# 2004 MARYLAND STATE PLAN
# FOR POSTSECONDARY EDUCATION

**MARYLAND**

FOUNDED 1634

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# 2004 MARYLAND STATE PLAN FOR POSTSECONDARY EDUCATION

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# Preamble

The Maryland Higher Education Commission, a body of twelve members appointed by the Governor to coordinate Maryland postsecondary education, is pleased to present the 2004 Maryland State Plan for Postsecondary Education. The plan that follows is the collective work of many—including postsecondary education stakeholders, members of the K-12 arena, legislators, representatives of other Maryland governmental agencies, and business and nonprofit leaders.

The Commission's vision for postsecondary education in Maryland is embodied in the plan's guiding principle: 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 it should be affordable. When implemented, the action recommendations found in this plan will advance the Commission's view that Maryland has a duty to ensure that all its citizens have access to quality postsecondary education. To realize this vision, the Commission and Maryland postsecondary stakeholders must continue their efforts to advocate the importance of postsecondary education.

The case for investing in postsecondary education is compelling because the benefits of an educated citizenry accrue to the economic and social well being of Maryland. Postsecondary education provides workforce training that is crucial to enabling citizens to achieve the knowledge and skills to obtain better jobs. Supporting research, creating intellectual capital, and generating new ideas and new industries are necessary to maintain a strong and competitive State economy.

Maryland postsecondary education is facing dramatic changes in the coming years as the wave of incoming students, including a large number of students who may not be sufficiently prepared, strains capacity and services. Effective planning and coordination are essential to provide Maryland citizens with access to postsecondary education. A plan to accommodate the increased number of students must be thoughtfully conceived and collectively implemented. Without such planning for the future, Maryland runs the risk of failing to meet the educational needs of its people and the needs of the State.

The State and postsecondary education have a mutual commitment to excellence and access. However, we must be ever mindful of the interconnectedness between capacity and quality. As capacity is pushed to the limits, larger classes, greater demand for student services, and increased workload can erode the quality of the education provided to students. To ensure affordability for a growing number of students from low- and moderate-income

families in a time of increasing educational costs, additional need-based financial aid must be provided. Postsecondary education institutions must be accountable and communicate clearly the value added by their programs and services.

The State's commitment to its agreement with the U.S. Department of Education Office for Civil Rights remains a priority. The State must continue its efforts to ensure that the Historically Black Institutions are comparable to and competitive with the traditionally white institutions with respect to all operational and programmatic characteristics. In addition to enhancing the Historically Black Institutions, attention must be paid to reducing the achievement gap between African American students and white students, as well as recruiting more African American students into advanced degree programs. Every effort must be made to ensure that African American students have an equal chance of success.

Our citizens can be proud of the network of postsecondary education institutions that has enabled Maryland to become the most highly educated state in the nation. The vision of the Maryland Higher Education Commission is to have the entire community engaged in the utilization and investment in postsecondary education as a tool for intellectual, social, and economic growth throughout the State. We present the 2004 Maryland State Plan for Postsecondary Education, a product of extensive effort on the part of many stakeholders, to elucidate the major trends in higher education and to recommend actions that will provide initial solutions to the challenges that we face. We ask that you join with us to implement this plan that is essential to sustain the State's position and enhance opportunities required for citizens of Maryland to be successful in this time of rapid change.

The Maryland Higher Education Commission
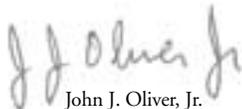
John J. Oliver, Jr.
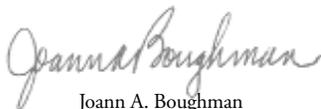*Chairman*

Anne Osborn Emery

Emmett Paige, Jr.

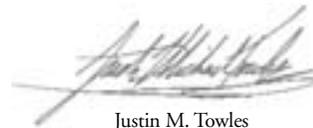Donald J. Slowinski, Sr.
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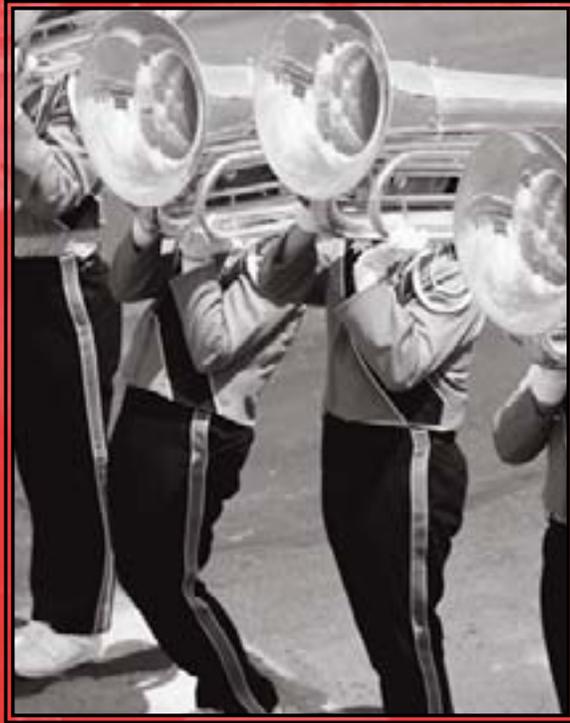
# Introduction

The 1988 law reorganizing Maryland higher education requires the Maryland Higher Education Commission to develop and periodically update a statewide plan for postsecondary education. The purpose of the plan is to guide the development and improvement of postsecondary educational opportunities in Maryland.

On April 27, 2004, a blue-ribbon panel, the State Planning Committee, was appointed by the Governor to advise the Maryland Higher Education Commission in the development of the plan. The panel included representatives from all segments of postsecondary education, legislators, cabinet officers, members of the business community, community leaders, and others. The Committee was asked to examine enrollment trends, the cost of education, workforce issues, and cost efficiencies, among other issues.

The Committee was organized into four subcommittees: (1) A Changing and Growing Student Population; (2) Providing High-Quality, Affordable Postsecondary Education; (3) Meeting Maryland's Economic and Workforce Needs; and (4) Ensuring Maryland's Commitment to Diversity. The subcommittees met throughout the summer and submitted reports to the full committee containing 50 action recommendations to address the

issues. Subsequently, the State Planning Committee ranked the recommendations in priority order. All recommendations that had significant support have been incorporated into the 2004 plan.

The 2004 plan for postsecondary education begins in Section I by identifying several guiding principles that set the stage and act as the framework for the development of goals and action recommendations. Trends that will impact the future needs of postsecondary education are briefly discussed. The ways in which the Maryland postsecondary education system is addressing the Five Pillars of State Government (Education, Commerce, Fiscal Responsibility, Health and Environment, and Public Safety and Safer Neighborhoods) are also summarized in this section.

Section II is the core of the plan. The section begins with an action recommendation that calls for development of a comprehensive model to guide policy decisions relating to postsecondary education. This section lays out five goals that are critical to the ongoing development of postsecondary education in Maryland. Each of the five goals begins with a background discussion, followed by specific action recommendations designed to reach the goal. The five goals, of equal importance, encompass quality and effectiveness, access and affordability, diversity, student-centered learning systems, and economic growth and vitality.

The law requiring the development of a statewide plan for postsecondary education also calls for an update of the goals in the former State plan. Section III is a progress report on the goals from the 2002 State Plan for Postsecondary Education. The information in this section, which was provided by the postsecondary education community, details the progress made and the challenges faced in working toward accomplishing the goals from the 2002 plan.

Following are some highlights of the progress in implementing the goals from the 2002 State Plan for Postsecondary Education. These examples provide a snapshot of ways in which Maryland's strong, vibrant postsecondary education system has benefited the State's citizens.

♦ Maryland colleges and universities lead the country in acquiring research dollars. External research funding has increased substantially to the current $1.4 billion level for the Johns Hopkins University and $900 million for the University System of Maryland.

♦ Institutions have worked to provide equitable access through program offerings, through distance learning, and through collaborations with other institutions and through regional higher education centers.

♦ The private career schools have responded to demands in the changing labor markets. The top six types of private career schools constitute 80 percent of the total student enrollment. Those top six are allied health, computer/drafting, cosmetology/barber, real estate, truck driving/mechanics, and tax preparation.

♦ More than 27 private career schools offer short-term computer training. In the past two years, more than 60 new computer industry certification programs were approved.

♦ Substantial progress has been made in the development of research centers and partnerships with the business community and academic institutions.

♦ Collaborative efforts among all institutions resulted in the Associate of Arts in Teaching (AAT) degrees in elementary education, secondary education, and early childhood education. The AAT eases transfer for students and is distinctive in that it is based on a set of outcomes delineating what the student should know and be able to do rather than on a set of courses.

♦ All campuses have engaged in activities to further recruitment and retention of minority students, faculty, and professional staff.

♦ Maryland institutions are graduating a larger number of African Americans.

♦ Access to high-speed networking in the Baltimore area has significantly improved through the University System of Maryland's University of Maryland Academic Telecommunications System's (UMATS) partnerships among Maryland public and independent two-year and four-year campuses, the State, and local governments.

