | NASA                       |
| Community Redevelopment | Nursing and Nurse Training |
| Defense R & D           | Patent Reform              |
| Export Controls         | Public Health              |
| Global Health           | Research Funding           |
| Homeland Security       | Stem Cell Research         |
| International Relations | Student Financial Aid      |
| Medicaid and Medicare   | Technology R & D           |

The Center for Adolescent Health Promotion and Disease Prevention, a federally-funded prevention research center at Johns Hopkins University, is dedicated to promoting healthy behaviors in adolescents to reduce their risk of disease. The Center assists local community organizations in Baltimore and on the Eastern Shore with technical assistance, program evaluation, needs assessment, and staff training. The Center in Urban Environmental Health at Johns Hopkins focuses on chemical exposures in urban environments that contribute to disease in children and adults and seeks preventative strategies to improve public health.

The qualitative impact of these research efforts is important to Maryland, and Baltimore in particular. Johns Hopkins attained its leadership role in research by recruiting and retaining the world’s best researchers and graduate students. These researchers bring their talents and abilities from all corners of the globe to Maryland. In doing so, they enrich Maryland’s cultural and educational climate. At the same time, the presence of researchers at University offers local Maryland undergraduates and graduate students opportunities to study from the best minds in their respective fields. In this regard, Johns Hopkins helps to mitigate the net emigration of Maryland high school graduates and also brings in some of the most talented students from around the nation, many of whom remain in Maryland after graduation.

In quantitative terms, the entire MICUA community has a massive economic impact on Maryland. MICUA institutions employ over 37,000 workers in Maryland, with a total payroll of

\$1.6 billion. Ninety-three percent of institutional employees are Maryland residents. The payroll of MD residents totals \$1.4 billion, with resulting impact on State and local income and property tax revenue, and State sales tax revenue.

As part of their daily operations, MICUA institutions spend \$677 million annually on goods and services in Maryland, and university construction expenditures exceed \$285 million. The vast majority of institutional capital expenditures were paid to construction firms with offices in Maryland.

MICUA students spend \$115 million annually on non-academic items, assuming a conservative \$200 per month, per student on items other than tuition, room, board, and textbooks. MICUA institutions bring in over 300,000 out-of-State visitors annually. Visitors to the MICUA institutions generate substantial benefits to the hospitality industry, with spending at hotels, restaurants, shops, and sporting events.

#### Maryland Technology Development Corporation

The Maryland Technology Transfer Fund (MTTF), the University Patent Support Fund (UPSF), the University Technology Development Fund (UTDF), as well as the federal technology transfer initiatives comprise the foundation of TEDCO's efforts to foster academics' commercialization of their intellectual property while demonstrating the benefits of research and development.

The MTTF program provides funding up to \$75,000 for individual firms that partner with either a Maryland university or a federal laboratory. These awards help defray the direct costs of technology commercialization efforts. Likewise, the MTTF partnerships address a myriad of needs while generating sustainable funding streams and long-term benefits for the parties involved. Universities can license their innovations to companies for commercialization while receiving long-term financial benefits through royalties and other licensing fees paid back by the licensee. Faculty or graduates who spin-off companies based on research initiated at a Maryland university benefit from shared patent rights and the opportunity to see their particular technology through its commercialization. The probability that research will languish on a shelf due to conflicting priorities between university inventors and their host institution is dramatically reduced through this particular partnering. Alternatively, small businesses requiring access to expensive equipment no longer have to face the regulatory and financial barriers associated with setting up commercial laboratories as MTTF participants. The MTTF collaborations allow small businesses with such requirements to access university and federal laboratory equipment with modest usage fees. All of the MTTF collaborations that TEDCO has overseen have developed nascent technologies to the point of being able to attract the attention of outside investors and generate revenue on their own.

TEDCO's primary metric of success has been the downstream funding awardees raised since the conclusion of their participation in the MTTF program. As shown in Table 1, these companies have leveraged their initial award \$34.4:1. The capacity for the firms to attract such attention from external investors is demonstrative of the power of the collaboration facilitated by MTTF and the benefits that can be enjoyed by nurturing relationships between inventors and entrepreneurs.

Table 1: TEDCO Incentives to Commercialization - Maryland Technology Transfer Fund Metrics

MTTF Projects Completed as of 6/30/2006	55
MTTF Investment, All Projects	\$3,149,691
Continuation Funding, All Awardees	\$108,340,063
Leverage of MTTF Funds	\$34.4:1

The University Patent Support Fund (USPF) is geared towards encouraging university invention disclosures. Patenting is the first step inventors must take in order to protect and maintain ownership of their intellectual property as commercialization proceeds. The USPF was started as a pilot program to determine whether lack of resources for intellectual property protection was limiting the willingness of faculty inventors to disclose new technology. Launched in fiscal year 2004, the fund covers 50% of the cost of first time patent applications. The second year of the program saw a 20% increase in the number of patent applications supported by this TEDCO undertaking. Likewise, the university system of Maryland reported the highest number of invention disclosures since 1999 at the close of FY 2005. While the fiscal year extends from July 1 to June 30, applicants have until October 31 – an additional 4 months – to report the number of patent applications they have been able to usher through the patent process with UPSF funds.

Table 2 illustrates the inherent potential of this program to convince researchers that they will retain exclusive intellectual property protection for their technologies even as they are developed for public consumption: the number of new patent applications winning USPF support by June 30, the end of FY 2006, is comparable to the number completed at that time in previous years.

Table 2: TEDCO Incentives to Commercialization - University Patent Support Fund

Fiscal Year	New Patent Applications Supported
2004	107
2005	128
2006	93 <sup>2</sup>
<sup>2</sup> This number does not include all of the new FY 2006 patent applications supported by UPSF because the universities have until October 31 <sup>st</sup> to submit their expenses.	

The University Technology Development Fund program (UTDF) has also augmented the rate of technology transfer from academia to the public. Under UTDF, funds are funneled to university innovators with the express purpose of helping them improve the efficiency and effectiveness of their approach to the commercialization process. Historically, academic institutions have only had limited resources to develop newly disclosed inventions to the point that they can be licensed. Now, TEDCO is seeing more Maryland university-originating intellectual property licensed to private firms both inside and outside Maryland since the inception of this program.

Table 3: TEDCO Incentives to Commercialization- University Technology Transfer Fund Metrics

UTDF Projects Funded	66
UTDF Projects Completed	52
UTDF Technologies Licensed	17
UTDF Technologies Licensed to MD Companies	12
UTDF Licensees with MTTF Funding	7

**Action Recommendation 5.4:**

Support and acquire private, federal, and other funding for research activities that are consistent with the economic and workforce needs of Maryland’s key industries. Use the *Report of the Commission on Development of Advanced Technology Business* (Pappas Commission) as a resource and guide for future activities.

**Lead:** Institutions and Segments

**Progress Made/Action Taken:**

Department of Business and Economic Development

The Department of Business and Economic Development (DBED) continues to champion the cause for private and federal funding for research consistent with the economic and workforce needs of Maryland’s key industries.

Maryland Association of Community Colleges

Not applicable to community colleges

Maryland Independent College and University Association

For the 25<sup>th</sup> year in a row, a MICUA institution – Johns Hopkins University (JHU) – is the National leader in educational research and development expenditures, as measured by the National Science Foundation. Last year, JHU expended over \$1.6 billion in research and development activities.

MICUA supports all the Pappas Commission recommendations and is pleased to report that institutions are active in all the areas addressed in those recommendations. As noted previously, for the 26th year in a row, a MICUA institution – Johns Hopkins University – is the national leader in educational research and development expenditures, as measured by the National Science Foundation. While the federal government is a primary source of grant funds, JHU works with numerous foundations, corporations, and other partners to fund important, cutting-edge research.

MICUA institutions have been early innovators in creating “incubators” where faculty can conduct research and other activities to transfer to commercial ventures. Johns Hopkins is



developing research parks in both Montgomery County and East Baltimore that will facilitate the transition from the research stage to commercial development for the important innovations that are taking place on its campuses.

Hood College has an incubator in Frederick, Maryland. Rosenstock Hall at Hood College is the home of the Frederick Innovative Technology Center, the first technology incubator in the Frederick area. The incubator supports up-and-coming information technology and life science companies in the county.

Research at Johns Hopkins University translates directly into new commercial technologies. In 2001, for example, Johns Hopkins' scientists and researchers were awarded 96 patents and filed 405 patent applications.

One example of Johns Hopkins' technological leadership is its long history of fruitful collaboration with the National Aeronautics and Space Administration (NASA), both on the Homewood campus and at JHU's Applied Physics laboratory (APL). Since 1959, APL's Space Department has built and launched 61 spacecraft and nearly 200 spacecraft instruments. Johns Hopkins is also the primary site of research using the internationally operated Hubble Space Telescope.

Another example of research leadership is in the field of stem cell research. Stem cell research has been one of the most exciting and promising fields in medicine since 1998. That year, the first embryonic germ cells were isolated in the lab of Johns Hopkins scientist John Gearhart and the first embryonic stem cells were isolated in the lab of James Thomson at the University of Wisconsin, Madison. After playing a crucial role in the beginnings of the field, Johns Hopkins remained on the cutting edge of research that could launch a new area of medicine. The focal point of stem cell research at Johns Hopkins is the Institute for Cell Engineering (ICE). It was created in 2001 to select, modify, and reprogram cells to answer fundamental questions in biology, answers that one day may lead to treatment or therapeutic transplants.

Among the research taking place at ICE is a team dedicated to exploring the genetic and physical properties of stem cells, thus helping scientists to understand better how stem cells determine whether to keep dividing or to specialize, as well as how much versatility stem cells retain as the body matures. Another team studies neuroregeneration and repair. Diseases of the brain like Parkinson's and Alzheimer's involve the death of brain cells. These researchers seek to discover how stem cells might be coaxed into forming replacements for those lost neurons. A third team is examining how immune cells fight disease, and how stem cells become immune cells in the first place. A more precise understanding of the human immune system could lead to a host of new treatments, for example, instructing the body's T-cells to fight renal and pancreatic cancers, delivering drugs to specific organs, or controlling a patient's immune system to accept organ transplants. A fourth team seeks new ways to repair heart and circulatory damage. The body's ability to form blood vessels tends to falter as a result of aging and of diseases like diabetes. Stem cells could be used to re-grow and repair blood vessels and heart tissue.

As the field reveals great promise, it raises profound ethical questions. Johns Hopkins recognizes the importance of these questions, and as a result has become a leader in ethical

inquiry as well as research. Hopkins created the Program in Cell Engineering, Ethics and Public Policy (PCEEPP) to address the ethical issues associated with cell engineering.

#### Morgan State University

Most of Morgan University's doctoral programs are in fields of significant value to the State (e.g. public health, applied engineering, science and mathematics education, bio-environment sciences). The funding that flows to these programs from external sources also supports important State education, research, and service priorities. In addition, Morgan attracts a significant amount of external funding because it educates minority students in fields in which African Americans are under-represented -- a State priority.

The University is giving priority to developing an infrastructure appropriate for its mission. It requires additional resources to accomplish this. For example, most faculty have teaching loads typical of a non-research institution. The campus lacks sufficient space to house research centers. And, Morgan has yet to gain commitment from the state for a technology transfer center. The campus has a good record of increasing grant and contract funding but with proper support it could do much better. Its enhancement plans submitted to MHEC in 2001 and again in 2005 provide for adequate support for its mission.

#### St. Mary's College of Maryland

Support of the needs of the local workforce is one of the College's goals in its MHEC Statement of Mission and Goals. A key component stressed at SMCM and other institutions is the need for student incorporation into faculty research grants, especially in the sciences. These practical experiences prepare students in the skills and procedures necessary in the workplace.

#### University System of Maryland

The External Funding Report shows how many proposals each institution within the University System of Maryland (USM) generated, how many awards were received, and the total amount of funding received from external sources. In FY 2005, extramural funding provided \$983,789,967 compared to \$944,952,992 in FY 2004, an increase of 4.1%.

### Extramural Support for USM Institutions FY 2005

USM institutions seek and receive funding for their research, education, and public service activities from many sources. This report shows how many proposals each institution generated, how many awards were received, and the total amount of funding received from external sources. Extramural funding in FY 2005 provided \$983,789,967, compared to \$944,952,992 in FY 2004, an increase of 4.1%.

To provide an order-of-magnitude perspective, in FY 2005 the USM received an appropriation of general funds, that is, tax revenue, from the State of Maryland, of \$757.7 million. Tuition and fees added almost \$896 million more.

Awards are counted in the year they are received. By contrast, reports issued by government agencies, such as the National Science Foundation (NSF) provide data on expenditures, not

awards, for research; expenditures may be verified by accounting procedures but the data lag behind the receipt of awards by several years. No new NSF data are available for comparison with other states.

Table 1 shows how much income each institution generated in the past two years from grants and contracts from the federal government, from Maryland state agencies, from non-profit foundations, from corporations, and from other sources, such as non-governmental organizations. Table 1 also shows the number of proposals submitted to each type of funding source and the number of grants received; in a few instances proposal data were unavailable. The number of grants received surpasses the number of proposals written in some categories because the award came in installments or because the award came in a fiscal year later than that in which the proposal was submitted.

At every institution, extramural funding derives from a variety of sources. Although the federal government is the largest funding source for the System as a whole and for research-intensive institutions, state government, corporations and foundations, and other sources provided support on the same order of magnitude as federal funds for the regional comprehensive universities.

Federal support increased significantly over the past year; although there was a decline in support from state agencies. Corporate support was relatively steady, and foundation support increased slightly.

**Table 1**  
**Extramural Funding for the USM**  
**Fiscal years 04 and 05**

Award Amount	Awards	Proposals		Award Amount	Awards	Proposals	
FY05				FY04			
USM				USM			
\$678,326,200	3,032	3,613	Federal	\$615,653,052	3,022	3,477	Federal
\$133,312,139	943	752	State	\$140,747,173	829	841	State
\$54,956,486	1,329	690	Corporate	\$55,631,849	1,344	807	Corporate
\$70,045,610	609	708	Foundations	\$68,516,354	665	765	Foundations
\$65,278,427	1,818	1,071	Other	\$74,647,815	1,662	1,012	Other
<b>\$1,001,918,862</b>	<b>7,710</b>	<b>6,849</b>	<b>TOTAL</b>	<b>\$955,196,243</b>	<b>7,469</b>	<b>6,902</b>	<b>TOTAL</b>
<b>\$983,789,967</b>			Total less USM	<b>\$944,952,992</b>			Total less USM

BSU				BSU			
\$6,031,300	18	26	Federal	\$3,354,575	22	27	Federal
\$1,827,772	7	8	State	\$5,900,713	16	9	State
\$25,000	2	1	Corporate	\$50,000	1	1	Corporate
\$100,000	1	2	Foundations	\$7,000	2	2	Foundations
\$7,900	2	1	Other	\$3,000	1	1	Other
<b>\$7,991,972</b>	<b>30</b>	<b>38</b>	<b>TOTAL</b>	<b>\$9,315,288</b>	<b>42</b>	<b>40</b>	<b>TOTAL</b>
<b>\$7,991,972</b>			Total less USM	<b>\$9,315,288</b>			Total less USM

Award Amount	Awards	Proposals	CSU
FY 05			
\$2,916,535	12	17	Federal
\$5,488,402	23	23	State
\$162,290	4	8	Corporate
\$152,264	4	5	Foundations
\$486,586	7	7	Other
<b>\$9,206,077</b>	<b>50</b>	<b>60</b>	<b>TOTAL</b>
<b>\$8,967,525</b>			Total less USM

Award Amount	Awards	Proposals	CSU
FY 04			
\$5,772,495	43		Federal*
\$3,595,666	38		State
\$623,860	14		Corporate**
			Foundation**
\$325,987	5		Other
<b>\$10,318,008</b>	<b>100</b>		<b>TOTAL</b>
<b>\$10,020,904</b>			Total less USM

\* Includes Title III Funding

\*\* CSU does not track Corporate and Foundation support separately; this is the total.

			FSU
\$685,709	14	11	Federal
\$840,894	21	12	State
\$0	0	0	Corporate
\$116,727	8	7	Foundations
\$198,179	16	18	Other
<b>\$1,841,509</b>	<b>59</b>	<b>48</b>	<b>TOTAL</b>
<b>\$1,728,509</b>			Total less USM

			FSU
\$1,270,855	15	15	Federal
\$1,219,672	21	11	State
\$13,000	2	2	Corporate
\$23,509	5	8	Foundations
\$172,418	11	13	Other
<b>\$2,699,454</b>	<b>54</b>	<b>49</b>	<b>TOTAL</b>
<b>\$2,594,292</b>			Total less USM

			SU
\$2,412,954	16	36	Federal
\$1,828,458	63	78	State
\$29,600	3	4	Corporate
\$25,873	5	7	Foundations
\$86,642	7	10	Other
<b>\$4,383,527</b>	<b>94</b>	<b>135</b>	<b>TOTAL</b>
<b>\$4,383,527</b>			Total less USM

			SU
\$1,267,726	13	31	Federal
\$3,750,556	89	104	State
\$114,724	2	2	Corporate
\$19,555	4	7	Foundations
\$143,944	14	14	Other
<b>\$5,296,505</b>	<b>122</b>	<b>158</b>	<b>TOTAL</b>
<b>\$5,296,505</b>			Total less USM

			TU
\$2,326,949	22	74	Federal
\$6,330,662	62	76	State
\$297,168	28	29	Corporate
\$1,038,261	32	46	Foundations
\$3,160,845	34	53	Other
<b>\$13,153,885</b>	<b>178</b>	<b>278</b>	<b>TOTAL</b>
<b>\$12,730,742</b>			Total less USM

			TU
\$890,345	13	68	Federal
\$4,284,918	90	111	State
\$1,302,619	48	46	Corporate
\$592,576	29	36	Foundations
\$2,451,474	52	56	Other
<b>\$9,521,932</b>	<b>232</b>	<b>317</b>	<b>TOTAL</b>
<b>\$9,080,346</b>			Total less USM

Award Amount	Awards	Proposals		Award Amount	Awards	Proposals	
FY 05			UB	FY 04			UB
\$2,254,830	10	6	Federal	\$2,052,910	7	10	Federal
\$4,510,325	43	53	State	\$3,344,493	30	40	State
\$326,098	12	11	Corporate	\$269,841	8	7	Corporate
\$349,842	9	9	Foundations	\$112,420	3	3	Foundations
\$113,135	4	8	Other	\$1,938,822	23	32	Other
<b>\$7,554,230</b>	<b>78</b>	<b>87</b>	<b>TOTAL</b>	<b>\$7,718,486</b>	<b>71</b>	<b>92</b>	<b>TOTAL</b>
<b>\$7,340,890</b>			Total less USM	<b>\$7,718,486</b>			Total less USM

UMB			
\$259,023,711	805	1282	Federal
\$52,287,856	164	43	State
\$29,755,823	388	303	Corporate
\$50,049,682	283	416	Foundations
\$19,272,501	277	307	Other
<b>\$410,389,573</b>	<b>1917</b>	<b>2351</b>	<b>TOTAL</b>
<b>\$409,035,256</b>			Total less USM

UMB			
\$205,596,669	721	1196	Federal
\$33,186,616	124	121	State
\$22,907,603	315	419	Corporate
\$49,086,738	243	491	Foundations
\$28,381,745	225	366	Other
<b>\$339,159,371</b>	<b>1628</b>	<b>2593</b>	<b>TOTAL</b>
<b>\$337,875,245</b>			Total less USM

UMBC			
\$53,245,532	245	334	Federal
\$16,568,331	53	57	State
\$1,631,880	40	70	Corporate
\$2,094,749	34	52	Foundations
\$4,584,399	73	86	Other
<b>\$78,124,891</b>	<b>445</b>	<b>599</b>	<b>TOTAL</b>
<b>\$76,863,374</b>			Total less USM

UMBC			
\$42,229,106	246	341	Federal
\$25,318,177	80	72	State
\$1,741,687	37	69	Corporate
\$1,574,148	29	64	Foundations
\$3,542,664	41	60	Other
<b>\$74,405,782</b>	<b>433</b>	<b>606</b>	<b>TOTAL</b>
<b>\$72,730,684</b>			Total less USM

FY05			UMBI
\$18,281,524	85	152	Federal
\$12,356,108	68	95	State
\$832,996	14	23	Corporate
\$145,198	2	9	Foundation
\$3,107,710	31	35	Other
<b>\$34,723,536</b>	<b>200</b>	<b>314</b>	<b>Total</b>
<b>\$22,809,684</b>			Total less USM

FY04			UMBI
\$22,802,149	91	150	Federal
\$3,110,980	22	71	State
\$1,501,766	12	20	Corporate
\$992,000	7	21	Foundation
\$3,857,671	22	42	Other
<b>\$32,264,566</b>	<b>154</b>	<b>304</b>	<b>Total</b>
<b>\$29,395,549</b>			Total less USM

UMCES			
\$13,934,611	109	199	Federal
3,924,775	116	106	State
128,961	29	32	Corporate
109,777	15	17	Foundation
489,947	100	106	Other
<b>\$18,588,071</b>	<b>369</b>	<b>460</b>	<b>TOTAL</b>
<b>\$18,114,647</b>			Total less USM

UMCES			
\$14,941,063	79	122	Federal
6,871,028	51	55	State
409,311	6	6	Corporate
606,822	9	10	Foundation
521,231	16	18	Other
<b>\$23,349,455</b>	<b>161</b>	<b>211</b>	<b>TOTAL</b>
<b>\$23,001,952</b>			Total less USM

Award Amount FY 05	Awards	Proposals		Award Amount FY 04	Awards	Proposals	
			<b>UMCP</b>				<b>UMCP</b>
\$234,402,334	1582	1375	Federal	\$234,705,891	1623	1387	Federal
\$24,336,724	320	178	State	\$46,453,782	262	201	State
\$21,736,670	808	205	Corporate	\$23,427,095	894	224	Corporate
\$15,721,925	212	128	Foundations	\$15,371,586	333	118	Foundations
\$33,110,183	1258	426	Other	\$32,463,808	1247	398	Other
<b>\$329,307,836</b>	<b>4180</b>	<b>2312</b>	<b>TOTAL</b>	<b>\$352,422,162</b>	<b>4359</b>	<b>2328</b>	<b>TOTAL</b>
<b>\$327,594,044</b>			Total less USM	<b>\$349,868,385</b>			Total less USM

\*NB: UMCP award totals include all actions where sponsor money was received.

<b>UMES</b>				<b>UMES</b>			
\$16,713,748	67	96	Federal	\$16,608,393	67	124	Federal
\$2,707,325	20	36	State	\$3,211,036	28	44	State
\$0	0	4	Corporate	\$687,927	3	7	Corporate
\$11,312	3	9	Foundations	\$0	0	4	Foundations
\$295,350	8	14	Other	\$480,000	4	11	Other
<b>\$19,727,735</b>	<b>98</b>	<b>159</b>	<b>TOTAL</b>	<b>\$20,987,356</b>	<b>102</b>	<b>190</b>	<b>TOTAL</b>
<b>\$19,303,777</b>			Total less USM	<b>\$20,317,478</b>			Total less USM

<b>UMUC</b>				<b>UMUC</b>			
\$66,096,463	7	5	Federal	\$64,160,875	5	6	Federal
\$304,507	2	2	State	\$499,536	2	2	State
\$30,000	1	0	Corporate	\$2,582,416	2	4	Corporate
\$130,000	1	1	Foundations	\$130,000	1	1	Foundations
\$365,050	1	0	Other	\$365,051	1	1	Other
<b>\$66,926,020</b>	<b>12</b>	<b>8</b>	<b>TOTAL</b>	<b>\$67,737,878</b>	<b>11</b>	<b>14</b>	<b>TOTAL</b>
<b>\$66,926,020</b>			Total less USM	<b>\$67,737,878</b>			Total less USM

The bottom line for each institution is the total received diminished by the amount of collaborative grants or contracts that it passes through to another USM institution. The USM total is non-duplicative.

**Table 2**  
**Extramural Funding Summary**  
**Fiscal Years 2000 – 2004**

<b>Institution</b>	<b>FY2000</b>	<b>FY2001</b>	<b>FY2002</b>	<b>FY2003</b>	<b>FY2004</b>	<b>FY2005</b>	<b>% change FY04-FY05</b>
<b>BSU</b>	\$6,438,008	\$9,535,539	\$8,263,690	\$8,995,033	\$9,315,288	\$7,991,972	-14.2%
<b>CSU</b>	\$5,933,130	\$5,282,884	\$6,917,450	\$16,012,294	\$10,318,008	\$9,206,077	-10.8%
<b>FSU</b>	\$3,150,807	\$2,370,941	\$3,050,642	\$2,954,261	\$2,699,454	\$1,841,509	-31.8%
<b>SU</b>	\$2,536,169	\$4,944,017	\$7,124,305	\$5,604,004	\$5,296,505	\$4,383,527	-17.2%
<b>TU</b>	\$14,639,874	\$17,413,493	\$19,066,043	\$18,486,168	\$9,521,932	\$13,153,885	38.1%
<b>UB</b>	\$5,684,084	\$6,925,940	\$7,000,231	\$7,666,835	\$7,718,486	\$7,554,230	-2.1%
<b>UMB</b>	\$203,938,728	\$256,385,166	\$305,376,642	\$324,132,532	\$339,159,371	\$410,389,573	21.0%
<b>UMBC</b>	\$64,132,227	\$80,364,567	\$90,185,680	\$89,951,836	\$74,405,782	\$78,124,891	5.0%
<b>UMBI</b>	\$17,180,091	\$21,771,945	\$22,967,183	\$30,232,596	\$32,264,566	\$34,723,536	7.6%
<b>UMCES</b>	\$17,624,347	\$18,920,610	\$20,503,293	\$20,914,832	\$23,349,455	\$18,588,071	-20.4%
<b>UMCP</b>	\$288,864,012	\$308,484,813	\$352,378,665	\$321,652,389	\$352,422,162	\$329,307,836	-6.6%
<b>UMES</b>	\$10,945,263	\$13,138,941	\$17,184,391	\$17,025,317	\$20,987,356	\$19,727,735	-6.0%
<b>UMUC</b>	\$36,367,300	\$47,512,699	\$47,382,339	\$42,054,192	\$67,737,878	\$66,926,020	-1.2%
<b>Inst. Total</b>	<b>\$677,434,040</b>	<b>\$793,051,555</b>	<b>\$907,400,554</b>	<b>\$901,985,711</b>	<b>\$955,196,243</b>	<b>\$1,001,918,862</b>	4.9%
<b>USM Total</b>	<b>\$670,574,430</b>	<b>\$783,721,480</b>	<b>\$891,683,868</b>	<b>\$894,428,219</b>	<b>\$944,952,992</b>	<b>\$983,789,967</b>	4.1%

The USM has a standing committee, Sponsored Research Administrators Group that includes representation from every institution within the USM, as well as members from the USM System Office. The group meets regularly to discuss a wide range of issues pertaining to extramural research within the USM.

USM institutions seek and receive funding for their research, education, and public service activities from many sources. Promising practices, need for revisions to policy and information concerning regulations and sources of funding are shared through the USM Sponsored Research Group.

Extramural funding in FY 2005 provided \$983,789,967, compared to \$944,952,992 in FY 2004, an increase of 4.1%. To provide an order-of-magnitude perspective, in FY 2005 the USM received an appropriation of general funds, that is, tax revenue, from the State of Maryland, of \$757.7 million. Tuition and fees added almost \$896 million more.

**Action Recommendation 5.5:**

Work with agencies and institutions to establish appropriate benchmarks for expanding the amount of research and development performed at Maryland institutions.

**Lead:** Institutions and Segments.

**Progress Made/Action Taken:**

Maryland Association of Community Colleges:

This recommendation is not applicable to Community Colleges

Maryland Independent College and University Association

The Maryland Independent Colleges and University Association encourages and supports statewide efforts to preserve and expand Maryland's role as a national leader in technological research and development. For the 26th year in a row, a MICUA institution – Johns Hopkins University – is the national leader in educational research and development expenditures, as measured by the National Science Foundation. Last year, JHU expended almost \$1.7 billion in its R&D activities. The past five years of JHU's research and development expenditures are listed below.