While much progress has been made in attaining the goals of the previous plan as is reported in the update section of this plan, many changes and improvements are needed to maintain a robust, high-quality postsecondary education system. The 2004 plan offers policy makers and postsecondary education leaders the direction to further enhance Maryland's already strong and vibrant system of postsecondary education. The goals and the action recommendations that follow in the 2004 plan for postsecondary education will continue the focus on building a preeminent postsecondary education system to serve Maryland and its citizens.

# I.

Environment for
Planning

# Guiding Principles for Planning

Postsecondary education planning in Maryland should be based on several guiding principles that become the framework for the State's policies and practices. The first of these is the most fundamental:

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 it should be affordable.

In order to assure that this first principle is upheld, the State must recognize that public higher education is not separate and apart from elementary and secondary public education but is an extension of it. Therefore, this Plan recommends that State educational policy also be based on a second guiding principle:

The Maryland Constitution specifically identifies that the State provide a thorough and efficient public school system. Given today's economy and Maryland's need for a highly trained workforce, some level of postsecondary education should be considered critical for an educated workforce, for a vibrant economy, and to provide Maryland citizens with an opportunity for a full and well-developed life. The public school system should ensure that preK-12 public education is adequate to prepare students for postsecondary education and that all sectors are well coordinated to make postsecondary education a key and integral component of public education for Maryland citizens.

With that understanding, the State of Maryland has a basic responsibility to provide postsecondary education adequately and efficiently. To this end, Maryland should develop a postsecondary education model that will link tuition policy, State support to institutions, and State and institutional financial aid to address such issues as student access and the particular needs of the State. The discussion of this model should include consideration of the appropriate State portion in the funding of higher education and the appropriate level of student financial obligation. Over several decades, the burden of financing higher education has shifted from the State to the student without a formal public discussion of this fundamental precept. While higher education is a private benefit, it is also unquestionably an enormous public good. With considerable evidence that a highly educated

citizenry is the key to the prosperity of a state, it is time for an in-depth, organized public debate to occur on the model of higher education that will underlie our State's policies. The Maryland Higher Education Commission should organize and develop a public forum for this debate beginning in spring 2005.

# Trends Impacting Future Needs for Postsecondary Education

One can get a glimpse of the shape of postsecondary education in the future by examining major trends. The six forces described below will leave the greatest mark; no college, university, or private career school will escape their impact.

## Demographic Shifts

A series of demographic trends will alter the face of postsecondary education in Maryland. The next four years will bring substantial growth in the number of new full-time freshmen entering Maryland campuses. This will be fueled by an influx of high school graduates due to the "baby boom echo." In addition, a rising proportion of high school graduates has been enrolling at an in-state college or university in recent years. This trend will continue and will squeeze the physical and instructional capacities of campuses. By 2008, the number of public and private high school graduates in Maryland is expected to increase by more than 8,600. At the same time, the average age of undergraduates at Maryland institutions is 26, and those 25 years of age or older make up 35 percent of the total. Older students often require more flexibility in location, classes, availability of faculty, and type of facilities.

Racial and ethnic minorities represented all of the enrollment growth in the State during the past 10 years, and this trend will not abate. Half of all of the public high school students in Maryland in 2003 were minorities, and the percentage of African American and Hispanic secondary school students has risen steadily from 41 to 44 percent in the past four years. African Americans and Hispanics will constitute 80 percent of the growth in high school graduates in Maryland through 2008. In addition, by 2015, the nonwhite population in Maryland in the 18 to 44 age group is expected to increase by 8 percent, while that of whites will decline. These trends have implications for student preparation and success

insofar as the graduation rates of African Americans and Hispanics have consistently trailed the overall average. Women comprise 60 percent of all Maryland college students, and the gender gap shows no signs of closing.

Another concern that may have long-term ramifications on higher education is a decline in the number of foreign students applying for admission to graduate-level science and technology programs. Currently, a majority of enrollments in these graduate programs are foreign-born. Increased restrictions on immigration coupled with greater competition from international universities may seriously impact the availability of very highly qualified foreign-born applicants, enrollments, and research assistants at Maryland institutions.

## Funding Challenges

Maryland has experienced reductions in State support for higher education as a result of the economic recession. In turn, as State revenues declined, general fund support for colleges and universities also declined - by 11 percent, or $143 million, from FY 2002 to FY 2004. This compares to a 4 percent drop among higher education institutions nationally. State funding represented 30 percent of community college revenues in FY 2002 and 50 percent of revenues for public four-year institutions.

Even with an improving economy, colleges and universities face a difficult funding environment. Higher education's share of the Maryland budget will continue to compete with preK-12 education, health care, and public safety, where demand for funding has been strong. Rival needs at the federal level also will impact the availability of research dollars, especially affecting those Maryland institutions that receive large amounts of money from this source.

## Affordability Issues

Low- and middle-income citizens have reason to be concerned that the price of higher education could become out of reach. The attempt by colleges and universities to maintain quality while coping with the reality of the State's fiscal constraints has contributed to increases in tuition and fees. Since FY 2002, average charges have risen by 10 percent (to $2,675) at the community colleges, 22 percent (to $5,978) at the public four-year institutions, and 12 percent (to $19,934) at the State-aided independent campuses. These hikes were considerably above the inflation rate and growth in median family income in

Maryland. Many colleges and universities across the nation experienced significant increases in tuition and fees recently. Maryland along with 36 other states received a grade of "F" in affordability in the 2004 State-by-State Report Card for Higher Education. However, Maryland institutions were already charging higher rates than most of their counterparts nationally.

These rates are not offset by high levels of State support for financial aid, which has remained at moderate levels for the past decade or more. From FY 2002 to FY 2004, funding for State financial aid programs fell by 7 percent with support for the State's largest need-based aid program, the Educational Excellence Awards, remaining essentially flat during this same time. This trend was reversed in the FY 2005 budget with an increase of $12.9 million in need-based student aid and a pledge to transfer an additional $11.9 million in the next three years. However, with more than 7,000 students on a waiting list for the Educational Assistance Grant for FY 2005, additional funding is needed if all eligible students are to be funded. As a consequence of the rapid increases in tuition and fees and relatively modest increases in need-based State financial aid, Maryland has not changed its status as a high-tuition, moderate-aid state.

In the June 16, 2004, Report to the Commission, The Student Voice on Higher Education, the Commission's Student Advisory Council stated that college is now seen as a necessity, whereas their parents saw it mainly as a privilege. The students reported that in their view there is little chance to succeed in today's business world without a college degree. The report reflected the students' concern about being able to afford college due to rising tuition costs.

**Workforce Changes**

Rapid changes in job requirements and the needs of employers have placed a premium on workers with greater educational attainment and advanced skills. Nearly one-third of all job openings in Maryland require at least a community college degree or training beyond high school. Rather than a one-time activity in which people engage prior to the beginning of their career, education will be integrated as a regular component of the work experience. To fill these needs, a variety of alternatives must be available. These may include community college workforce training, online education, "corporate universities" (schools for employees with customized education

and training), regional higher education centers, private career school programs, adult education, and for-profit colleges, to name a few.

## Technological Developments

Distance learning has grown dramatically in Maryland and shows no signs of slowing. Between 1997 and 2002, the number of credit courses offered by distance learning at Maryland campuses more than doubled to over 3,000, and the students served by these courses more than tripled to nearly 100,000. The number of degree programs offered primarily or entirely by distance learning jumped from 17 to 72.

## Teacher Staffing Concerns

Maryland, like other states, faces a critical shortage of teachers due to the State's inability to produce and retain a sufficient number of teachers. The Maryland State Department of Education has estimated that school systems will need to hire 12,000 new teachers between 2004 and 2006. All jurisdictions in the State are expected to experience a shortfall, especially in the subjects of technology education, computer science, English for speakers of other languages, foreign languages, mathematics, science, and special education. However, the number of teacher candidates prepared by Maryland colleges and universities dropped from 2,653 in 1998-1999 to 2,319 in 2002-2003.

# The Five Pillars of State Government

The Ehrlich-Steele Administration's Five Pillars represent the highest priorities in State government. The State's postsecondary system is critical to addressing successfully the Five Pillars of the Ehrlich-Steele Administration. Examples of some of the ways the postsecondary education system addresses the Five Pillars include the collaborative research offices that work with the State on important issues, private and federal research dollars brought in by the medical schools, and the training for employment for Maryland's citizens.

However, from the perspective of developing a 2004 State plan for postsecondary education, there are additional ways that Maryland's postsecondary education system can support these highest priorities.

## Education

The focus of the postsecondary education system is on providing Maryland citizens with access to an affordable, high-quality postsecondary education. Given a projected significant growth in the demand for postsecondary education with more than 57,000 additional students in the coming decade, accommodating this growth will be a challenge. Further, as tuition continues to climb, efforts should also focus on ensuring that financial barriers for students who can benefit from higher education are eliminated. Postsecondary education also plays an important role in workforce training, including the preparation of future teachers and of individuals in nursing and other health care fields. Efforts should focus on providing quality education and encouraging students to enroll in teaching, nursing, and other shortage fields.