Johns Hopkins University – R&D Expenditures	
Fiscal Year	Total R&D Expenditures
FY 2002	\$1,163,651,426
FY 2003	\$1,349,899,924
FY 2004	\$1,461,554,527
FY 2005	\$1,594,724,411
FY 2006	\$1,674,228,321
Note: FY 2005 and FY 2006 data are self-reported in advance of the NSF survey.	

Regarding benchmarks, Johns Hopkins compares itself to the top research universities in the country. The National Science Foundation report is an objective, verified comparison that confirms Hopkins' national leadership in R&D.

Another MICUA institution, Loyola College in Maryland, has increased its R&D activities, and is now reported in the NSF report, although it remains primarily a liberal arts institution with a faculty emphasis on teaching. Loyola's R&D expenditures are listed below.

Loyola College in MD – R&D Expenditures	
Fiscal Year	Total R&D Expenditures
FY 2002	\$947,589
FY 2003	\$1,173,545
FY 2004	\$1,266,067
FY 2005	\$1,607,626
Note: FY 2005 data are self-reported in advance of the NSF survey.	

For the other MICUA institutions, faculty research activities are generally not the priority. MICUA institutions are characterized by low student-faculty ratios and close attention to students by faculty with an emphasis on personalized instruction. While faculty at these institutions may also be involved in important research activities, it would not be appropriate to set R&D benchmarks for these institutions.



### Morgan State University

The amount of research funding received by Morgan University has increased steadily and is now approaching \$30 million. Over the past five years, the amount of external funding received by the campus has grown by nearly 40%. Morgan recently was classified as a doctoral research campus by the Carnegie Commission by virtue of its increasing doctoral degree production and the growing level of research taking place on campus.

The University is giving priority to developing an infrastructure appropriate for its mission. It requires additional resources to accomplish this. For example, most faculty have teaching loads typical of a non-research institution. The campus lacks sufficient space to house research centers. And, Morgan has yet to gain commitment from the state for a technology transfer center. The campus has a good record of increasing grant and contract funding but with proper support it could do much better. It's enhancement plans submitted to MHEC in 2001 and again in 2005 provide for adequate support for its mission.

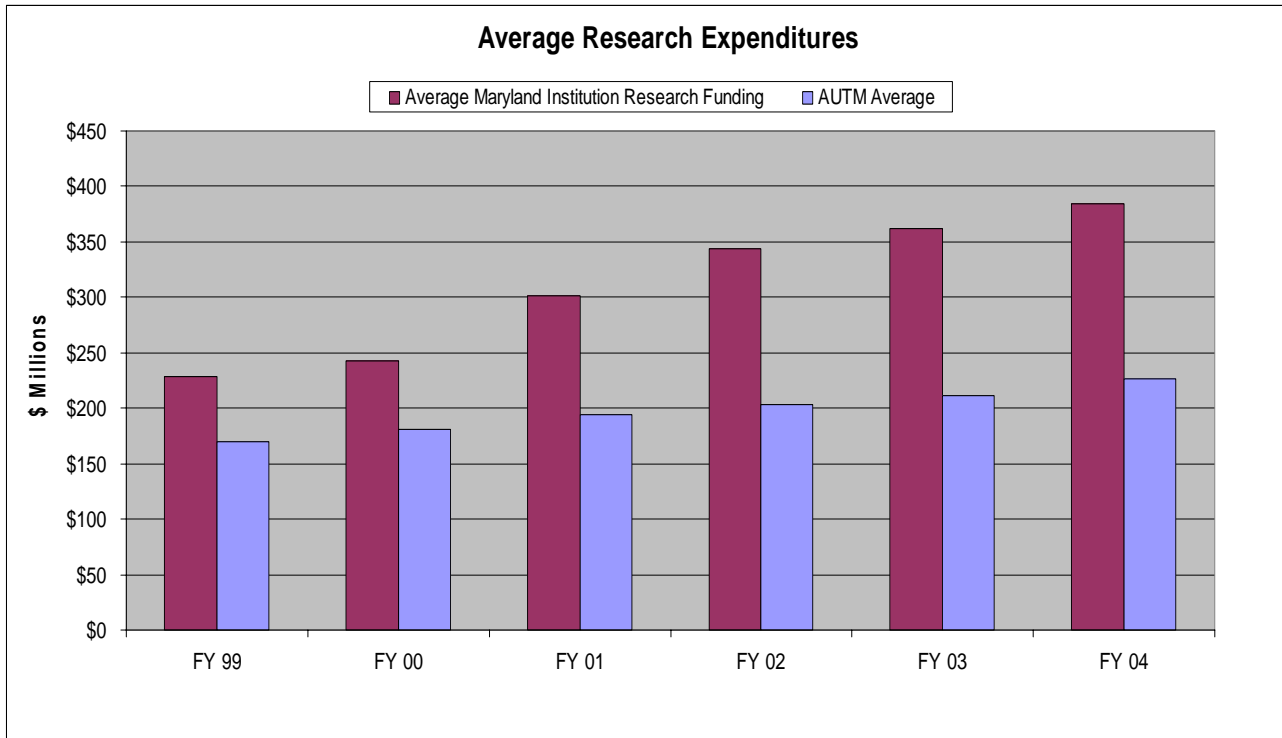
### St. Mary's College of Maryland

Although St. Mary's College does not require sponsored research of faculty, many faculty members complete discipline-specific research and development activities. In terms of external funding, this is especially true of the scientific disciplines: biology, chemistry, mathematics, physics, and psychology. Through the Sponsored Research Office, faculty members are made aware of funding opportunities and grant-writing assistance is offered. The College uses the proceeds of its indirect grant policies to promote the pursuit of additional grants by interested faculty members.

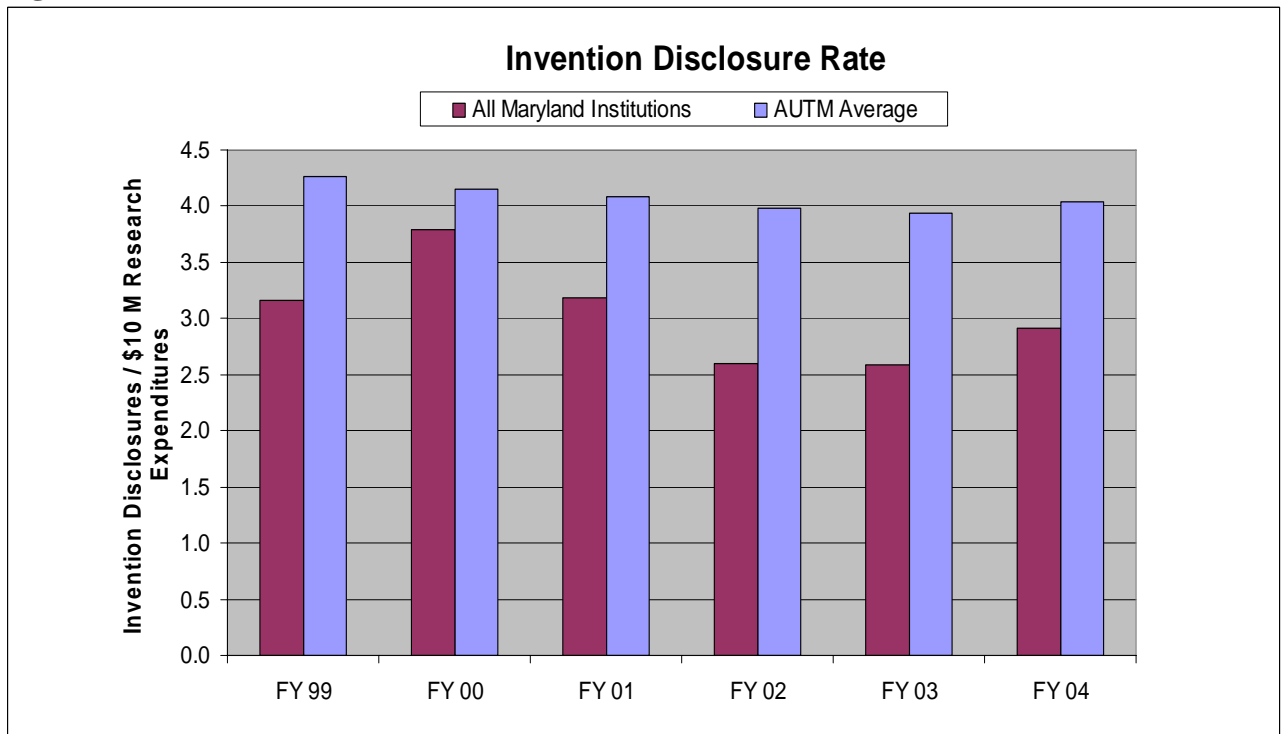
### The Maryland Technology Development Corporation

The Association of University Technology Managers (AUTM) publishes a yearly summary of technology transfer performance measures of universities and non-profit research institutions. This data provides a longitudinal set of performance metrics of all the major university technology transfer programs in the United States and Canada. Since AUTM has been amassing this information since the early 1990's, TEDCO sees this data as the most effective benchmark for isolating the effectiveness of local and national research initiatives. By focusing on factors such as personnel dedicated to technology transfer, licenses approved and earning revenue, new patents filed, and quantity of research funding available, TEDCO has developed a set of metrics from AUTM's Licensing Survey data which allows us to quantify both funding and technology transfer trends across Maryland universities and the other 150 U.S. research universities reporting data. Comparing licenses executed and invention disclosures as a function of research expenditures are just two of the benchmarks TEDCO uses to track the progress of Maryland universities with respect to the national average of the reporting U.S. universities. This data is presented in Figures 1-3.

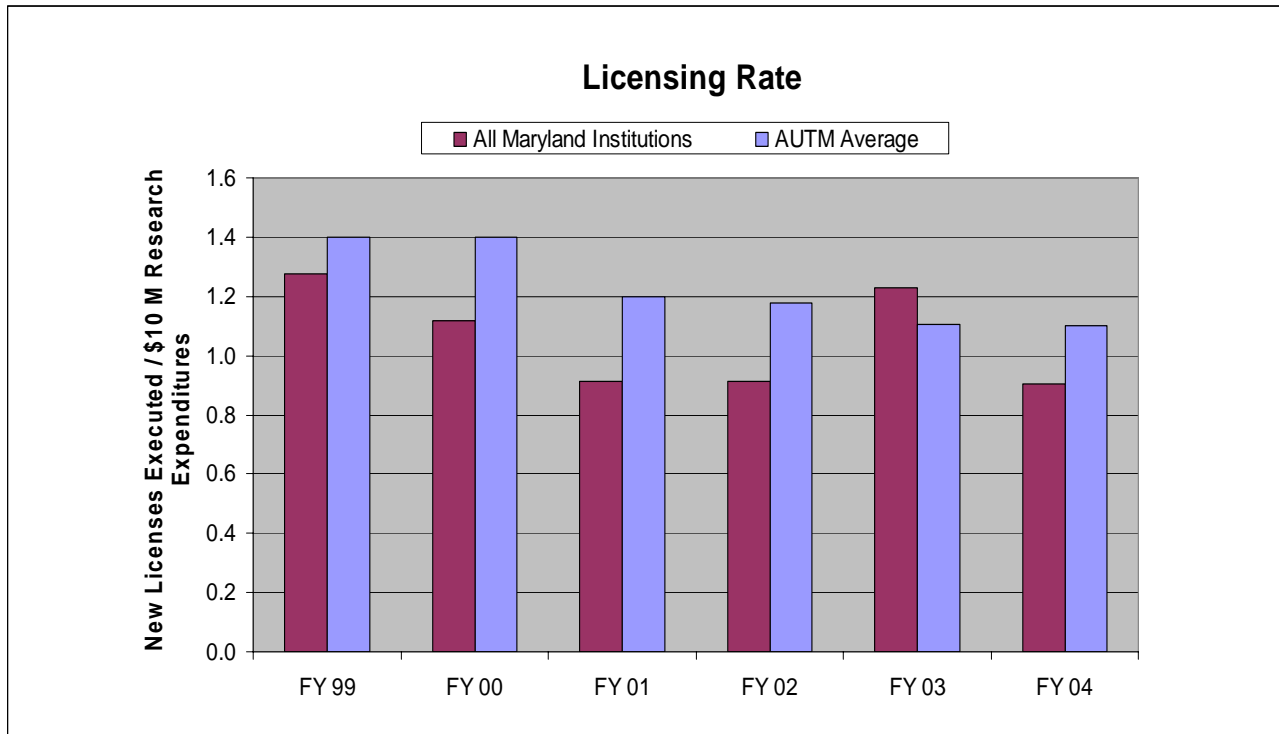
**Figure 1**



**Figure 2**



**Figure 3**



University System of Maryland

For each University System of Maryland (USM) institution, the president is responsible for establishing appropriate benchmarks for expanding the amount of research and development at the university.

USM institutions seek and receive funding for their research, education, and public service activities from many sources. Promising practices, need for revisions to policy and information concerning regulations and sources of funding are shared through the USM Sponsored Research Group.

Extramural funding in FY 2005 provided \$983,789,967, compared to \$944,952,992 in FY 2004, an increase of 4.1%. To provide an order-of-magnitude perspective, in FY 2005 the USM received an appropriation of general funds, that is, tax revenue, from the State of Maryland, of \$757.7 million. Tuition and fees added almost \$896 million more.

Table 1 shows how much income each institution generated in the past two years from grants and contracts from the federal government, from Maryland state agencies, from non-profit foundations, from corporations, and from other sources, such as non-governmental organizations. Table 1 also shows the number of proposals submitted to each type of funding source and the number of grants received; in a few instances proposal data were unavailable. The number of grants received surpasses the number of proposals written in some categories because the award came in installments or because the award came in a fiscal year later than that in which the proposal was submitted.

At every institution, extramural funding derives from a variety of sources. Although the federal government is the largest funding source for the System as a whole and for research-intensive institutions, state government, corporations and foundations, and other sources provided support on the same order of magnitude as federal funds for the regional comprehensive universities.

Federal support increased significantly over the past year; although there was a decline in support from state agencies. Corporate support was relatively steady, and foundation support increased slightly.

**Table 1**  
**Extramural Funding for the USM**  
**Fiscal years 04 and 05**

Award Amount	Awards	Proposals	USM	Award Amount	Awards	Proposals	USM
<b>FY05</b>				<b>FY04</b>			
\$678,326,200	3,032	3,613	Federal	\$615,653,052	3,022	3,477	Federal
\$133,312,139	943	752	State	\$140,747,173	829	841	State
\$54,956,486	1,329	690	Corporate	\$55,631,849	1,344	807	Corporate
\$70,045,610	609	708	Foundations	\$68,516,354	665	765	Foundations
\$65,278,427	1,818	1,071	Other	\$74,647,815	1,662	1,012	Other
<b>\$1,001,918,862</b>	<b>7,710</b>	<b>6,849</b>	<b>TOTAL</b>	<b>\$955,196,243</b>	<b>7,469</b>	<b>6,902</b>	<b>TOTAL</b>
<b>\$983,789,967</b>			Total less USM	<b>\$944,952,992</b>			Total less USM

BSU				BSU			
\$6,031,300	18	26	Federal	\$3,354,575	22	27	Federal
\$1,827,772	7	8	State	\$5,900,713	16	9	State
\$25,000	2	1	Corporate	\$50,000	1	1	Corporate
\$100,000	1	2	Foundations	\$7,000	2	2	Foundations
\$7,900	2	1	Other	\$3,000	1	1	Other
<b>\$7,991,972</b>	<b>30</b>	<b>38</b>	<b>TOTAL</b>	<b>\$9,315,288</b>	<b>42</b>	<b>40</b>	<b>TOTAL</b>
<b>\$7,991,972</b>			Total less USM	<b>\$9,315,288</b>			Total less USM

CSU				CSU			
\$2,916,535	12	17	Federal	\$5,772,495	43		Federal*
\$5,488,402	23	23	State	\$3,595,666	38		State
\$162,290	4	8	Corporate	\$623,860	14		Corporate**
\$152,264	4	5	Foundations				Foundation**
\$486,586	7	7	Other	\$325,987	5		Other
<b>\$9,206,077</b>	<b>50</b>	<b>60</b>	<b>TOTAL</b>	<b>\$10,318,008</b>	<b>100</b>		<b>TOTAL</b>
<b>\$8,967,525</b>			Total less USM	<b>\$10,020,904</b>			Total less USM

\* Includes Title III Funding

\*\* CSU does not track Corporate and Foundation support separately; this is the total.

Award Amount	Awards	Proposals	
<b>FY 05</b>			<b>FSU</b>
\$685,709	14	11	Federal
\$840,894	21	12	State
\$0	0	0	Corporate
\$116,727	8	7	Foundations
\$198,179	16	18	Other
<b>\$1,841,509</b>	<b>59</b>	<b>48</b>	<b>TOTAL</b>
<b>\$1,728,509</b>			Total less USM

Award Amount	Awards	Proposals	
<b>FY 04</b>			<b>FSU</b>
\$1,270,855	15	15	Federal
\$1,219,672	21	11	State
\$13,000	2	2	Corporate
\$23,509	5	8	Foundations
\$172,418	11	13	Other
<b>\$2,699,454</b>	<b>54</b>	<b>49</b>	<b>TOTAL</b>
<b>\$2,594,292</b>			Total less USM

<b>FY05</b>			<b>SU</b>
\$2,412,954	16	36	Federal
\$1,828,458	63	78	State
\$29,600	3	4	Corporate
\$25,873	5	7	Foundations
\$86,642	7	10	Other
<b>\$4,383,527</b>	<b>94</b>	<b>135</b>	<b>TOTAL</b>
<b>\$4,383,527</b>			Total less USM

<b>FY04</b>			<b>SU</b>
\$1,267,726	13	31	Federal
\$3,750,556	89	104	State
\$114,724	2	2	Corporate
\$19,555	4	7	Foundations
\$143,944	14	14	Other
<b>\$5,296,505</b>	<b>122</b>	<b>158</b>	<b>TOTAL</b>
<b>\$5,296,505</b>			Total less USM

			<b>TU</b>
\$2,326,949	22	74	Federal
\$6,330,662	62	76	State
\$297,168	28	29	Corporate
\$1,038,261	32	46	Foundations
\$3,160,845	34	53	Other
<b>\$13,153,885</b>	<b>178</b>	<b>278</b>	<b>TOTAL</b>
<b>\$12,730,742</b>			Total less USM

			<b>TU</b>
\$890,345	13	68	Federal
\$4,284,918	90	111	State
\$1,302,619	48	46	Corporate
\$592,576	29	36	Foundations
\$2,451,474	52	56	Other
<b>\$9,521,932</b>	<b>232</b>	<b>317</b>	<b>TOTAL</b>
<b>\$9,080,346</b>			Total less USM

			<b>UB</b>
\$2,254,830	10	6	Federal
\$4,510,325	43	53	State
\$326,098	12	11	Corporate
\$349,842	9	9	Foundations
\$113,135	4	8	Other
<b>\$7,554,230</b>	<b>78</b>	<b>87</b>	<b>TOTAL</b>
<b>\$7,340,890</b>			Total less USM

			<b>UB</b>
\$2,052,910	7	10	Federal
\$3,344,493	30	40	State
\$269,841	8	7	Corporate
\$112,420	3	3	Foundations
\$1,938,822	23	32	Other
<b>\$7,718,486</b>	<b>71</b>	<b>92</b>	<b>TOTAL</b>
<b>\$7,718,486</b>			Total less USM

			<b>UMB</b>
\$259,023,711	805	1282	Federal
\$52,287,856	164	43	State
\$29,755,823	388	303	Corporate
\$50,049,682	283	416	Foundations
\$19,272,501	277	307	Other
<b>\$410,389,573</b>	<b>1917</b>	<b>2351</b>	<b>TOTAL</b>
<b>\$409,035,256</b>			Total less USM

			<b>UMB</b>
\$205,596,669	721	1196	Federal
\$33,186,616	124	121	State
\$22,907,603	315	419	Corporate
\$49,086,738	243	491	Foundations
\$28,381,745	225	366	Other
<b>\$339,159,371</b>	<b>1628</b>	<b>2593</b>	<b>TOTAL</b>
<b>\$337,875,245</b>			Total less USM

Award Amount FY 05	Awards	Proposals	UMBC
\$53,245,532	245	334	Federal
\$16,568,331	53	57	State
\$1,631,880	40	70	Corporate
\$2,094,749	34	52	Foundations
\$4,584,399	73	86	Other
<b>\$78,124,891</b>	<b>445</b>	<b>599</b>	<b>TOTAL</b>
<b>\$76,863,374</b>			Total less USM

Award Amount FY 04	Awards	Proposals	UMBC
\$42,229,106	246	341	Federal
\$25,318,177	80	72	State
\$1,741,687	37	69	Corporate
\$1,574,148	29	64	Foundations
\$3,542,664	41	60	Other
<b>\$74,405,782</b>	<b>433</b>	<b>606</b>	<b>TOTAL</b>
<b>\$72,730,684</b>			Total less USM

FY05			UMBI
\$18,281,524	85	152	Federal
\$12,356,108	68	95	State
\$832,996	14	23	Corporate
\$145,198	2	9	Foundation
\$3,107,710	31	35	Other
<b>\$34,723,536</b>	<b>200</b>	<b>314</b>	<b>Total</b>
<b>\$22,809,684</b>			Total less USM

FY04			UMBI
\$22,802,149	91	150	Federal
\$3,110,980	22	71	State
\$1,501,766	12	20	Corporate
\$992,000	7	21	Foundation
\$3,857,671	22	42	Other
<b>\$32,264,566</b>	<b>154</b>	<b>304</b>	<b>Total</b>
<b>\$29,395,549</b>			Total less USM

			UMCES
\$13,934,611	109	199	Federal
3,924,775	116	106	State
128,961	29	32	Corporate
109,777	15	17	Foundation
489,947	100	106	Other
<b>\$18,588,071</b>	<b>369</b>	<b>460</b>	<b>TOTAL</b>
<b>\$18,114,647</b>			Total less USM

			UMCES
\$14,941,063	79	122	Federal
6,871,028	51	55	State
409,311	6	6	Corporate
606,822	9	10	Foundation
521,231	16	18	Other
<b>\$23,349,455</b>	<b>161</b>	<b>211</b>	<b>TOTAL</b>
<b>\$23,001,952</b>			Total less USM

			UMCP
\$234,402,334	1582	1375	Federal
\$24,336,724	320	178	State
\$21,736,670	808	205	Corporate
\$15,721,925	212	128	Foundations
\$33,110,183	1258	426	Other
<b>\$329,307,836</b>	<b>4180</b>	<b>2312</b>	<b>TOTAL</b>
<b>\$327,594,044</b>			Total less USM

			UMCP
\$234,705,891	1623	1387	Federal
\$46,453,782	262	201	State
\$23,427,095	894	224	Corporate
\$15,371,586	333	118	Foundations
\$32,463,808	1247	398	Other
<b>\$352,422,162</b>	<b>4359</b>	<b>2328</b>	<b>TOTAL</b>
<b>\$349,868,385</b>			Total less USM

\*NB: UMCP award totals include all actions where sponsor money was received.

			UMES
\$16,713,748	67	96	Federal
\$2,707,325	20	36	State
\$0	0	4	Corporate
\$11,312	3	9	Foundations
\$295,350	8	14	Other
<b>\$19,727,735</b>	<b>98</b>	<b>159</b>	<b>TOTAL</b>
<b>\$19,303,777</b>			Total less USM

			UMES
\$16,608,393	67	124	Federal
\$3,211,036	28	44	State
\$687,927	3	7	Corporate
\$0	0	4	Foundations
\$480,000	4	11	Other
<b>\$20,987,356</b>	<b>102</b>	<b>190</b>	<b>TOTAL</b>
<b>\$20,317,478</b>			Total less USM

Award Amounts	Awards	Proposal	UMUC	Award Amounts	Awards	Proposal	UMUC
<b>FY 05</b>				<b>FY 04</b>			
\$66,096,463	7	5	Federal	\$64,160,875	5	6	Federal
\$304,507	2	2	State	\$499,536	2	2	State
\$30,000	1	0	Corporate	\$2,582,416	2	4	Corporate
\$130,000	1	1	Foundations	\$130,000	1	1	Foundations
\$365,050	1	0	Other	\$365,051	1	1	Other
<b>\$66,926,020</b>	<b>12</b>	<b>8</b>	<b>TOTAL</b>	<b>\$67,737,878</b>	<b>11</b>	<b>14</b>	<b>TOTAL</b>
<b>\$66,926,020</b>			Total less USM	<b>\$67,737,878</b>			Total less USM

**Action Recommendation 5.6:**

Consider developing virtual centers of excellence in such areas as nanotechnology, advanced material, and information technology.

**Lead:** Institutions and Segments

**Progress Made/Action Taken:**

Maryland Association of Community Colleges

MACC requested chairs of IT and workforce development affinity groups to provide information on this recommendation.

Maryland Independent College and University Association

- Nanotechnology

Johns Hopkins University is launching a new institute designed to study how the emerging science of nanotechnology can be used in medicine, with a goal of establishing Johns Hopkins as the world’s top research center for nanobiotechnology. The Institute for NanoBioTechnology will include more than 75 faculty members from Johns Hopkins’ engineering, medicine, sciences, and public health schools. Initial funding of \$6 million is from the National Science Foundation, the Howard Hughes Medical Institute, NASA, and Johns Hopkins.

- Advanced Materials

Johns Hopkins, including its Applied Physics Laboratory, is a worldwide leader in advanced materials research. The university’s close proximity to Washington, D.C. facilitates collaboration with the U.S. Department of Defense in this and other areas. For example, established in 1994, the Center of Excellence in Advanced Materials Characterization teams Johns Hopkins investigators with their research counterparts in the Army Research Laboratory (ARL) Weapons and Materials Research Directorate. This collaborative program opens doors to share ideas and facilities at both institutions and enhances the capabilities of all parties to expand meaningful and effective research activity. This center’s research areas have included: transport phenomena in materials, smart materials and processes, functional metal matrix composite materials, joining of advanced materials, and hydrogen interaction with materials. In every case, research within these areas provides the opportunity for Hopkins researchers, teaming with their ARL colleagues, to address fundamental issues associated with very practical Army needs. These projects range from developing fabrics which can provide protection from biological agents to creating new materials and new surface treatments which resist wear and corrosion in the outdoor environment.

- Information Technology

Not only is Hopkins a leader in information technology, it is also a leader in the security of that technology. The Johns Hopkins University Information Security Institute (ISI) is the University's focal point for research and education in information security, assurance and privacy. Securing cyberspace and our national information infrastructure is more critical now than ever before, and it can be achieved only when the core technology, legal and policy issues are adequately addressed. ISI is committed to a comprehensive approach that includes input from academia, industry and government. The University, through ISI's leadership, has thus been designated as a Center of Academic Excellence in Information Assurance by the National Security Agency and leading experts in the field. Through its broad range of educational opportunities including a ground-breaking graduate program and leading edge research in foundational science and applied technologies, ISI is having a significant impact in the region and nationwide. Its research in networking, wireless, systems evaluation, medical privacy and electronic voting, among other areas is widely circulated among academics and policy-makers. Moreover, ISI is instrumental in homeland security efforts across Hopkins, including emergency health preparedness, bio-terrorism and national defense.

Exciting work in information technology is also taking place at Capitol College in Laurel, Maryland, which has also been designated as a Center of Academic Excellence in Information Assurance Education by NSA. Capitol College plans to construct a center for technology and leadership education, providing opportunities, partnerships with Maryland businesses, state agencies and regional federal agencies. The facility would be dedicated to the academic study and business development of programs in technology leadership and in network and information assurance. The facility would house a combination of classrooms, state of the art laboratories and office space for small business and faculty. The facility would be designed to house secure network systems and independent power for heating and cooling.