## Commerce

Maryland's economy depends on a highly educated population, and future economic growth will increase this need. Postsecondary education needs to be accessible to Maryland citizens to ensure a continuous supply of educated individuals. Further, postsecondary

education should work to target critical areas of workforce needs such as teachers, nurses, and other health care fields. Finally, Maryland is ideally located to play a strong role in research and development. Maryland's research universities contribute to research and development through their own faculty research and cooperative ventures, such as research parks and incubators. It is important that alliances between higher education and Maryland companies specializing in research and product development be strengthened.

## Fiscal Responsibility

Maryland, like many states, is experiencing a period of fiscal constraint. Postsecondary education, along with the rest of State government, is being challenged to continue to focus on its primary missions and to ensure that the needs of citizens and state are being met. For postsecondary education, this means reinforcing and improving cost management programs and policies through a continuous process of careful evaluation of critical functions and through developing innovative, increasingly cost-effective ways to streamline operations. This also means that the State needs to evaluate the appropriate balance between State funding to enhance student accessibility to a quality education and funding to enhance the eminence of our State universities.

## Health and Environment

Postsecondary education plays a critical role in educating individuals to work in health and environmental fields. Further, it has a wealth of knowledge on issues concerning the health of Maryland citizens and the State's environment. Postsecondary education should provide high-quality education and training for students and practitioners in health and environmental fields and encourage students to enroll in workforce shortage areas. Postsecondary education should develop ways to collaborate with State agencies, health care providers, and other organizations to provide assistance in addressing these critical issues.

## Public Safety and Safer Neighborhoods

Postsecondary education can support public safety and safer neighborhoods in a number of ways. First, colleges educate individuals who work in public safety and correctional fields. This education should be of high quality and properly prepare these students for work in these important fields. Postsecondary education can also provide the most updated knowledge about programs that work to prevent crime and about effective rehabilitation programs. Further, postsecondary education can provide education programs to prison populations to help reduce recidivism, possibly through online educational opportunities or other innovative programs.

The Commission is committed to and continues to work to strengthen the link between postsecondary education and other departments or entities, particularly the Maryland State Department of Education; the Department of Business and Economic Development; the Department of Labor, Licensing and Regulation; the Governor's Workforce Investment Board; and others.

# II.
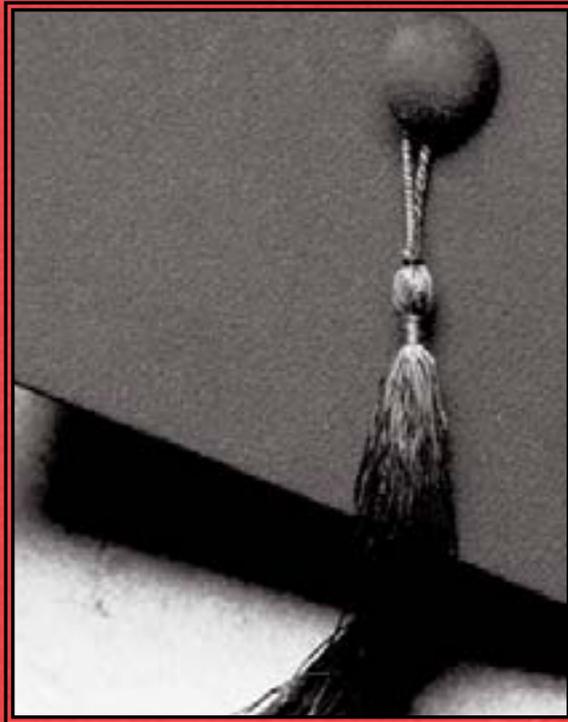
Goals for
Postsecondary
Education 2004

As stated in Section I of this document in "The Guiding Principles for Planning," the State has a basic 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 will initiate a comprehensive process to develop a postsecondary education model that will 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 segment of the process will 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.

# Quality and Effectiveness

*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.*

The quality of Maryland's postsecondary education is endangered by two major societal phenomena: an overwhelming increase in enrollments during the next decade and an uncertain national economy.

The latest enrollment projections prepared by the Maryland Higher Education Commission anticipate that the total headcount enrollment at the State's public colleges and universities will increase by more than 57,000 students by 2013. This is the equivalent of two additional campuses the size of University of Maryland, College Park or of a new campus the size of the three largest community colleges combined: Anne Arundel Community College, Community College of Baltimore County, and Montgomery College (see Goal 2 on "Access" for recommendations concerning capacity issues).

While nationally general fund support for higher education declined 4 percent between FY 2002 and FY 2004, Maryland general fund support for higher education declined 11 percent, or by $143 million. While some of this reduction has been recovered through increases in tuition and fees, all campuses have been required to reduce expenditures.

To counter these trends, it is critical that Maryland balance the need for high-quality postsecondary education against the tightening economic constraints felt by the State, its families, and its postsecondary institutions. As costs rise faster than incomes or revenue, Maryland must continue to find ways to provide an accessible, affordable, and cost-effective higher education system that is nonetheless known for its excellence.

## Measuring Up 2004 – The State Report Card on Higher Education

According to the state-by-state report card issued by the National Center for Public Policy and Higher Education, Maryland outperforms nearly every state in the country in preparing students for and enrolling them in higher education.  Issuing grades "A" through "F" in key performance areas, the report, Measuring Up 2004,

awarded Maryland three As and one B in four of the five areas. Maryland received an A- in "preparation" due to the high level of students earning diplomas or GEDs. The State received an A in "participation" in the report, which named Maryland the top state in the percentage of working-age adults (age 25 to 49) enrolled part-time in college-level education or training.  Maryland earned an A in the "benefits" category because, compared with other states, a very high proportion of the residents have a bachelor's degree, substantially strengthening the State's economy. Maryland received a B- in "completion" due to the substantial improvement in the number of students who earn a degree or certificate in a timely manner. However, due to the large portion of income, even after financial aid, that families must devote to the cost of attending a Maryland public two- or four-year college or university, the State received the grade of F in "affordability."

## Funding Levels

Like many other states suffering recent budgetary crises, Maryland has experienced declining State general fund support for higher education and substantial increases in tuition and fees. The State's fiscal constraints pushed postsecondary education toward higher tuition levels. These increases were considerably above both the inflation rate and the growth in median family income in Maryland. Nationally, Maryland now ranks tenth in tuition and fee charges at community colleges, sixth in tuition and fee charges at public four-year institutions, and third in tuition and fee charges at independent institutions.

The Bureau of Revenue Estimates contends that Maryland's economy is in a strong position to recover from the economic recession that hampered the State's economy in FY 2002 and FY 2003, expecting State revenues to grow 4.8 percent in FY 2004 and 4.5 percent in FY 2005. Despite these predicted gains in general fund revenues, the demand and competition for public funds is likely to increase due to escalating costs for health care, elementary and secondary education, and public safety. As a result, it is likely that higher education will continue to face a more competitive funding environment.  The substantial pressure higher education will face suggests a need for greater predictability in State funding for higher educational institutions.

## Efficiencies and Effectiveness

The State can promote efficiencies and increase cost-effectiveness through fostering collaboration among institutions and segments in joint purchasing and procurement, bonding, statewide negotiations with vendors, consolidation of non-academic administrative services, and other activities. Unnecessary duplication and redundancy should be a continuous concern, and State policies, procedures, and regulations should be reviewed with the purpose of revising policies and ending practices that allow unnecessary duplication and redundancy.

## Faculty

Quality faculty members are an important resource of higher education institutions and to the State. As with many industries, the largest cost in postsecondary education is in personnel, specifically faculty. Adequate funding is essential to support quality faculty and excellence in teaching, research, and service. Faculty members provide stability to, and the assurance of, the quality of academic programs. Effectiveness of faculty also depends upon faculty serving as mentors as well as instructors. To assure this, State regulations require a majority of credit instruction to be delivered by full-time faculty. Focus on increasing the diversity of faculty will also serve to improve role model effectiveness.

Changes in the rapidly evolving technology environment challenge institutions to keep faculty members abreast of the latest methods of instructional design and delivery. The explosion in distance learning (over 100,000 enrollments statewide) requires investments in faculty development and in technology infrastructure.

## Action Recommendations:

♦ 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.

♦ 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 grant fund.

♦ 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.

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

♦ Continue to work to ensure that the Historically Black Institutions (HBIs) are comparable and competitive, both in terms of programs and infrastructure, with Maryland's traditionally white institutions with comparable missions.

# Access and Affordability

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

One of the guiding principles that has been established for Maryland postsecondary education to ensure that the system is accessible and affordable is that "all Maryland residents who can benefit from postsecondary education and desire to attend a college, university, or a private career school should have a place in postsecondary education and should be able to afford it."