Cutting edge research in information technology is taking place at MICUA's liberal arts institutions as well. At Loyola College, researchers in the computer science and information systems departments are involved in several exciting projects, including:

- Participating in a National Science Foundation project on "Amorphous Program Slicing," a technique in which large amounts of computer data are reduced into more manageable chunks of code. The technique has the potential to transform software engineering by reducing testing costs and analyzing anonymous program failures so engineers can focus on larger design issues;
- Exploring whether there is a significant difference in the language used to express oneself when the communication takes place via computer. The study will rely on natural language processing techniques to evaluate exchanges taking place by phone, traditional written communication, e-mail exchange and chat room;
- Creating and improving algorithms for use in robots that can navigate outdoor terrain. This project, in conjunction with the National Institute for Standards and Technology's "Perception for Advanced Intelligent Manufacturing" project, eventually could be applied to projects such as the next generation of Mars rovers or commercial robotic projects;



- Exploring the impact of artificial intelligence techniques (data trend analysis, forecasts, evaluating data consistency, quantifying uncertainty, etc.) on real-time decision-making.

#### Morgan State University

The University is giving priority to developing an infrastructure appropriate for its mission. It requires additional resources to accomplish this. For example, most faculty have teaching loads typical of a non-research institution. The campus lacks sufficient space to house research centers. And, Morgan has yet to gain commitment from the state for a technology transfer center. The campus has a good record of increasing grant and contract funding but with proper support it could do much better. It's enhancement plans submitted to MHEC in 2001 and again in 2005 provide for adequate support for its mission.

#### St. Mary's College of Maryland

The College does not have the material or financial resources to develop a virtual center of excellence, yet employs faculty that would likely be interested in collaboration at a facility offering opportunities in the fields of biology, biochemistry, chemistry, computer sciences, mathematics, neuroscience, physics, and psychology.

#### Maryland Technology Development Corporation – TEDCO

Government laboratories and private universities have led the effort to develop virtual centers of excellence. TEDCO has provided seed funding to internal university technology development projects and spin-off companies originating from research centers of excellence. As virtual centers become more accessible, TEDCO will seek to increase its involvement in the development and support of such centers.

#### University System of Maryland

Last year, the University of Maryland's Baltimore and College Park campuses formed the Center for Nanomedicine and Cellular Delivery, a joint nanotechnology group. \$2.5 million was included for nanotechnology research in the Governor's FY 2007 budget. In its FY 2007 budget request, the University System of Maryland System included funding for nanotechnology collaborative initiatives among its research institutions. In addition, research programs, in collaboration with agencies and private industry, continue to be developed with the growth of USM's three research parks (UMB, UMBC, and UMCP).

#### **Action Recommendation 5.7:**

Provide State incentives or support for the transfer of research to help move technology from the university to commercial applications.

**Lead:** DBED and Pappas Commission

#### **Progress Made/Action Taken:**

##### Department of Business and Economic Development

Subsequent to the release of the 2004 State Plan the MD Department of Business and Economic Development has taken the following steps toward the realization of Goal 5:

The Department awarded a grant to fund the Mid-Shore Entrepreneurial Center in the amount of \$100,000 to development and implement of programs designed to encourage and enhance entrepreneurial activities. On March 21, 2006, the Department and the Small Business Development Center Network (SBDC) will host a half a day entrepreneurial event at the Hyatt Regency Chesapeake Bay - Cambridge for all Eastern Shore counties. Entitled: Funding Entrepreneurship: Finding Money to Grow Your Venture, this half day event will spotlight vendors including local banks, the US Department of Agriculture (USDA), TEDCO, SBDC, and the local workforce investment boards (WIB). Secretary Melissaratos will deliver the keynote address.

The MicroEnterprise Council of MD is now in residence with the Department. The Council recently received a \$300,000 grant from USDA which will be matched by the Department.

Encouraging business incubation programs, at the Allegany Business at Frostburg State University, the Department is working with four companies to locate at Tawes Hall and is now investigating opportunities to fund a spec building. An incubator has been started at Hood College. Work is currently underway on wet lands at the Hagerstown Community College Incubator where TEDCO has funded a study at the Department's request.

Through the Department's efforts to encourage the attraction of individuals with math, science, and technology proficiencies to conduct research at the University Level, the following activity is ongoing:

1. At the Allegany Business Center at Frostburg State University, GIS mapping is being undertaken in collaboration with the university's Department of Geology.
2. The Indian Head Center for Energetics Technology is working to bring a center to Charles County in partnership with the University of Maryland at College Park.
3. The National Center for Simulation of Orlando, Florida is working to bring a local chapter to St. Mary's County to create an emergency medical simulation center in Lexington Park.

#### Maryland Association of Community Colleges

Requested information from IT and workforce development affinity groups

#### Maryland Independent College and University Association

Johns Hopkins University (JHU) is a leader in technological research. This research translates directly into new technologies. Last year, Johns Hopkins' scientists and researchers were awarded 96 patents, filed 405 patent applications, and were involved in the start-up of 24 new Maryland companies. The great majority of these patents were in medical fields. JHU is developing research parks in both Montgomery County and East Baltimore that will facilitate the transition from the research stage to commercial development for the important innovations that are taking place on its campuses.

MICUA institutions provide strong support for business and the economy in Maryland by transferring their expertise to the private sector. Johns Hopkins University has implemented technology transfer programs to move technology out of the academic laboratories and into commercial use. More than 45 start-up companies have been built on Hopkins technologies, most them based in Maryland. Hopkins' Office of Technology Transfer (JHTT) was created in

July 2001 through the consolidation of the Office of Technology Transfer, Homewood campus and the office of Licensing and Business Development (previously known as the Office of Technology Licensing), School of Medicine. The JHTT staff works closely with JHU researchers to identify patentable and copyrightable inventions and tangible research properties that may ultimately become commercial products and services. The office promotes and supports the University's research enterprise through licensing the University's technologies, facilitating collaborations between researchers, companies and entrepreneurs interested in developing JHU innovations and returning a portion of the revenue to JHU laboratories. JHTT acts as a point of contact for industry and entrepreneurs wishing to access the University's intellectual and tangible property.

Researchers and graduates from other MICUA institutions have founded numerous companies in Maryland, including the Brook Group, Harvy & Daughters, Firaxis Games, Visual Pair, SPARDATA, Inc., and Touchstones Discussion Project.

Loyola College in Maryland founded the Center for Closely Held Firms to help closely held and family businesses survive, grow, and prosper.

#### Morgan State University

Morgan University is working to develop an infrastructure to support technology transfer activities, but has not yet received funding for a facility dedicated to this purpose. The University is giving priority to developing an infrastructure appropriate for its mission. It requires additional resources to accomplish this. For example, most faculty members have teaching loads typical of a non-research institution. The campus lacks sufficient space to house research centers. And, Morgan has yet to gain commitment from the state for a technology transfer center. The campus has a good record of increasing grant and contract funding but with proper support it could do much better. It's enhancement plans submitted to MHEC in 2001 and again in 2005 provide for adequate support for its mission.

#### St. Mary's College of Maryland

St. Mary's does have research in biology, chemistry, and the neurosciences that may have transferability to commercial applications when fully developed. An intellectual property policy clearly explains the need for important innovations to both protected and used commercially, with compensation to the originator(s) and the relevant department. The College encourages the State to explore avenues to encourage existing and new research relevant to industry.

#### Maryland Technology Development Corporation

The Maryland Technology Transfer Fund (MTTF), the University Patent Support Fund (UPSF), the University Technology Development Fund (UTDF), as well as the federal technology transfer initiatives comprise the foundation of TEDCO's efforts to foster academics' commercialization of their intellectual property while demonstrating the benefits of research and development.

The MTTF program provides funding up to \$75,000 for individual firms that partner with either a Maryland university or a federal laboratory. These awards help defray the direct costs of technology commercialization efforts. Likewise, the MTTF partnerships address a myriad of

needs while generating sustainable funding streams and long-term benefits for the parties involved. Universities can license their innovations to companies for commercialization while receiving long-term financial benefits through royalties and other licensing fees paid back by the licensee. Faculty or graduates who spin-off companies based on research initiated at a Maryland university benefit from shared patent rights and the opportunity to see their particular technology through its commercialization. The probability that research will languish on a shelf due to conflicting priorities between university inventors and their host institution is dramatically reduced through this particular partnering. Alternatively, small businesses requiring access to expensive equipment no longer have to face the regulatory and financial barriers associated with setting up commercial laboratories as MTTF participants. The MTTF collaborations allow small businesses with such requirements access to university and federal laboratory equipment with modest usage fees. All of the MTTF collaborations that TEDCO has overseen have developed nascent technologies to the point of being able to attract the attention of outside investors and generate revenue on their own.

TEDCO’s primary metric of success has been the downstream funding awardees raised since the conclusion of their participation in the MTTF program. As shown in Table 1 below, these companies have leveraged their initial award \$34.4:1. The capacity for the firms to attract such attention from external investors is demonstrative of the power of the collaboration facilitated by MTTF and the benefits that can be enjoyed by nurturing relationships between inventors and entrepreneurs.

Table 1: TEDCO Incentives to Commercialization - Maryland Technology Transfer Fund Metrics

MTTF Projects Completed as of 6/30/2006	55
MTTF Investment, All Projects	\$3,149,691
Continuation Funding, All Awardees	\$108,340,063
Leverage of MTTF Funds	\$34.4:1

The University Patent Support Fund (USPF) is geared towards encouraging university invention disclosures. Patenting is the first step inventors must take in order to protect and maintain ownership of their intellectual property as commercialization proceeds. The USPF was started as a pilot program to determine whether lack of resources for intellectual property protection was limiting the willingness of faculty inventors to disclose new technology. Launched in fiscal year 2004, the fund covers 50% of the cost of first time patent applications. The second year of the program saw a 20% increase in the number of patent applications supported by this TEDCO undertaking. Likewise, the university system of Maryland reported the highest number of invention disclosures since 1999 at the close of FY 2005. While the fiscal year extends from July 1 to June 30, applicants have until October 31 – an additional 4 months – to report the number of patent applications they have been able to usher through the patent process with USPF funds.

Table 2 illustrates the inherent potential of this program to convince researchers that they will retain exclusive intellectual property protection for their technologies even as they are developed for public consumption: the number of new patent applications winning USPF support by June 30, the end of FY 2006, is comparable to the number completed at that time in previous years.

Table 2: TEDCO Incentives to Commercialization - University Patent Support Fund

Fiscal Year	New Patent Applications Supported
2004	107
2005	128
2006	93 <sup>2</sup>
<sup>2</sup> This number does not include all of the new FY 2006 patent applications supported by UPSF because the universities have until October 31 <sup>st</sup> to submit their expenses.	

The University Technology Development Fund program (UTDF) has also augmented the rate of technology transfer from academia to the public. Under UTDF, funds are funneled to university innovators with the express purpose of helping them improve the efficiency and effectiveness of their approach to the commercialization process. Historically, academic institutions have only had limited resources to develop newly disclosed inventions to the point that they can be licensed. Now, TEDCO is seeing more Maryland university-originating intellectual property licensed to private firms both inside and outside Maryland since the inception of this program.

Table 3: TEDCO Incentives to Commercialization- University Technology Transfer Fund Metrics

UTDF Projects Funded	66
UTDF Projects Completed	52
UTDF Technologies Licensed	17
UTDF Technologies Licensed to MD Companies	12
UTDF Licensees with MTTF Funding	7

University System of Maryland

The Innovation and Commercialization Group (ICG) is currently represented by four universities within the University System of Maryland (USM), as well as a member from the USM office. The group meets regularly to discuss a wide range of issues pertaining to the innovation and commercialization of USM assets. This includes open discussions regarding best practices, collaboration, metrics, and other related issues.

**Action Recommendation 5.8:**

Promote: (a) the utilization of industry clusters and career clusters as a common framework and nomenclature for workforce development throughout the state; and (b) support for the integrated,

multi-step approach to workforce development of the Governor's Workforce Investment Board (GWIB) and maximum institutional participation on steering committees and summits for select industry clusters.

**Lead:** Maryland State Department of Education (MSDE) & the Governor's Workforce Investment Board

**Progress Made/Action Taken:**

Utilization of Industry Clusters and an Integrated, Multi-Step Approach to Workforce Development:

Governor's Workforce Investment Board

The Governor's Workforce Investment Board (GWIB) is promoting an industry cluster approach to workforce development in Maryland with a focus on 13 industries. To date, GWIB has established steering committees for the following clusters: (1) aerospace, (2) hospitality & tourism, (3) healthcare, and (4) bioscience. Institutions from all segments are participating in GWIB's steering committees and summits.

The thirteen sectors are being recognized and accepted in many ways. Some community colleges are organizing academic programs to sync with the sectors and respond to the data produced by the steering committees. GWIB staff recommends holding briefing meetings with university, college and community college presidents, their respective associations, and possibly the University System of Maryland Board of Regents to share information regarding the industry initiative process and its intended goals. GWIB staff members are working on scheduling these meetings.

Maryland's Thirteen Targeted Industries

The GWIB Center for Industry Initiatives will ultimately address thirteen targeted industries which were identified by a body of representatives from business, government and education. Among other important variables, three criteria for selecting these industries were high growth potential, workforce population numbers and the industry's value to Maryland's economic development and stability. The Center's staff continues to work with leaders in these industry clusters to address workforce issues, identify industry demand and public supply, and create strategies for a comprehensive plan of action. The targeted industries are:

- Aerospace\*
- Biotechnology\*
- Building
- Business Services
- Communications
- Education
- Finance & Insurance
- Healthcare\*
- Hospitality & Tourism\*
- Information Technology
- Manufacturing
- Retail
- Transportation & Warehousing

The asterisks (\*) above indicate those industries that are actively engaged in the demand-driven, industry-led initiative process. The remaining nine industry initiatives will be launched no later than August 31, 2006.

### Demand-Driven, Industry-led Industry Initiative Process

As a result of the lessons learned and successes of the initial healthcare industry initiative, a tested and proven process has been established in addressing Maryland's targeted industries. Through this five-phase process, industry leaders, with the support and guidance of the Center for Industry Initiatives staff, will address the current and future workforce issues and demands of their respective industries. The five phase industry initiative process is:

- Phase 1: Getting Organized and Identifying Industry Leaders
- Phase 2: Identifying the Issues/Creating an Action Plan
- Phase 3: Convening a Summit
- Phase 4: Implementing the Action Plan for the Industry
- Phase 5: Sustaining the Partnerships

The GWIB's Center for Industry Initiatives has engaged the leadership and service of high-level business, government and education leaders in the state. Their contributions have been instrumental in the success of Maryland's demand-driven, industry-led initiatives.

Center for Industry Initiatives staff members ensure that representatives from K-12 education and higher education institutions are invited to participate on each of the industry steering committees and their related activities. Education partners have included MHEC, MSDE, the University System of Maryland and private colleges and universities, as well as Maryland's community colleges. Staff including the MSDE assistant superintendents for Career and Technology Education and the Division of Rehabilitative Services and senior members of each division's staff, as well as several community college presidents and administrators and key MHEC staff members all have been actively engaged with the GWIB and the industry sector initiative committees and activities.

Staff members also conduct on-going meetings with the Maryland Business Round Table for Education (MBRT) to bring more employers to the table and encourage their participation.

### Healthcare Industry Initiative

The Healthcare Sustaining Committee, under the direction of Committee Chair, Bill Robertson, President and CEO of Adventist Healthcare, Inc., is comprised of twenty members who participated on the Healthcare Steering Committee to monitor the priorities identified out of the Healthcare Summit. The healthcare industry initiative is in the Sustaining Phase and the committee meets on a quarterly basis.

In this quarter's meeting, update reports were presented on the Military Healthcare, the Teach for the Health of It and Career Lattice programs. The committee reviewed data on state healthcare workforce shortages, a proposal request on a Radiological Technology program depicting the need for increased educational programs and committed to revisit and re-organize its top priorities to identify what specific occupational workforce issues and strategies they should pursue. Future meetings will include discussions about how the committee will re-vamp efforts to address the most appropriate workforce needs in the state. Additional updated statewide data and information will also be reviewed.

### Aerospace Industry Initiative

The Aerospace Steering Committee, under the direction of Chair, Harold Stinger, President and CEO of SGT, Inc. and Vice Chair, Anoop Mehta, Vice President and CFO, Science Systems and Applications, Inc., presented a very successful Aerospace Workforce Summit engaging 248 stakeholders from industry, government and education. The day long summit included:

- Welcome and opening comments by Dr. James D. Fielder, Jr., Secretary, Department of Labor, Licensing and Regulation and James F. Pitts, Corporate Vice President, Northrop Grumman Electronics Systems.
- A featured leadership forum, moderated by Assistant Secretary Emily Stover DeRocco, U.S. Department of Labor – Employment and Training Administration, included Steny Hoyer, U.S. Congressman, Barbara Mikulski, US. Senator, Jerry Wellman, Vice President, Honeywell, Angela Diaz, NASA Acting Associate Administrator, Nancy Grasmick, State Superintendent of Schools, Freeman Hrabowski, President, University of Maryland Baltimore County (UMBC) and Aris Melissaratos, Secretary of the Department of Business and Economic Development.
- Norman Augustine, former CEO and President of Lockheed Martin Corporation and Chair of the *Gathering Storm Report Committee on American Competitiveness*, was the featured luncheon speaker.
- The introduction of the industry monograph that presents a comprehensive profile of the aerospace industry in Maryland, current and projected workforce issues and recommendations on solutions, strategies and initiatives.
- Strategy work sessions on identified critical issues to develop a plan of action to address the top prioritized workforce issues. The work sessions focused on the K-12 Pipeline, the Higher Education Pipeline, Recruitment, Training and Development, Industry Collaboration and Security Clearances.

With the completion of its industry summit, the aerospace initiative is in the Implementation Phase and will soon complete its Post Summit Report for distribution. The Monograph and Post Summit Report will be forwarded to MHEC for gap analysis.

A smaller core of selected leaders representing all segments of the industry will make up the Implementation Team and will be responsible for guiding the subcommittees in their work to develop and administer the plan of action to address prioritized industry workforce issues.

### Hospitality & Tourism Industry Initiative

The Hospitality & Tourism Steering Committee Co-Chairs Tom Hall, a consultant with the Thomas H. Hall Company and former executive with Six Flags Inc. and Tom Warren, a consultant at CPI New Options, Inc. with over 20 years experience with Fortune 500 size Hospitality Firms, direct the committee work of this group.

During the most recent quarter, the focus of the Hospitality & Tourism Steering Committee has been on three identified industry issues. The Steering Committee established three subcommittees with representatives from food services, accommodations, scenic and sightseeing transportation/travel arrangement and performing arts, spectator sports and related industries. The subcommittees will identify the issues and their impact on the industry, as well as suggested action goals and initiatives. The subcommittees and their chairs are:



- Supply Pipeline Subcommittee; Co-chairs Sandy Shaw, Sodexo and Fred Kramer, Marriott International
- Industry Image Subcommittee; Co-chairs Janet Porter, Six Flags and Marcia Harris, Restaurant Association of Maryland
- Skills Subcommittee; JoAnn Hawkins, Howard Community College and Dave Lycett, Abacus

The subcommittees continue to gather data and information on their respective issues and will present a final report in the summer of 2006. Each subcommittee meets outside, as well as during the full steering committee meetings and presents their progress reports at the end of each monthly meeting.

The steering committee has begun its efforts in the formal development of their industry monograph and will incorporate the final work of each of the subcommittees. Also, the steering committee has initiated its discussions on a targeted timeframe for holding its industry summit in early 2007.

#### Bioscience Industry Initiative

Dr. Wayne T. Hockmeyer, Founder and Chairman of MedImmune, Inc., serves as the Chair of the Bioscience Industry Steering Committee. Meetings are hosted by MedImmune, Inc. and other industry partners. During this quarter, the three subcommittees continued gathering information and formulating their recommendations. The subcommittees and their chairs are:

- Definitions Subcommittee - Chair Ken Carter, President and CEO of Avalon Pharmaceuticals, Inc.
- Workforce Issues Subcommittee - Chair Bob Eaton, President, MDBio
- High-Demand Occupations in Maryland Subcommittee – Co -Chair, Pam Lupien, Vice President, Human Resources, MedImmune, Inc. and Jeanne Hugg, Director of Human Resources, Avalon Pharmaceuticals. This subcommittee has completed its work and will begin addressing additional issues.

GWIB expects to launch the remaining nine industry sectors no later than August 31, 2006.

#### Technical Assistance, Outreach and Education

During the most recent quarter, the GWIB Center for Industry Initiatives delivered a number of presentations on its demand-driven, cluster-based industry initiatives. The more notable presentations include the following audiences:

- A workforce development delegation from China
- Fort Detrick commanding officers and staff in Frederick, Maryland
- Participants attending a workshop hosted by U.S. DOL at the Sheraton Inner Harbor in Baltimore, Maryland
- Faculty and staff of The Community College of Baltimore County
- UMBC's Center for Women in Information Technology
- National Governor's Association meeting in Washington, D. C.
- Workforce Innovations meeting in Washington, D.C.
- A staff-to-staff meeting with Maryland Business Roundtable for Education (MBRT)

## **Utilization of Career Clusters as a Common Framework for Workforce Development:**

MSDE is working in tandem with GWIB to establish a career cluster approach to career and technology education. In 2006, MSDE produced, in collaboration with Maryland's community colleges and MHEC, documents promoting the career cluster framework including: "*Maryland Career Clusters*" and "*Prescription for Career Success*".

### Maryland State Department of Education

#### **Why Maryland implemented Career Clusters.**

Maryland Career and Technology Education (CTE) developed its Career Cluster Framework as a response to the ever changing economy and the demands of school reform. Today's global economy requires the dimensions of value, speed, and agility as integral parts of the workplace. Employees need to be able to work on cross-functional teams that troubleshoot, design, and analyze rather than merely perform routine procedures and tasks. As the organization of work continues to evolve, everyone must be prepared to change careers, not just jobs.

From the workplace has come continuous demand for expanding and improving high school CTE programs of study. As early as 1989, Maryland's Commission on Vocational Technical Education was asking for a new, more systemic approach to preparing young people for entry into careers, not just jobs. At the turn of the century, three consecutive surveys conducted by the Maryland Business Roundtable for Education (2001) identified secondary CTE as the most important public policy issue on its agenda. Most recently, the Governor's Workforce Investment Board's Industry Initiative organized workplace demand using industry clusters. Expectations for student success were changing not just in the workplace, but also academe. More students were seeking postsecondary education. This meant that more students needed to meet the higher academic requirements required for college admission. Preparing more students for higher level academic performance required new instructional strategies, including enhanced student engagement and academic integration. In order to better serve students, many high schools began restructuring into smaller learning communities.

Maryland's Career Clusters are a response to all of the above. They are an organizing tool for educators to provide broader, more durable preparation for the world of work. Clusters offer a common language, understandable by education and workforce partners. We are using Career Clusters to develop/revise CTE programs of study, to establish career academies/smaller learning communities, and to inform Maryland's Career Development Framework.

The ten Career Clusters are aligned to Maryland's projected demand fields and workforce shortage areas. They are:

- Arts, Media and Communication
- Business Management and Finance
- Construction and Development
- Consumer Services, Hospitality, and Tourism
- Environmental, Agricultural, and Natural Resources Systems
- Health and Biosciences
- Human Resource Services
- Information Technology

- Manufacturing, Engineering, and Technology
- Transportation Technologies

### **How are Career Clusters helping to improve student journeys along the learning continuum?**

The Maryland State Department of Education (MSDE) in collaboration with partner agencies and statewide industry advisory groups developed ten (10) Career Clusters that represent core business functions across broad industry areas in the state. Business partners further identified career pathways based on the end-to-end business process within career clusters. This representation of industry clusters and pathways is provided in the MSDE publication *Maryland Career Clusters* and serves as a starting point for the identification of CTE Pathway Programs.

To facilitate the development of new programs and the continuous improvement of existing programs, MSDE has identified model CTE pathway programs called *Fast Tracks*. These are CTE programs that not only meet the requirements for program approval, but also include curriculum and professional development resources that promote rigorous, industry responsive instruction and facilitate consistent replication across the state.

*Fast Track* programs are partner-developed or developed through a statewide collaborative process following state policies and procedures.

The following key elements are a part of all *Fast Track* programs:

- Standards-based curriculum aligned to industry/technical skill standards, academic standards, and skills for success;
- Value-added options for students through industry certification, advanced standing, or college credit earned while in high school;
- Work-based learning opportunities for students directly related to the CTE pathway program;
- Oversight and quality assurance through program certification and/or industry advisory groups;
- Teacher professional development for initiation of the program as well as on-going upgrades; and
- Program sustainability plan for costs for implementation and ongoing quality to keep pace with industry requirements.

Career Clusters offer clear educational pathways that students can begin in K-12 and continue in college and into the workplace. CTE Pathway *Fast Track* Programs have demonstrated value-added to students through direct articulation or through industry recognized certification for a career pathway. Articulation agreements can now become statewide allowing students greater choice in the selection of a postsecondary institution. *Fast Tracks* also offer the opportunity for transcripted credit, again, providing students with more choices and with college credit in conjunction with high school graduation.

## **Do Clusters support education reform, economic development, and workforce development?**

Maryland's Career Clusters are driven by what students need to know and be able to do in order to graduate prepared for further education and careers. Career Clusters provide important context for educational reform initiatives by directing students toward focused programs of study that make the high school experience more meaningful, more relevant. Not unlike choosing a major in college, Career Clusters provide students an opportunity to select a field of interest while they are still in high school. When students are interested and engaged, learning takes place.

Economic development and workforce development also benefit from the Career Cluster Framework. Maryland's economy is booming. Employers compete for (and often import) the qualified workforce they need in order to sustain and grow their businesses. Career Clusters provide the structure to allow the educational system to partner with business and to more quickly respond to its needs. Effective partnerships and a steady stream of well prepared employees leaving Maryland's schools and colleges will surely help attract and retain businesses to our state.

Examples include:

- Maryland's high school Project Lead the Way pre-engineering programs, now in 35 high schools extends the work of the Aerospace Industry cluster. Students earn articulated credit toward two- and four-year technical or professional engineering degrees;
- industry certified auto technology programs where students take industry end-of-program exams and can articulate 18 credits toward an associate degree at the Catonsville campus of CBBC;
- IT Networking programs in partnership with CISCO yield industry certification and students ready for Maryland IT industry;
- IT Database programs in partnership with Oracle yield industry certification and students ready for Maryland IT industry;
- The Teacher Academy of Maryland in partnership with USM, MHEC, TSU, and numerous other two- and four-year institutions. The program, aligned with the AAT, requires teachers to complete a summer training program before being eligible to teach the secondary coursework. Students begin pursuing interests in a teaching career while still in high school, can earn articulated credit, and can help address MD's teacher shortages.
- New Construction field programs of study for the Construction Industry where curriculum and professional developed are supported by the National Center for Construction Education and Research.
- A new Biomedical program is being created in partnership with Project Lead the Way and five other states. Its project-focused instruction aligned to national math and science standards is contributing to the work of the GWIB's biomedical industry intuitive.
- MSDE's new Culinary Arts program developed in partnership with the American Culinary Federation support the work of GWIB's Hospitality and Tourism Industry Cluster.

### **Action Recommendation 5.9:**

Provide improved data required by educational institutions to respond effectively to shifting workforce needs. The Maryland Higher Education Commission will collaborate with the Department of Labor, Licensing and Regulation (DLLR), the Governor's Workforce Investment Board (GWIB), and others to:

Define a process for identifying emerging demand fields and workforce shortage areas based on supply and demand data that are appropriately validated by employers, employer associations, and any licensing boards.

**Lead:** Department of Labor, Licensing, and Regulation

**Progress Made/Action Taken:**

See response to recommendation 5.10 below.

**Action Recommendation 5.10**

Provide improved data required by educational institutions to respond effectively to shifting workforce needs. The Maryland Higher Education Commission will collaborate with the Department of Labor, Licensing and Regulation (DLLR), the Governor’s Workforce Investment Board (GWIB), and others to:

- a. Regularly compile, validate, and report supply and demand data for industry clusters on a state and regional basis;
- b. Define a process for identifying emerging demand fields and workforce shortage areas based on supply and demand data that are appropriately validated by employers, employer associations, and any licensing boards;
- c. Periodically measure the supply of graduates to determine progress in expanding the pipeline of graduates for demand fields and workforce shortage areas; and
- d. Collect and report comparable enrollment and graduate data for all types of postsecondary education including noncredit workforce training.