Accessibility can be examined from two perspectives: (1) the capacity of colleges and universities to admit students; and (2) the ability of students to access desired academic programs. Affordability should be examined in terms of whether individuals who wish to pursue a higher education, especially low- and moderate-income students, have the financial means to do so.

**Capacity**

As mentioned earlier, the latest enrollment projections prepared by the Maryland Higher Education Commission anticipate that the total headcount enrollment at the State's public colleges and universities will increase 23 percent, or by more than 57,000 students, by 2013. To accommodate this growth, Maryland needs to develop a comprehensive growth plan for all of higher education. Facilities constitute an institution's largest assets and provide the foundation necessary to attract top quality faculty, staff, and students. The State provided $1.3 billion in capital funding for all segments of higher education for FY 2000 to FY 2004. Despite the record spending in new construction, renovations, and facility renewals, the State faces a challenge in meeting the capital needs of higher education to support the projected growth in enrollment.

State guidelines have been established for the community colleges and the four-year public institutions to determine the overall space needs of a campus. The Maryland Four-Year Public College and University Space

Planning Guidelines were developed in 1981 and revised in 1996. An examination of the current capital guidelines indicate that the methodology used to determine appropriate space was developed before computer use was widespread and prior to the advent of distance learning, both of which have dramatically changed the ways in which campuses deliver courses. It is essential that the space planning guidelines accurately direct the capital decision-making process.

## Alternative Delivery Approaches

To ensure student access to desired academic programs, alternative approaches to delivering education, such as regional higher education centers and distance education, should be further enhanced. Both methods will assist with meeting the projected enrollment growth and improve accessibility to higher education for non-traditional students and for those living in underserved areas.

## Technology

Efforts to increase access and provide services to students have included a commitment to the use of information technology. Several innovative, collaborative projects are worth noting.

MarylandOnline, formed in 1999 as a consortium of 12 Maryland colleges and universities engaged in online degree programs, has grown to 19 members and is currently funded through member fees. In FY 2004, it provided access to 1,546 separate undergraduate courses, 379 graduate courses, 75 degree programs, and 90 credit certificate programs. The State provided approximately $1 million in start-up funds to MarylandOnline to provide faculty training and to develop Web-based training materials to share among participating institutions. In September 2003, MarylandOnline was awarded a $500,000 U. S. Department of Education Fund for the Improvement of Post-Secondary Education (FIPSE) grant to develop the Quality Matters project, an inter-institutional, peer review process to certify the quality of online courses.

In 1999 and 2000, the State provided approximately $900,000 in start-up funds to create the Maryland Digital Library, a gateway to electronic resources available to students and faculty at universities and colleges across the

State.  Since July 2000, students have conducted over 5.3 million searches and retrieved over 4.8 million full-text articles using the Maryland Digital Library. After the initial investment, due to budget constraints, State funding has not been provided in recent years; however, the Maryland Digital Library has operated as a self-funding consortium of public and private colleges on a more limited basis than originally planned.

These two cooperative agreements, MarylandOnline and the Maryland Digital Library, have saved considerable resources over the past several years through course sharing, faculty training, and negotiating reduced costs for access to electronic databases. The lack of funds has limited the number and quality of services the organizations can offer. In addition, some institutions that need the resources the most are unable to afford the membership fees. Through the expansion and enhancement of the services these organizations offer, there is the potential for a significant impact on capacity with a very small investment of additional funds.

In April 2003, the Governor and the Chancellor of the University System of Maryland signed an agreement that created a high-speed network for education and research institutions in the Baltimore area. However, there is no preexisting statewide high-speed digital educational network to facilitate the sharing of electronic courses among Maryland's campuses and schools. Maryland EdNet, which is currently in the proposal stage and is unfunded, would create a statewide high-speed broadband network.

Recognizing the cost of technology infrastructure, the State instituted the Innovative Partnerships for Technology Program to provide matching funds for donations from the private sector or public foundations for technology needs of the community colleges. The State has agreed to match a maximum of $700,000 for funds raised by each community college and has provided $7.1 million in matching funds to date.

## Financial Aid

Financial aid is a critical component of the State's efforts to improve affordability and minimize financial barriers to higher education. Due to fiscal constraints, over the last two fiscal years, Maryland has simultaneously experienced a decline in financial aid funding and significant increases in tuition and fees charged at all higher education institutions. This has negatively impacted Maryland's performance in terms of affordability over the last two years. Maryland is ranked 23rd in State need-based grant aid per FTE.

Although this funding trend has been reversed in the FY 2005 budget, additional funding is still necessary to assist all eligible needy students. An additional $35 million is needed just to award students not currently being reached by State need-based aid programs. To fully address issues of affordability, the State and institutions of higher education must work together to ensure that financial aid from all sources effectively reaches the student, that it adequately addresses student financial need, especially among low- and moderate-income students, and that it minimizes loan debt.

**Action Recommendations:**

♦ 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.

♦ 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 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 a 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:

a. 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;

b. The people of Maryland expect quality in all aspects of public higher education: teaching, research, and public service;

c. 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;

d. The duplication of undergraduate and graduate programs will be limited to the extent possible and still provide adequate access;

e. The growth of programs that address specific shortages in the Maryland workforce will be encouraged; and

f. 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.

♦ 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. This policy should include recommendations from the 2004 Joint Chairmen's Report presently being prepared by MHEC in cooperation with the Maryland Association of Community Colleges, the Maryland Independent College and University Association, and the University System of Maryland. The statewide policy should include consideration of the State's interests and goals for higher education centers; their appropriate role in the delivery of higher education; their potential to provide greater access to higher education in underserved areas of the State; the barriers to academic program delivery; and equitable funding mechanisms that ensure the State's goals for these centers will be achieved. The policy should define requirements for new regional centers that seek State aid.

♦ 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:

a. Funding for the expansion of MarylandOnline as a Web gateway to online courses offered by all Maryland postsecondary institutions;

b. Funding for the development of the Maryland Digital Library 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;

c. Expansion of the matching grant program to support the acquisition, maintenance, and upgrading of campus technology infrastructure; and

d. 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.

♦ 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.

♦ 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.

♦ 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.

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.

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

# Diversity

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

Research has found that having a mix of students from ethnically and culturally diverse backgrounds on campus enhances learning and critical thinking. The impact is particularly great when students from different racial and ethnic groups engage in frequent interaction. Further, a student's success in college is linked to his or her ability to integrate effectively into the academic and social systems of the institution. Therefore, it is imperative that colleges and universities - and their programs, faculty, staff, and infrastructure - foster a friendly, supportive, and attractive environment for students from different races and cultures, one that promotes high expectations for the success of all students.

The most compelling aspect of the demographic landscape for Maryland postsecondary education is the participation of large numbers of racial and ethnic minorities. African Americans, Asian Americans, Hispanics, and Native Americans represented 35 percent of all students and 38 percent of undergraduates at Maryland colleges and universities in 2003. African Americans alone made up 26 percent of the student body at Maryland campuses and 28 percent of all undergraduates, mirroring the State's population.

Accordingly, Maryland is committed to ensuring equal access to high-quality postsecondary education for all citizens regardless of race, ethnicity, culture, language, and background. Because of its history of de jure racial segregation, Maryland has an obligation under federal law and court decisions to remedy past discrimination and to remove the vestiges of the past system of dual and unequal education. Maryland has entered a partnership agreement with the U.S. Department of Education's Office for Civil Rights (OCR) to advance equal educational opportunity in the State.

The specific commitments address:

♦ Strengthening academic and teacher preparation programs;

♦ Strengthening partnerships with elementary and secondary schools;

♦ Strengthening recruitment and admissions;

♦ Strengthening retention and graduation;

♦ Improving campus climate and environment;

♦ Improving diversity of faculty/staff and governing/advisory boards;

- Improving and expanding 2+2 partnerships;

- Enhancing the State's HBIs; and

- Avoiding unnecessary program duplication, enhancing mission and program uniqueness, and strengthening institutional identity at the HBIs.

The State is required to evaluate on an ongoing basis the progress that it has made in these areas and to adjust policies, practices, and programs as needed. Maryland also has to determine how to maintain these efforts after the formal partnership agreement has ended and to identify additional steps that would enhance and strengthen diversity.

## Obtaining appropriate enhancement funding for HBIs

The OCR Partnership Agreement requires the State to design measures to make certain that the HBIs are comparable to and competitive with Maryland's traditionally white institutions in all facets of their operations and programs. Further, the campus environment at the HBIs should be comparable to other institutions with respect to the physical characteristics of landscape, ambiance, and appearance, as well as to the availability, quality, and adequacy of facilities necessary to support the missions and programs of the institutions.