**Lead:** Maryland Higher Education Commission

**Progress Made/Action Taken:**

- a. Regularly compile, validate, and report supply and demand data for industry clusters on a state and regional basis.

The Maryland Higher Education Commission is working with DLLR and GWIB to provide supply and demand data for industry clusters in an effort to improve data required by educational institutions to respond to shifting workforce needs. In 2004, MHEC prepared the report on “*Maryland’s Top 25 Demand Healthcare Occupations*” that compares the demand for qualified healthcare workers in Maryland and the supply provided by Maryland postsecondary institutions. The report identifies: (1) Maryland’s top 25 demand healthcare occupations based on Maryland 2000 – 2010 Occupational Projections and (2) the supply provided by more than 200 healthcare programs offered by 15 colleges/universities, 16 community colleges, and 19 private career schools. The study identifies any gaps between the supply and demand for these 25 healthcare occupations.

In 2006, MHEC also compiled supply data for the following industry clusters: (1) aerospace and (2) hospitality and tourism. In addition, a report on the supply and demand for science, technology, engineering, and math (STEM) programs will be produced.

During Fall 2006, a statewide listening tour is being co-sponsored by the Maryland higher education community and the Governor's Workforce Investment Board (GWIB). The tour will make six stops across the state to identify Maryland's workforce and economic development needs.

#### Governor's Workforce Investment Board

The Department of Labor, Licensing, and Regulation (DLLR) has recently signed an agreement with Towson University to develop the foundation for the State of the Workforce Report (SOWR). The first version will include a historical perspective of Maryland's employment picture over the last fifty years, as well as existing data from the healthcare and aerospace industry initiatives. The report is expected to be completed by September 30, 2006. Subsequent editions will be produced as additional industry sectors complete their industry monographs. The SOWR will be an "evergreen" document and will become the standard document portraying workforce needs and projected occupational change for use by all "supply-side" organizations. It will also provide the best industry-fed workforce demand intelligence available and will be used to develop policy and strategies for the Governor.

#### University System of Maryland

The USM is currently completing a major study of workforce development. The study focuses on key workforce areas as identified by the GWIB and other state agencies. It will examine production of graduates, appropriateness of fit to current State needs, and development of planning resources. It is anticipated that the study will be completed by January 2007. It is expected that this study will form the basis for policy decisions regarding the enhancement of our recruitment plans, retention and graduation rates, and the appropriate expansion of enrollment capacity in key workforce areas.

b. Define a process for identifying emerging demand fields and workforce shortage areas based on supply and demand data that are appropriately validated by employers, employer associations, and any licensing boards.

A process for identifying workforce shortage areas will be developed in 2006 as part of the consolidation of Maryland's career and occupational scholarship programs. As a result of a workgroup that was appointed during the 2005 interim, legislation was introduced and passed during the 2006 General Assembly session to consolidate workforce related financial assistance programs administered by the Office of Student Financial Assistance into one program and establish a workforce model to identify critical workforce occupations to be incorporated into the program to ensure the program assists with meeting the workforce needs of the State. To develop the workforce model, an advisory council has been appointed, and MHEC will work collaboratively with DLLR and GWIB in compiling occupational, enrolment, and graduation data. The advisory council will meet over the next year and recommend to MHEC, in the fall of 2007, new occupations to be included in the scholarship programs for the 2008-2009 academic year.

c. Periodically measure the supply of graduates to determine progress in expanding the pipeline of graduates for demand fields and workforce shortage areas.

MHEC periodically measures the supply of graduates for demand fields and workforce shortage areas. In 2006, MHEC will update the report on “*Maryland’s Top 25 Demand Healthcare Occupations*” to measure the State’s progress in closing the gaps between the supply and demand in Maryland’s healthcare fields. In 2006, MHEC also conducted a *Teacher Capacity Study* and a *Nursing Capacity Study* to assess the current enrollment capacity of these high demand programs and the ability of these programs to expand to meet an increasing demand for nurses and teachers.

d. Collect and report comparable enrollment and graduate data for all types of postsecondary education including noncredit workforce training.

For purposes of the federal Workforce Investment Act (WIA), MHEC annually collects and reports comparable enrollment and graduate data for all types of postsecondary education participating in WIA including noncredit workforce training. A common methodology is used to collect and report WIA data on more than 800 occupational training programs offered by 99 training providers including community colleges, private career schools, and independent and public colleges and universities.

MHEC also compiles comparable graduate trend data for all types of postsecondary institutions when it conducts supply and demand reports. This includes supply data for the following industry clusters: (1) aerospace, (2) hospitality and tourism, and (3) healthcare.

**Action Recommendation 5.12:**

Increase the supply of qualified graduates in identified high-demand fields and workforce shortage areas by adopting strategies tailored to specific occupational fields. High demand fields and workforce shortage areas currently identified are biotechnology, construction, education, health and nursing, high technology, and hospitality and tourism. Strategies include those listed below:

- a. Increase graduates by improving retention and reducing dropouts;
- b. Expand enrollment capacity by increasing (i) faculty, (ii) facilities, and (iii) internships;
- c. Improve access to education throughout the state;
- d. Design fast-track programs for career changers with related degrees and/or experience;
- e. Increase the interest and ability of a diverse and non-traditional population to pursue programs in demand fields;
- f. Stabilize program costs by improving institutional effectiveness and efficiency; and

**Lead:** Institutions and Segments

**Progress Made/Action Taken:**

*Maryland Association of Community College*

The community colleges are uniquely positioned to address educating Marylanders in high demand and workforce shortage fields. Their flexibility in developing new programs and historic open access mission allows the colleges to affect real improvements in these areas.

The community colleges have re-committed their efforts to improve retention and success, including Early Alert systems to identify at-risk students, restructuring programs to enhance student success, expanding access for tutoring and mentoring. The new degree progress indicators incorporated into the colleges' Performance Accountability Reports allow significantly improved tracking and monitoring of student progress during and after their community college experience. According to the latest data for the Fall 2001 entering class, 66% students were successful or still enrolled.

The colleges have expanded capacity and access through increased programs and options for delivery. Distance learning and hybrid course enrollments have experienced double-digit annual increases in the past several years. Course offerings during evenings and weekends have expanded, including Sunday classes at Baltimore City Community College (BCCC). More colleges are offering shorter more intense courses, such as two eight-week evening course sessions beginning this fall at Wor-Wic Community College.

Programs and certificates available in the high demand fields have increased across the state, among these are 10 new non-credit certificate programs at College of Southern Maryland (CSM), 3 new programs at BCCC, additional course offerings in welding at Carroll Community College, new courses in Allied Health at Community College of Baltimore County (CCBC), new AA degrees in high tech at Allegany, and 3 new programs in Allied Health at Howard Community Colleges. CCBC added a practical nursing program and used a \$3 million National Science Foundation grant to develop a Maryland Center for Manufacturing Educational Excellence. Wor-Wic is implementing an Associate of Science transfer degree this fall.

Under the leadership of MHEC, community colleges have joined with the public and private colleges and universities to develop an Associate of Science in Engineering (ASE) degree. When completed, the degree program will substantially increase the number of Science Technology Engineering and Math (STEM) graduates from Maryland higher education institutions. Given the demographics of community college students, it is likely that the ASE degree will also increase the number of minorities entering the engineering profession and other related high demand fields.

Colleges also partner with local entities to offer programs and courses focusing on local needs, such as Allegany College's courses in historic construction and repair skills with the Historic Preservation Institute, Hagerstown's Job Training Institute and Garrett College's Mountaintop Truck Driving Institute. Garrett is also a partner in the Adventure Sports Center International expanding educational, economic and recreational opportunities in tourism.



Accelerated programs at the community colleges include social work at Cecil Community College, nursing at Howard Community College, and alternative teacher certification programs at multiple colleges. CSM, Prince George's Community College (PGCC) and Anne Arundel Community College have partnered with University of Maryland University College to provide an accelerated master's (2+2+1) in teaching program to meet needs for "highly qualified" teachers.

The community colleges have successfully increased the diversity of their student population as well as faculty and staff. Minority enrollment increased from 43% in Fall 2002 to 46% in Fall 2005. Minority faculty and staff increased from 28% of total employees to 29% during the same period. The colleges have especially targeted minority participation in high demand fields, eg. PGCC's STEM Division Science Laboratory Community Outreach science courses reaching 115 Prince George's County middle and high school students. The colleges' participation in Project Lead the Way encourages high school students of all ethnicities to consider entering science and engineering careers. In addition to recruitment efforts, emphasis on improving success rates has increased retention and graduation rates among minority community college students across the state.

The community colleges utilize a wide variety of cost containment measures to limit costs of providing education services regardless of the type of program. These measures include consortium contracts to obtain volume discounts for purchases of products and services, reorganization of staff and faculty functions to reduce personnel requirements, greater use of electronic communication reducing printing, postage and travel costs, outsourcing or in-sourcing to obtain the lowest cost, as well as small but effective measures such as using industrial rather than brand-name cleaning products. The colleges are constantly searching for additional ways to minimize costs while maximizing quality of educational services.

The workforce shortage areas identified by the Governor's Workforce Investment Board in 2004 are: Aerospace, Biotechnology, Building, Business Services, Communications, Education, Finance & Insurance, Healthcare, Hospitality & Tourism, Information Technology, Manufacturing, Retail, and Transportation & Warehousing. The community colleges have devoted many of their initiatives to addressing education needs in these areas.

The number of teacher education transfer degrees at Maryland community colleges has increased by 94 graduates between FY 2003 and FY 2005, or 37%. Enrollment in teacher education degrees has varied but remained a little over 4,000 students each fall. The Associate of Arts in Teaching has improved the through-put and degree attainment of students in the teaching programs.

The number of health services career associate degrees at the community colleges increased by 472 graduates, or 37% between FY 2003 and FY 2005. Enrollment of health services students has varied during the past two years, but remains nearly 70% higher than in FY 2001. The number of new nursing candidates educated at Maryland's community colleges passing their licensing exams increased by 173 nurses or 17% between 2003 and 2005. Certificates in Health Service were awarded to 134 more students, or a 29% increase, in 2005 versus two years earlier. Between 2003 and 2005, associates career degrees in Business Technology increased by 83 graduates or 13%; Information Technology (IT) declined by 53 awards or 10%; and Engineering

and Science degrees increased by 77 students or 39%. Business Administration transfer degrees increased by 62 awards, or 9%; while Engineering and IT transfer degrees slipped by 47 awards, 18%, probably due to reduced demand for IT professionals. Certificate credit programs at the community colleges also expanded to meet demand for qualified employees: Business Technology certificate awards surged by 226, 48%; while Information Technology certificates declined 138, 35%. Engineering and Science certificates also slipped, by 26 awards, or 11%. The community colleges and the University System of Maryland have just initiated a project to develop an Associate of Science in Engineering model based on the Associate of Arts in Teaching degree, which will improve efficiency of transfer for these students and, hopefully, encourage a growth in engineering similar to the teaching programs in Maryland.

#### Maryland Higher Education Commission

Funding for the Janet L. Hoffman Loan Assistance Repayment Program has increased by \$1.5 million since FY 2004. The \$1 million increase during FY 2005 was to address the State's shortage of nurses, nurse faculty, and teachers. The additional \$500,000 in FY 2006 provided for additional awards across all eligible occupations, which include lawyers, nurses, nurse faculty members, physical and occupational therapists, social workers, speech pathologists, physician assistants, and teachers in critical shortage areas or in Title I schools or schools designated for improvement.

To provide a greater incentive for students to enter the above occupations and retain them over a multi-year time frame, a new awarding methodology has been implemented. This methodology provides awards based upon a student's total debt over a 3-year time frame. The award amounts have increased significantly with this change. MHEC will evaluate the impact of changes at the end of the first awarding cycle to determine the impact and if further adjustments need to be made.

#### Maryland Independent College and University Association

a. Increasing graduates by improving retention and reducing dropouts: The close personal attention from faculty and low faculty-to-student ratios at MICUA institutions increase the chances for students to succeed. As a result, MICUA's first-year retention rate for full-time undergraduates (84%) is meaningfully higher than that of Maryland's public colleges and universities, at 80.8%.

This pattern of higher retention continues as undergraduates advance toward their degrees. As noted in Item 21, favorable four-year graduation rates have been a hallmark of independent institutions nationally. This achievement holds true in Maryland, where the MICUA four-year graduation rate is almost twice that of the public institutions (65% to 35% based on IPEDS data). As a result, while MICUA institutions have 17% of State-wide FTE enrollment, they produce 23% of the State's degrees.

b. Expand enrollment capacity (in workforce shortage areas): MICUA is expanding enrollment capacity in many of the workforce areas identified by the Pappas Commission, including teaching, nursing, hospitality, and science and technology.

- Teaching

Currently, Maryland is experiencing a severe shortage of teachers; and the Maryland Higher Education Commission has identified teacher preparation as a demand field. In AY 2003-2004, MICUA colleges attained a 30% increase in teacher graduates, producing 878 new teacher candidates. Several MICUA member institutions implemented innovative programs to achieve these results, including evening and weekend programs. At this time, MICUA member institutions produce 34% of all new teacher candidates.

- Nursing

In addition, the State is experiencing a severe shortage of nurses. Several MICUA member institutions offer nursing degrees. Approximately 36% of all BS degrees in nursing are awarded by MICUA institutions. The number of bachelors' and masters' nursing degree recipients from MICUA institutions increased by 226% from 1991 to 2005.

To increase the supply of new nurses, Villa Julie College launched the Nursing Distance Education Program, partnering with six Maryland community colleges and area hospitals. This distance learning program uses full-motion video to supplement face-to-face instruction, allowing nurses across the state to take classes at their place of employment or at a local community college.

The Johns Hopkins University School of Nursing graduates more new baccalaureate registered nurses each year than any other institution in the State. The Schools offers baccalaureate, master's, and doctoral programs, plus graduate certificate programs to more than 600 students each year. In addition, Johns Hopkins University is building a new nursing facility to expand its capacity to produce additional nurse faculty and nurse practitioners.