Between FY 2002 and FY 2004, the State provided nearly $30 million in operating funds for HBI enhancement. Support has been provided to the following ventures:

- The Access and Success Grant program, now in its fifth year, to enhance student achievement, retention, and graduation at HBIs;

- Funding for Access and Success has tripled from $500,000 to $1.5 million per year for each HBI since the initiation of this program;

- Enhancement funding for one-time operating expenditures to improve admissions and enrollment management, institutional financial aid management, technology infrastructure, academic programs, and technology investments;

- Funding for debt service for HBI capital projects financed by academic revenue bonds;

- Targeted funding to assist Coppin State University in construction management for capital projects; and

- Additional support under the Private Donation Incentive Program by doubling the State match from $750,000 to $1.5 million.

The State also has worked to prevent unnecessary duplicative academic programs being established at proximate HBIs and traditionally white institutions.

**Promoting minority achievement**

The development of statewide policies to improve the graduation rates of minority students and to recruit and retain minority faculty and professional staff has been a longstanding goal of the State. Public campuses report their progress in these areas to the Maryland Higher Education Commission in their performance accountability reports and Minority Achievement Action Plans and identify specific programs and activities that they have undertaken or plan to initiate.

While the gap between the graduation rates of African Americans and other students at public four-year campuses has narrowed over the years, it continues to persist. The six-year graduation rate for the most recent cohort of new full-time freshmen was 45.9 percent for African Americans, compared to 61.3 percent for Hispanics, 68.3 percent for whites, and 69.8 percent for Asian Americans. Similar patterns appeared with respect to transfer and graduation rates of new full-time students at Maryland community colleges. The percentage of African American students in the most recent cohort who earned a degree or certificate and/or transferred to a public four-year institution within four years reached the highest level since the early 1990s. However, the rate for African American students was 19.2 percent, compared to 26.0 percent for Hispanics, 38.1 percent for whites, and 40.5 percent for Asian Americans.

Racial and ethnic diversity among faculty and professional staff ensures that valuable perspectives are represented on campus and that role models are available for minority students. In order to increase the pool of potential African American faculty and administrators, the number of African Americans attending graduate and professional schools and earning advanced degrees must increase. Only seventeen percent of graduate/professional students and 6.5 percent of doctoral degree recipients at Maryland campuses in 2003 were African American. It will be impossible to increase the presence of African Americans among higher education faculty and administrators unless more African Americans earn doctorates.

**Action Recommendations:**

♦ The Maryland Higher Education Commission and the colleges and universities should take the following initiatives:

a. The Commission, working with the higher education sectors, should 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.

b. Campuses should offer ongoing programs that encourage cultural awareness.

c. Campus publications should reflect the diversity of their institutions.

♦ The Maryland Higher Education Commission should:

a. 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.

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

♦ 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.

♦ 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.

# A Student-Centered Learning System

*Goal 4: Strengthen and expand teacher preparation programs and support student-centered, preK-16 education to promote student success at all levels.*

High-quality teachers in the preK-12 school system make every other profession possible. Nothing can be more important to the future welfare of Maryland than to have a highly qualified teaching force. One of the most important roles our colleges and universities play is to provide the education of the teachers who, in turn, are crucial to determining the quality of education received by students in our schools. Colleges must work to improve the methods they use to ensure that teachers are knowledgeable about what they teach and are skilled in how to teach. Emphasis must be placed on providing teacher candidates with a solid foundation in the core subject areas and with an extensive school-based internship and on providing current teachers with continued professional development in the core academic areas.

Maryland colleges and universities are not producing enough qualified teachers.  For high school graduates to be fully prepared, we must provide qualified teachers to teach all required courses. In the most recent Maryland Teacher Staffing Report, the Maryland State Board of Education has declared seven critical teacher shortage areas: career technology, computer science, English for speakers of other languages, foreign languages, mathematics, science, and special education. In addition, the Board has declared a shortage of teachers who are male and teachers who are members of minority groups. On a positive note, higher education and preK-12 have made strides in expanding the clinical, school-based training to improve teacher education through the creation of new professional development schools (PDS). These PDS have been credited with improving the retention of new teachers in the profession.

In 2002-2003, Maryland colleges and universities graduated about 2,300 new teachers, but the State is projected to hire about 6,000 new teachers in 2004-2005. Therefore, Maryland colleges and universities are currently graduating considerably less than half of the new teachers needed by the State, and projections do not show this pattern changing appreciably. To further exacerbate the situation, historically only 60 percent of the Maryland

teacher candidates who graduate go on to teach in Maryland. This is due in part to out-of-state graduates returning to their home state to teach, as well as to the work environment and relatively low salaries. Higher education must play a significant role in making sure that more qualified, certified teachers are available for our schools.

Colleges and universities must also work to make Maryland's preK-16 education system more student-centered than it has been. Barriers to students' academic success must be overcome to have an efficient preK-16 educational system. Requirements for high school graduation and for first-year college courses must be fully aligned. Far too many high school graduates now have to take remedial courses during their first years of college. At the same time, many high school seniors could profit from taking courses for college credit during their senior year, thereby better preparing them, advancing them in their major, and often allowing them to shorten their stay in a college or university.

In addition to making it possible for students to start earning college credit in high school, higher education institutions should adopt student-centered policies to facilitate retention and timely graduation. The campuses of the University System of Maryland have made progress in reducing the time it takes to graduate in recent years, partly as a result of the adoption of recommendations in the Maryland Higher Education Commission's 1996 report Study of Time to Degree in Maryland. The proportion of new full-time freshmen from public institutions who earned a baccalaureate within four years increased from 26.1 percent to 34.2 percent in the past five cohorts. Nonetheless, these figures are believed to be considerably below the percentage of students who finished their bachelor's degree in four years several decades ago. This is costly for the institution, the students, and the State. As our State's population continues to change, higher education will continue to be faced with an increase in the diversity of students. The traditional students and returning adults who will be enrolling in the future are more diverse than ever before and will need a variety of student services.

Half of Maryland's recent high school graduates begin their college career at a community college. Therefore, it is important that all current and potential barriers to transfer to a senior institution be eliminated to make the process as smooth as possible. Maryland has experienced great strides toward this objective. The Maryland Higher Education Commission survey of 2002 community college graduates found a huge jump from previous years in the percentage of students who reported that all of their credits had transferred to their 4-year institution. Nevertheless, more than half the graduates indicated they had lost at least one credit in transferring - and nearly one-fourth had lost more than six credits. Steps must be taken to ensure that the maximum amount of credits transfer and that - when appropriate - the transfer credits count toward the academic major. Articulation and transfer issues become even more critical as students increasingly opt to begin their postsecondary experience at a community college.

**Action Recommendations:**

♦ 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.

♦ 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.

♦ The Maryland Higher Education Commission should:

    a. In consultation with the segments of higher education, study the actions taken or planned to reduce the average time-to-degree at the public institutions of higher education;

    b. Work with the segments to develop and implement a statewide program to reduce time-to-degree. Actions considered might include but not be limited to:

    (1) Considering accelerated baccalaureate programs;

    (2) Revising graduation requirements;

    (3) Studying State policies that may need to be changed or enacted to reduce the average time-to-degree;

    (4) Examining the effectiveness of introducing statewide competency tests that equate to institutional "seat-time" credits and are accepted at all State-supported institutions; and

    (5) Considering the effectiveness of providing mandatory "critical path" credits year-round, including use of summer programs.

♦ 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.

♦ The Maryland Higher Education Commission should:

a. Work with higher education institutions to ensure that space is available at public four-year colleges for transferring Maryland community college students; and

b. 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:

(1) Current policies and practices within the State;

(2) Methods to minimize 'wasted' credits during transfers;

(3) 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;

(4) 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;

(5) The effectiveness of simultaneous community college and upper division enrollments; and

(6) The transferability of credits from Maryland's private career schools.

♦ 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.

# Economic Growth and Vitality

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

The development of knowledge, technology, and a highly trained workforce is essential to a strong, competitive economy in Maryland. Maryland's postsecondary institutions must provide rich and diverse educational opportunities for research, learning, and preparation for initial employment, career advancement, and career changes. Maryland relies upon its colleges, universities, community colleges, and private career schools to meet Maryland's changing workforce needs.

## The Advancement of Research

Research and technology transfer are vital to the growth of a global economy that is increasingly knowledge-based. Innovation, invention, and the commercialization of intellectual properties are important products of university research conducted. Maryland universities collaborate with federal research centers and private industry to develop, evaluate, and transfer technology. Maryland is internationally renowned for research and development in genomics, biotechnology, aerospace engineering, the physical and environmental sciences, medicine, and software engineering. According to the 2004 Report of the Commission on Development of Advanced Technology Business (the "Pappas Report"), over 50,000 jobs are supported by research and development funding attracted by Maryland faculty.

The challenges are to build on Maryland's existing research and development success, expand the commercialization of technology, promote entrepreneurial activity, and attract individuals with the ability and interest to pursue advanced research. Opportunities exist for international trade to expand through collaboration between Maryland higher education and the Maryland Department of Business and Economic Development (DBED). Research and technology transfer such as that conducted by the University of Maryland Biotechnology Institute and the Johns Hopkins University Applied Physics Laboratory invite worldwide interest and collaboration. Internationally, Maryland universities advance science and technology at their research centers and permanent instructional sites abroad, as well as through foreign faculty exchange agreements.

Maryland must stimulate economic growth through research and development funded through federal and private sources. According to a 2002 report from the National Science Foundation, Maryland is ranked number one in federally funded research and development, due in part to its proximity to Washington, D.C. and federal agencies such as the Food and Drug Administration, the National Institutes of Health, and the Goddard Space

Flight Center. However, Maryland ranks only 45th in privately funded research and development at universities. For maximum impact, resources need to be leveraged and sponsored research dollars increased for Maryland institutions.

The State should promote cooperation among campuses, industry, and government research laboratories in developing products that have commercial and social utility. Multi-institutional collaboration is necessary to successfully compete for large-scale scientific projects such as those identified by the President's Council on Science and Technology in areas including energy, nanotechnology, and information technology.

In addition, university faculty and research labs should continue to be encouraged to pursue patents, licenses, and start-up businesses. As identified in the "Pappas Report", Maryland is recognized as a leader in business incubation and has twelve county and university business incubation programs. Maryland is a recipient of a federal grant from the Economic Development Administration to disseminate "best practices" to others.

Finally, Maryland must continue to attract individuals with the math, science, and technology proficiencies necessary to conduct complex research at the university level. Currently, nearly half of students enrolled full-time in graduate-level science and technology programs are foreign-born. A serious concern is the decline in foreign students applying for admission to these graduate programs, due to increased restrictions on immigration and to competition from international universities. The challenges are to continue to recruit foreign students and to wage an aggressive campaign to encourage native-born students to prepare for rewarding careers in research by pursuing math, science, and technology starting in middle school and high school.

### The Development of a Highly Qualified Workforce

Maryland must meet overall workforce needs and overcome critical workforce shortages to assure a vigorous and competitive economy. The challenges are first to identify projected demand fields and workforce shortage areas and then to develop effective, flexible strategies to meet changing workforce needs. Resources also must be secured to implement these strategies and offer programs that often require more expensive and less available instructors, equipment, and laboratory/clinical facilities.

A rapid response by the State is required to meet shifting workforce needs. In the mid-1990's, Maryland

recognized the critical unmet demand for skilled information technology (IT) workers and established numerous initiatives such as the Science and Technology Scholarships and the Maryland Applied Information Technology Initiative (MAITI) to increase supply. In 2001, six critical workforce shortage areas were identified in a report entitled Addressing Maryland's Critical Workforce Shortages: A Strategic Vision from Maryland's Community Colleges. These included information technology, biotechnology, nursing/allied health, teacher education, tourism, and construction. Currently, the State is working collaboratively to increase the supply of trained workers for these industries, particularly teachers, nurses, and other health care professionals. However, significantly less State and federal funding is available for these efforts than was obtained for training IT workers.

To respond effectively to changing workforce needs, educational institutions must obtain early notice of emerging demand fields and workforce shortage areas based on comprehensive supply and demand data. The State must provide timely State and regional data. The State also must adopt effective strategies to increase the supply of qualified graduates in high-demand fields and workforce shortage areas, taking into consideration the demographic changes projected in Maryland. To bridge the gap between supply and demand, strategies need to be tailored to specific occupational fields. There is not necessarily one strategy that fits all.

To maximize the effectiveness of limited available resources, it is critical that Maryland address workforce needs in a coordinated manner that fully engages employers, postsecondary education institutions, and State, local, and regional agencies. The Governor's Workforce Investment Board (GWIB) can provide a forum to bring together all the required elements for success since it encompasses private industry, preK-16+ education, and all government sectors. In addition, GWIB has developed a successful industry-based, multi-step process to address workforce shortages. All postsecondary institutions should be encouraged to support workforce development initiatives, including those coordinated by GWIB.

All segments of postsecondary education must contribute. Teacher education is provided by Maryland's public and independent colleges, community colleges, and private career schools. Increasingly, community colleges are offering the innovative Associate of Arts in Teaching (AAT), as well as teacher transfer programs. Private career schools prepare the state's Montessori teachers. Among Maryland's top 25 demand healthcare occupations, the minimum education required is a graduate degree for six health care occupations, a bachelor's degree for two, an associate degree for four, and a certificate or short-term training for thirteen. The Maryland Higher Education Commission and the State's postsecondary institutions must provide leadership and active participation in State and regional efforts to prepare a highly qualified workforce in Maryland.

Increased employer participation also is essential for Maryland to meet shifting workforce needs. Employer support must be encouraged in education, research, and workforce training.

**Action Recommendations:**

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

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

    b. 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.

    c. Use the Report of the Commission on Development of Advanced Technology Business (Pappas Commission) as a resource and guide for future activities.

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

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

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

♦ 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, the Governor's Workforce Investment Board, 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.

♦ 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

g. Increase funding to loan assistance repayment programs that encourage graduates to work in workforce shortage fields.

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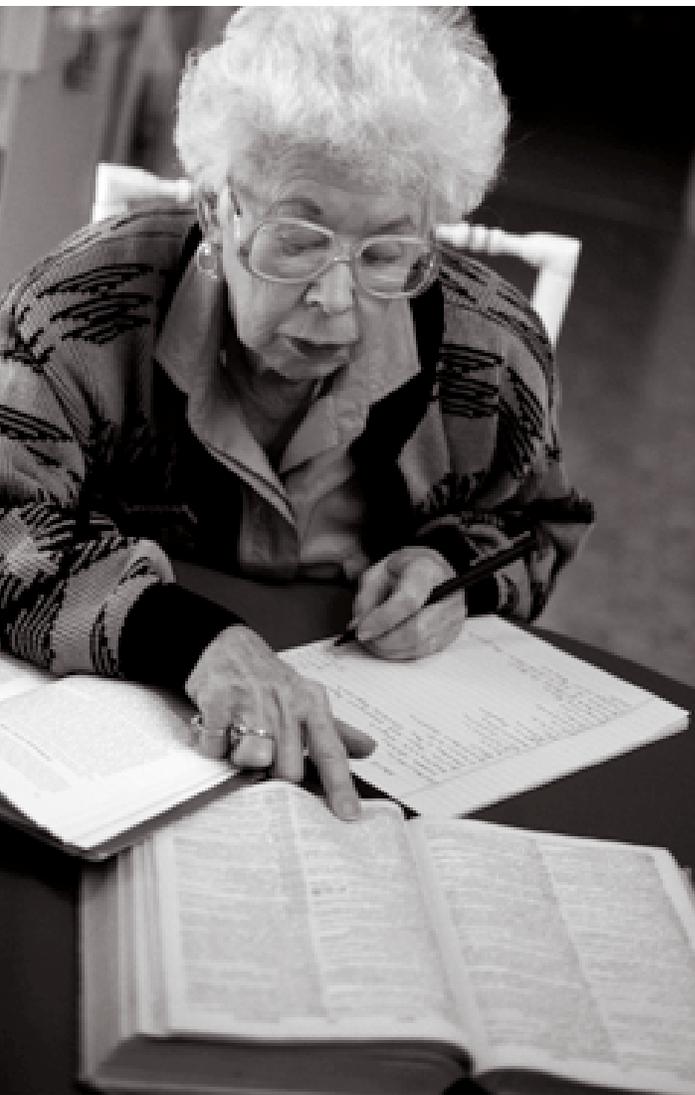
a. Maximum institutional participation in workforce programs such as Maryland Business Works (MBW), the Workforce Investment Act (WIA), and Partnerships for Workforce Quality (PWQ);

b. Utilization of industry clusters and career clusters as a common framework and nomenclature for workforce development throughout the State; and

c. 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.

♦ 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:

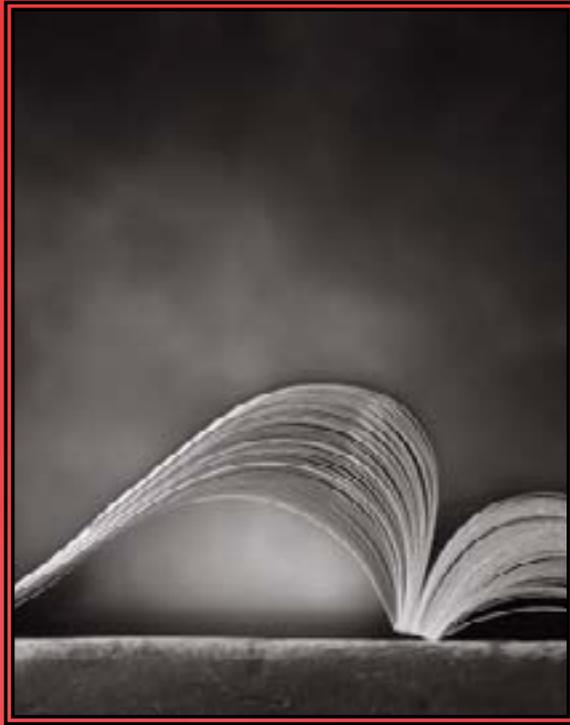a. Curriculum development;