The Edyth T. James Department of Nursing at Columbia Union College is the oldest accredited nursing program in Maryland. With more than 200 students each year, the Department is positioned to help meet the demanding requests for nurses throughout the State.

After just two years, College of Notre Dame of Maryland's accelerated nursing program has more than 400 students. For further details on this program, see Item 40d.

- Hospitality

Hospitality is the largest industry in the world, and one of only a handful of industries expected to continue to grow for the next 20 years. Baltimore International College (BIC), a MICUA member, is the region's leading institution for culinary arts and hospitality management degrees. Founded in 1972, BIC is a regionally accredited, independent college offering specialized bachelor's and associate degrees and certificates through its School of Culinary Arts and School of Hospitality Business and Management. The college's programs are taught by industry-experienced chefs and professors from around the world and incorporate a blend of theory and academics with hands-on experience.

BIC's annual trimester enrollment has increased by 33% since 1996. The college recently opened a new Culinary Arts Center in Baltimore's Little Italy neighborhood. Partially funded with a State capital grant, the Center more than doubles BIC's educational space, with eight new

culinary arts laboratories featuring current and prototype commercial foodservice equipment. The college serves a wide range of students, including many non-traditional career changers. Many students are the first in their families to attend college.

- Science and Technology

MICUA institutions produce a large share of the State's degrees in the "STEM" (Science, Technology, Engineering, and Math) fields. These degree-holders are not just graduates of Johns Hopkins University. Twelve MICUA institutions, including liberal arts and professionally-oriented institutions, produce STEM graduates. While MICUA institutions produce 23% of the State's degrees, they produce 27% of the State's STEM degrees.

Capitol College, Maryland's only college dedicated exclusively to engineering and related fields, prepares students for high-tech careers that are vital to Maryland's economy. Capitol College is the only institution in Maryland that guarantees students that they will receive a job offer upon graduation.

Sojourner-Douglass College is an active participant in the NASA-funded Network Resource Training Site Program and Project Space Hope. Both programs provide disadvantaged students with the tools they need to participate in the technology economy.

- Cooperation with Community Colleges

MICUA is also expanding capacity through institutional transfer and articulation agreements with Maryland's community colleges. Nine MICUA Institutions participate in ARTSYS, the State's articulation database that eases transfer for Maryland's community college students. For example, Mount St. Mary's University has ARTSYS articulations with Frederick, Carroll, Hagerstown, Montgomery, and Prince George's community colleges. The Mount's Continuing Studies Division, which offers degree-completion programs in Business and Elementary Education, allows adult learners to transfer into the programs up to 75 credits from Maryland community colleges and other regionally accredited two-year institutions.

Other programs include: "dual admission" programs; guaranteed transfer placement; targeted transfer student recruitment; and "two plus two" programs. In all, MICUA institutions have 132 articulation agreements with Maryland's community colleges. Transferees from Maryland community colleges account for about half of all transferred new undergraduates at MICUA institutions. For at least seven MICUA institutions, transferees from Maryland's community colleges constitute 10% or more of new undergraduates, and for three MICUA institutions, community college transferees account for 25% or more of new undergraduates

- Listening Tour

Finally, MICUA is participating in a statewide listening tour co-sponsored by the Maryland higher education community and the Governor's Workforce Investment Board. The tour will make six stops across the state during the fall of 2006 to identify Maryland's workforce and economic development needs.

c. Improve access to education throughout the State: MICUA institutions offer programs throughout the State, at their own satellite locations and at the State's Regional Higher Education

Centers (RHECs), such as the Southern Maryland Center and the HEAT Center in Harford County. In total, the 18 MICUA institutions have 102 locations, including main campuses and off-site campuses, around the State. These locations are spread among 18 counties and Baltimore City to offer educational access to students throughout the State. As discussed above, MICUA's many articulation agreements with community colleges across the State provide opportunities for Marylanders of all regions to attend MICUA institutions.

d. Fast-Track programs for career-changers: After just two years, College of Notre Dame of Maryland's accelerated nursing program has more than 400 students, made up of 22 cohorts from 11 hospitals throughout the State. The program was launched in response to the needs of nurses and hospital administrators and allows students to complete the Bachelor of Science in Nursing degree in two-and-a-half years. Notre Dame also brings the program into the workplace, offering courses at a convenient time and location.

Mount St. Mary's University operates a non-traditional undergraduate program. Degree completion programs in business and criminal justice are offered in an accelerated studies format. In addition, a degree completion program in elementary education is offered through a weekend college format.

e. Diverse and non-traditional populations in high-demand fields: The Dunbar-Hopkins Health Partnership provides extra academic assistance, SAT coaching, and lab experience for students interested in the health professions. Since 1996, over 1,200 Baltimore City students have gone through the program.

Ten percent of Baltimore City public school teachers were recruited and trained through Project Site Support, a collaboration between Johns Hopkins University, Morgan State University, and UMBC. This program helps career changers and has an 85% retention rate. This program also serves Baltimore and Montgomery counties.

Capitol College collaborates with government agencies, private industries, and nonprofit organizations to meet the demands of Maryland businesses. In partnership with NASA Goddard Space Flight Center, Capitol operates a six-week summer program for minority high school students to introduce them to engineering and prepare them for the rigors of a math- and science-heavy college curriculum.

In 2003, Loyola College in Maryland opened the Clinical Centers for speech-language pathology in Baltimore's Belvedere Square neighborhood. There, graduate student clinicians deliver traditional therapies and innovative treatments while under the supervision of licensed or board-certified professionals. The Clinical Centers, which serve individuals from 10 months old through late adulthood, represent Baltimore's first comprehensive approach to the physical, intellectual, and spiritual well-being of the community.

From its distinctive vantage point along the shores of the Chester River, Washington College is training students in field archaeology, from surveying and mapping to excavation and artifact analysis. These investigations contribute to a greater understanding of past cultures of

Maryland's Eastern Shore—Native American, African American, colonial, and post-colonial—and enriching our appreciation for the evolution of Maryland history.

Sojourner-Douglass College's Transportation Institute Partnership provides job training and entrepreneurial opportunities for unemployed persons who desire a career in the transportation industry. This program is a transportation brokerage designed to improve mobility for Baltimore citizens, and it serves job seekers, job developers, staffing agencies, employees, employers, and the general public.

f. Improving effectiveness and efficiency: MICUA institutions continually strive to improve effectiveness and efficiency. As noted above, students at private colleges are more likely to graduate on time, saving money for themselves, their parents, and the state. Almost 65% of private students graduate in four years, compared to 35% of students at public universities. Faculty salaries are relatively modest and have in some cases been frozen or reduced to contain tuition cost increases. While offering small class size and personal attention from faculty, private colleges still keep teaching costs low. Private colleges are actively engaged in new and efficient learning structures, offering classes through satellite branches and regional higher education centers, and providing on-line courses, work-based learning opportunities, and other non-classroom experiences. Private colleges have developed shared procurement contracts and are exploring new opportunities to reduce costs through collaborative arrangements.

#### Morgan State University

Morgan plays an important role in diversifying the workforce in fields that are critical to the economy. In most key fields in which it offers programs it is one of the leaders in the state in the number of degrees awarded to African Americans. It also ranks high nationally in degrees awarded to minorities in key fields. Resources are the key constraint for the University in expanding the pool of graduates. It needs additional faculty and insufficient financial aid is a significant barrier for many of its students.

#### St. Mary's College of Maryland

In terms of quantity, St. Mary's most effectively serves the workforce by creating liberal arts graduates with majors in specific disciplines. St. Mary's helps meet significant demand needs in K-12 education by training teachers in a program commended by the Maryland State Department of Education. The recently-initiated MAT (Master of Arts in Teaching) program further strengthens our role as a provider of teacher training within the State. The first graduates of this one-year program are anticipated in 2007, with forty graduates per year anticipated within ten years.

St. Mary's College has long enjoyed the highest retention and graduation rates of any Maryland public college or university, both overall and by racial category (see MHEC, *Retention and Graduation Rates at Maryland Public Four-year Institutions*). Efforts are currently underway to improve upon these records by implementing a more integrative core curriculum and by improving and expanding our academic and residential facilities.

Over half (55%) of our ten-year-out alumni report going on to graduate school, with 95% of these reporting that St. Mary's provided good or excellent preparation for their graduate

studies. Overall, 89% of these alumni report that they would attend St. Mary's if they could do it over again.

Needs in STEM disciplines are also represented, as biology and psychology are two of the three most popular majors over a multi-year period. Students in these majors, and most St. Mary's graduates, complete a St. Mary's Project. These projects are 8-credit, student-developed projects intended to allow the student to integrate their course experiences and demonstrate readiness for graduate school or the workforce.

#### University System of Maryland

During the process of program approvals, institutions must address the need for the program, the potential student population, and how the institution will draw from this population. The USM Board of Regents receives an annual review of existing programs. The reviews include both a self-study and an external review and departmental/college/institutional action plan for addressing recommendations, including mechanisms for following up and assessing progress.

#### Maryland Higher Education Commission

MHEC will administer the Nurse Support Program II (NSP II) to increase the supply of bedside nurses in Maryland by expanding the capacity of Maryland nursing programs. Beginning in July 2006, the Health Services Cost Review Commission (HSCRC) will increase patient hospital rates by .01% to fund NSP II. More than \$9 million will be provided annually to NSP II for a ten year period. MHEC will collect and distribute NSP II funding for: Competitive Institutional Grants and Statewide Initiatives to include Nursing Faculty Scholarships, Nursing Scholarships, Living Expense Grants, and New Faculty Fellowships. NSP II will: (1) increase graduates by improving retention and reducing dropouts, (2) expand enrollment capacity by increasing faculty, facilities, and internships, and (3) increase the interest and ability of a diverse and non-traditional population to pursue programs in demand fields.

#### **Action Recommendation 5.13:**

Promote, facilitate, and coordinate the participation and support of all postsecondary institutions in Maryland's workforce development initiatives. This includes maximum institutional participation in workforce programs such as Maryland Business Works (MBW), the Workforce Investment Act (WIA), and Partnerships for Workforce Quality (PWQ).

**Lead:** Governor's Workforce Investment Board (GWIB)

#### **Progress Made/Action Taken:**

##### Department of Business and Economic Development

The Department continues to provide workforce training grants through Partnerships for Workforce Quality (PWQ) to companies to assist with the training of their workforce. When possible, employers are encouraged to use the expertise of community colleges network in delivering training services.

To promote, facilitate, and coordinate the participation and support of postsecondary institutions in Maryland's workforce development initiatives, DBED created a liaison position to work between the institutions, DBED, and the business community.

#### Governor's Workforce Investment Board

Maryland's postsecondary institutions are actively engaged in WIA activities including providing key leaders to serve on the GWIB. Higher education members represent public, private university, college and community college institutions. Two community college presidents, one public university president and one private university vice president are members of the GWIB. Additionally, MHEC staff and other four-year and community college staff members attend industry sector steering committee meetings and actively participate in board sponsored events and activities such as industry summits and the Governor's Workforce Conference

#### Maryland Higher Education Commission

MHEC encourages postsecondary institutions to participate in workforce development initiatives by regularly informing them of opportunities to become involved. In FY 2005, a record 99 training providers participated in the federal WIA program by providing occupational training to Maryland's unemployed and underemployed. These training providers included 16 community colleges, 53 private career schools, and 9 public and independent colleges and universities. In total, these training providers offered nearly 800 training programs to students funded through WIA.

The role of MHEC is to assist the Department of Labor, Licensing, and Regulations with the implementation of WIA in Maryland and facilitate the participation of Maryland postsecondary institutions in WIA. Specifically, MHEC is charged with: (1) establishing the Maryland State List of Occupational Training Providers and (2) annually collecting and compiling program performance data to determine whether each program meets the minimum 61% employment rate required to remain on the Maryland State List.

#### **Action Recommendation 5.14:**

Establish an Education Committee (preK-16) of the GWIB to promote and maximize employer participation in education, research, and workforce development. This includes employer assistance with: (a) curriculum development; (b) internships and clinical sites; (c) visiting and on-loan faculty; (d) tuition reimbursement and scholarship assistance; (e) solicitation for grants and outside funding; and (f) direct donations of personnel, time, money, and equipment.

**Lead:** Governor's Workforce Investment Board (GWIB), Institutions, and Segments.

#### **Progress Made/Action Taken:**

The Governor's Workforce Investment Board (GWIB) is considering a proposal to establish an Education Committee to promote and maximize employer participation in education, research, and workforce development. GWIB and MHEC are working collaboratively to define the Education Committee's proposed charge, structure, membership, and relationship with other employer groups.



### Governor's Workforce Investment Board

Goals and strategies developed by board members at the recent GWIB advance held on June 7, 2006, will serve as the foundation for a strategic plan being drafted for the full board's approval at the September 20, 2006 meeting. Preliminary findings indicate a strong interest in developing an education committee of the board. If established, the board will consider the recommendations mentioned above when determining the scope and focus of the committee.

### Maryland Independent College and University Association

MICUA and several of its member institutions joined the Maryland Business Roundtable for Education (MBRT), the Greater Baltimore Committee, and the Maryland Chamber of Commerce. In addition, MICUA members are actively involved in the Washington Bureau of Trade. MICUA representatives have spoken about education issues at various events hosted by these groups and have encouraged the business community to get involved in Pre-K through PhD issues. In addition, representatives of the independent institutions have volunteered to participate in the Maryland Scholars Speakers Bureau, which brings professionals into the public schools to talk about careers and college. MICUA representatives serve on the K-16 Leadership Committee and the K-16 workgroups that addresses specific issues, such as the early scholars program and the alignment of high school assessment with college entrance. In addition, most of the MICUA member institutions are working directly with local public school systems on numerous issues, including developing strategies for educating and counseling students, integrating technology into the classrooms, managing classroom behavior, reducing dropout rates, and tutoring local students.

### University System of Maryland

Promote employer participation in education (K-16), research, & workforce development. Collaborative work with K-16, MHEC, MBRT, GWIB, DBED, and other agencies provides an avenue to promote employer participation. All new program proposals contain information regarding the need for the program and much of this information is gathered through employer surveys, inclusion of potential employers on program advisory boards, etc.