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

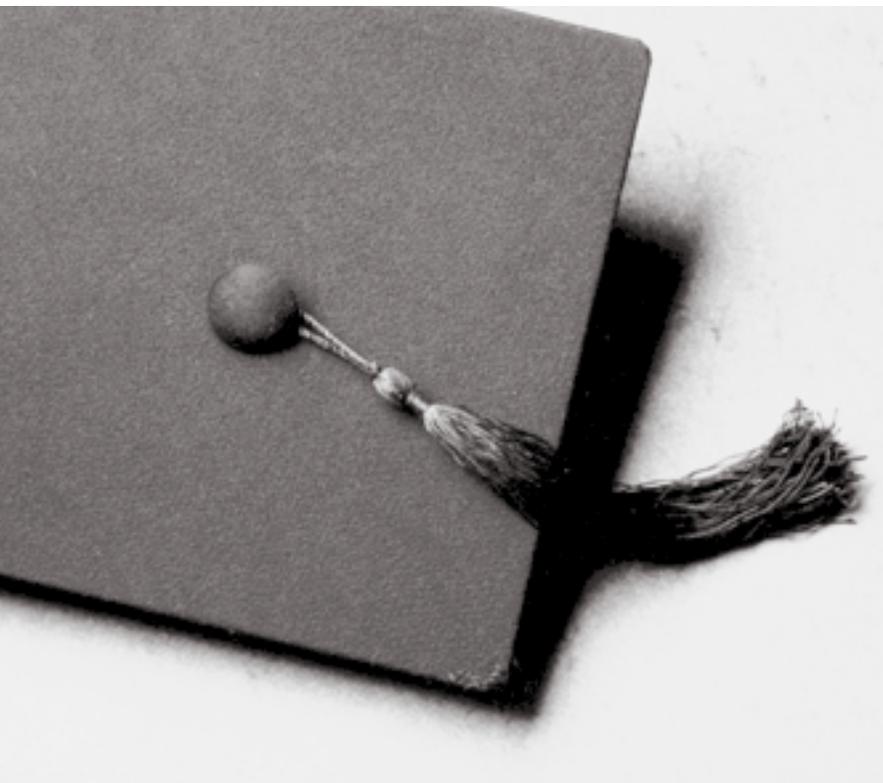f. Direct donations of personnel, time, money, and equipment.

# III.

Progress Report on
the State Plan for
Postsecondary
Education of 2002

# 2002 State Plan Goal 1:

*Achieve and sustain a preeminent statewide array of postsecondary educational institutions that are recognized for their distinctiveness and their excellence nationally and internationally.*

## Progress Made

Goal 1 is the broadest, overarching goal that speaks to the excellence of Maryland's wide array of postsecondary institutions representing research and comprehensive universities, liberal arts colleges, community colleges, and private career schools. This array of institutions is in and of itself the foundation of Maryland's distinctiveness and accordingly its excellence, since excellence continues to hinge upon focused, distinct, and complementary institutional mission statements; the efficient and effective delivery of the highest quality academic programs, research, and educational services that are reflected in these mission statements; solid curricula; and the teaching and research capabilities of the faculty. Maryland will only be as competitive as it successfully fulfills Goal 1.

Quality improvement at Maryland higher education institutions has been significant over the past two decades. While recent cutbacks have not yet reduced quality, a sustained period of budgetary constraint most certainly will. High quality and excellence in postsecondary education continue to depend on a statewide commitment to excellence and achievement of both institutional and statewide objectives. The State's higher education system maintains excellence through the collaboration of segments. This leadership is important statewide as well as at each individual institution.

*The Maryland Higher Education Commission is required by State law to publish an update on progress made in accomplishing the goals of each State Plan. The following is a report on the progress in implementing the goals of the 2002 State Plan for Postsecondary Education.*

The achievement of excellence and the national and international recognition of Maryland's postsecondary institutions must continue to be primary goals of the State. In their institutional updates, campuses overwhelmingly cite their respective national and/or international rankings and their receipt of awards as their indicators of excellence. Many institutions also made progress in new academic programs that have been established on their campuses, with regard to accreditation of programs (teacher education, nursing, etc.) as a benchmark of excellence. Maryland leads the country in research dollars, which makes the State nationally and internationally recognized for excellence. A number of institutions refer to other factors of importance to achieve excellence, including progress made in the areas of faculty support; transfer and articulation; strategic planning; facilities; and collaboration among the higher education sectors to ensure promising practices are shared among institutions.

With regard to private career schools, in FY 2004, there were 166 approved private career schools in Maryland, representing a 34% increase from FY 2002. These schools offer almost 400 programs in a diverse array of career fields including allied health; information technology and computers; barber and cosmetology; massage; education; commercial vehicle operation; mechanics; and real estate.

## Challenges

Current financial constraints are by far the main roadblock to maintaining excellence. Specifically, the institutions list the following areas as being adversely affected by financial constraints: student scholarships; recruitment and retention of faculty; academic programs, particularly teacher education; facilities and infrastructure; and information technology, among others.

The 2002 State Plan Update specifically refers to the need to improve articulation and transfer among the postsecondary institutions as a major strategy to the achievement of Goal 1. The Associate of Arts in Teaching degree is often referenced by campuses as a method of achieving this strategy. While institutions did state that there has been much progress made in this area, successful course articulation and transfer could be improved for many students, particularly those enrolled in community colleges. The Commission's Community College Graduate Follow-Up Survey Report also presents data that support improving transfer and articulation for community college students.

# 2002 State Plan Goal 2:

*Provide Affordable and Equitable Access for Every Qualified Maryland Citizen.*

**Progress Made**

There has not been much progress made in Goal 2 since the 2002 State Plan Update. Financial aid remains a critical component of the State's effort to expand access and minimize financial barriers to higher education, particularly among students with high financial need. The Governor's support of need-based financial aid stands as testament to its importance. With the recent budget constraints and tuition increases, institutions are challenged in their efforts to provide affordable access to college.

The 2004 updates from the institutions focus mainly on two areas: (1) providing affordability through increases in State financial aid, institutional aid and scholarships to offset tuition increases; and (2) providing equitable access through program offerings, distance learning, and, in a few cases, providing access through collaborations with other institutions and through regional higher education centers.

**Challenges**

A number of challenges have limited progress in providing affordable and equitable access to postsecondary education to Marylanders. Economically disadvantaged students suffer disproportionately in receiving financial aid. In addition, the increased growth in the student population has translated to community colleges enrolling the overflow of students who are not being accepted at the four-year institutions.

Institutions overwhelmingly list the current fiscal crisis and inadequate financial resources as negatively impacting a number of initiatives to improve access. Other challenges listed are the lack of student preparedness, institutional capacity issues, and in some instances, rural locations cite obstacles in recruiting students. In addition, institutions also mention as challenges their need to improve outreach, as well as the lack of financial support for regional higher education centers. In fact, the lack of financial support for regional higher education centers was an identified barrier in the 2002 Update.

Student need-based aid known as the Educational Assistance (EA) Grant currently has a waitlist. The waitlist has dramatically increased in the past two years. There are currently 7,200 students on the FY 05 EA Grant waiting list; in FY 04, there were 5,400 students waitlisted. These numbers reflect degree-seeking students only. Although private career schools offer almost 400 programs to a diverse student population, that student population is ineligible for EA Grants since the grant applies only to degree-seeking students attending two- and four-year higher education institutions.

Access to State and federal financial aid programs is limited for private career schools. Only one-third of the private career schools are eligible to participate in federal financial aid. In addition, State financial aid is limited with fewer than 1,000 of the almost 30,000 students receiving State aid through the Tolbert Grant Program in FY 2004. Annual funding for the Tolbert Grant Program is limited to only $300,000 for 30,000 enrolled students. Although there is an increased presence of private lenders, the loans carry high interest rates that this student population can ill afford.

# 2002 State Plan Goal 3:

*To contribute to the further development of Maryland's economic health and vitality.*

## Progress Made

Maryland's economic vitality depends on higher education's crucial role in preparing an educated citizenry for Maryland's workforce. The majority of institutions listed both academic programs and institutes on their campuses as ways of making contributions to educating students to meet Goal 3. Campuses also listed improved graduation rates for certain disciplines as an area of progress for this goal. Many institutions specifically mentioned their campuses' efforts and contribution to increasing workers in teacher education, allied health, and/or information technology. Finally, institutions mentioned programs and partnerships with businesses as successful efforts to develop Maryland's economic health and vitality.

Private career schools have been responsive to the demands and needs of a changing labor market. The top six types of private career schools have been: (1) allied health, (2) computer/drafting, (3) cosmetology/barber, (4) real estate, (5) truck driving/ mechanics, and (6) tax preparation. In combination, these six types of schools constituted 80 percent of the total number of private career schools and student enrollments. In the past two years, over 150 new programs were approved to be offered by private career schools. The majority of these programs were in the rapidly expanding fields of allied health and information technology.

Progress has also been made in external funding. New areas of focus such as homeland security and computer security are essential to the State's workforce development, since new and retooled jobs and industries bring external funding into the State. Substantial progress has been made in the development of research centers and partnerships with the business community and academic institutions.

**Challenges**

While Maryland is fortunate to be geographically proximate to the federal government, particularly to defense and health agencies, many states are aggressively promoting industries in which Maryland is strong or is seeking to be stronger. There is a lack of venture capital support for institutions from the State. There is insufficient support for intellectual property on campuses. There is insufficient financial support for patent offices at institutions. Through a responsive system for innovative academic programming, institutions can make significant workforce development strides in the commercialization of products created through basic and applied research.

The barriers listed in the 2002 State Plan Update called for the need to promote programs and modes of delivery that assist both traditional and non-traditional students in achieving their academic goals, through degree and certificate programs and continuing education, while meeting the needs of the business community. The 2002 State Plan Update also focused on the need to provide faculty with the support necessary so that faculty could conduct their work in the areas of research and teaching.

# 2002 State Plan Goal 4:

*Support and Encourage Basic and Applied Research.*

**Progress Made**

According to the 2004 institutional updates, a number of campuses have been able to make progress in the area of basic and applied research due in large part to grants they have received from foundations and the federal government, such as the National Institutes of Health and the National Science Foundation. Johns Hopkins University leads the campuses in this pursuit. External research has increased substantially to the present $1.4 billion level for the Johns Hopkins University and $900 million for the University System of Maryland institutions.

Two-year community colleges also mention grants for applied research and grants to work in collaboration with four-year institutions. Many campuses referred to their rankings in the area of research as an indication of their success in this area. Partnerships with the business community and their support of research are also mentioned.

Research dollars affect a broad range of endeavors. Graduate education trains the future researchers in emerging fields. Substantial and consistent progress has been made in the areas of applied research. External research funds have a multiplying effect of increasing Maryland's tax base that in turn supports the State's infrastructure that helps keep Maryland's economy competitive.

**Challenges**

In addition to the recurring theme of greater need for funding, the need for increased faculty support and release time for faculty to conduct research are most often stated as the major constraint in supporting Goal 4. Support for emerging technologies research will be key to the research and development efforts and commercialization successes in the future. This goal applies mostly to four-year institutions since research is not in the purview of community colleges. The support of research involves the need for improved or new facilities, e.g., laboratory space. To that end, some institutions listed the need for facilities to achieve this goal. Campuses also mentioned the importance of supporting changes in copyright laws to promote faculty intellectual property rights, which were stated as a major barrier in the 2002 State Plan Update. One final challenge noted by institutions is the need for institutions to adjust to the changing laws and regulations for students coming from other countries to Maryland's colleges and universities, and the impact on research that will likely emerge with the diminishment of international student enrollments.

# 2002 State Plan Goal 5:

*Strengthen Teacher Preparation and Improve the Readiness of Students for Postsecondary Education.*

## Progress Made

Teacher recruitment and retention are critical in Maryland since a shortage of teachers still exists in the State. Collaborative efforts among all the institutions have resulted in the Associate of Arts in Teaching (AAT) degrees in elementary education, secondary education, and early childhood education. The AAT has become a national model as community colleges begin to graduate students from the program who are enrolling in four-year public and independent institutions.

Since the 2002 State Plan Update, the Maryland Partnership for Teaching and Learning preK-16 has made significant accomplishments in establishing statewide collaboration on teacher quality and curricular alignment of teacher preparation programs, all couched in the context of the No Child Left Behind federal legislation. This collaboration extends to continued partnerships among the preK-12 community and higher education, as well as collaborative relationships between public schools and local education agencies. In addition, the growth of professional development schools (PDS) cannot be overlooked, since PDS serve as a successful collaboration of preK-12 and higher education to improve teacher preparedness.

## Challenges

Like the barriers and constraints that have thus far been listed for the other goals, the barriers listed for teacher preparation and college readiness cover a number of issues: the lack of teacher trainers and mentors; funding to develop more PDS and their corresponding growth and costs; general fiscal constraints; and the difficulty of recruiting and retaining teachers in the profession, particularly in math and the sciences. Some institutions touched on issues related to college readiness, but for the most part, their responses spoke to teacher preparation.

# 2002 State Plan Goal 6:

*Provide High-Quality Academic Programs for a Population*
*of Increasingly Diverse Students.*

## Progress Made

Maryland is one of the most diverse states in the nation. According to the 2000 census, the State has the highest proportion of minorities outside of the Deep South. In terms of higher education, in the past ten years, minority students have represented all of the enrollment growth at Maryland public higher education institutions. Accordingly, Maryland institutions graduate a large number of African Americans; the State's four HBIs award nearly half of all baccalaureate degrees being earned by African American students in Maryland.

The development of statewide policies to improve the recruitment and retention of minority students, faculty, and professional staff has been a consistent goal of the State. All campuses have engaged in activities to further improve their records in these areas. The State maintains its commitment to the enhancement of its four HBIs and student retention initiatives through enhancement funding and the Access and Success Grant respectively.

## Challenges

Narrowing the achievement gap between minorities and white students remains the biggest challenge that the State faces. While the gap between minorities and white students has narrowed over the last 25 years, a significant gap persists. In addition, a large portion of our State's minority student population is economically disadvantaged. Recent statistics indicate that more than 50 percent of the students of the 2008-09 high school graduating class will be minorities. Educating an increasing number of English speakers of other languages (ESOL) is and will continue to be a challenge. In terms of HBIs, increases in HBI enhancement funding as determined to be appropriate and consistent with the State of Maryland's partnership agreement with the U.S. Department of Education Office for Civil Rights (OCR) and the State's efforts to decrease the achievement gap.

According to the institutional updates, campuses are aware that there remains much work to be done in narrowing the achievement gap and increasing the retention and graduation rates of minority students. Campuses are also concerned about increasing the diversity of faculty and staff since these individuals can serve as role models to all students.

# 2002 State Plan Goal 7:

*Establish Maryland as one of the Most Advanced States in the Use of Information Technology to Improve Learning and Access.*

## Progress Made

Information technology is critical to access and to improving learning. As a vehicle for distance education, it makes higher education available to students in underserved areas and to those with time constraints. As an infrastructure component, it ensures that Maryland campuses and their classrooms are wired and "smart" for the purposes of Internet access and the sharing of information. Intersegmental and campus collaborations on information technology initiatives, such as the Maryland Digital Library and MarylandOnline, have benefited all institutions and the State as a whole. In addition, through the University of Maryland Academic Telecommunications System (UMATS), partnerships among Maryland public and independent, two-year and four-year campuses, the State, and local governments have significantly improved their access to high-speed networks by cooperative activities rather than expending funds during this period of budgetary reductions.

Improving distance learning on their campuses and improved information technology infrastructure are the two main areas of progress listed by institutions in their updates. Campuses stated that improving information technology has allowed them to support specialized libraries for certain disciplines; provided students with laptops to help eradicate the digital divide; and improved administrative computing to support staff and institutional efficiency.

Private career schools also play an important role in Goal 7 in that there are 27 private career schools offering short-term computer training. In the past two years, more than 60 new programs were approved to prepare individuals for computer industry certifications.

**Challenges**

Information technology is costly, from purchasing equipment to supporting line and wireless information access. Therefore, it stands to reason that most institutions listed financial constraints as their main barrier to improving access and learning through information technology. Another major challenge is the lack of State support that has been experienced by collaborative ventures that are designed to improve cost efficiency, such as MarylandOnline and the Maryland Digital Library. The other challenge listed, which is also associated with cost, is the difficulty in keeping up with the ever-changing technological advances, be it continually upgrading hardware and software or training staff in the usage of new technologies. A few also noted that, due to this lack of funding, some campuses are unable to provide "high speed" access to their information technology infrastructure.

# 2002 State Plan Goal 8:

*Achieve a Cost-Effective and Accountable System of Delivering High-Quality Postsecondary Education.*

### Progress Made

The State of Maryland and its higher education institutions have a number of accountability systems in place to ensure that Maryland campuses are delivering a high-quality, cost-effective, higher education system. On a national and regional level, Maryland institutions conduct self-studies as required by accrediting bodies recognized by the U.S. Department of Education, such as the National Council for Accreditation of Teacher Education (NCATE) and the Middle States Association. On the State level, institutions submit reports as requested by the Maryland Higher Education Commission and participate in the Managing for Results process of the State's Department of Budget and Management. All institutions participate in one or all of these forms of assessment. A major achievement has been aligning the Commission accountability process with that of the Middles States Association.

### Challenges

According to the institutions, the costs associated with maintaining an accountability system include faculty and staff resources as well as operations funding, among others. In terms of the 2002 State Plan Update, Maryland's higher education institutions continue to participate in an annual accountability report, which includes the voluntary participation of the independent institutions. Improvements in the State's articulation and transfer agreements should continue to be encouraged.

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