October 30, 2017

Dear Colleague,

The Maryland Higher Education Commission seeks public comment on the final draft of the 2017-2021 State Plan: Increasing Student Success with Less Debt. The Commission reviewed this document, found it to be well written, and approved to release the final draft for comment before final approval and adoption. The Commission values the input from all postsecondary partners. The final draft can be found on our website at http://mhec.maryland.gov/About/Pages/2017StatePlanforPostsecondaryEducation.aspx.

The Commission is seeking comments specifically on content and materials presented in the 2017-2021 State Plan. Please submit comments to Dr. Emily A. A. Dow, Assistant Secretary of Academic Affairs, no later than Monday, November 13, 2017 (emily.dow@maryland.gov). The Commission encourages comments from representative groups, such as schools, colleges, and institutions of postsecondary and higher education, advisory councils, state agencies, writing groups, and other partners of higher education in Maryland. The Commission will review all comments and determine any necessary changes before final adoption.

If you have any questions, please contact Dr. Dow directly. We thank you for your partnership and we look forward to working with you to "increasing student success with less debt."

Sincerely,

Dr. James D. Fielder
Secretary

MARYLAND HIGHER EDUCATION COMMISSION
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(COVER PAGE)

INCREASING STUDENT SUCCESS WITH LESS DEBT

2017-2021 Maryland State Plan for Postsecondary Education

Maryland Higher Education Commission

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James D. Fielder, Jr., Ph.D.

Secretary

Lawrence J. Hogan, Jr. Boyd K. Rutherford

Governor **Lt. Governor**

(HOLD FOR LETTER FROM SECRETARY)

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Higher Education Today:
Partners of Maryland's Postsecondary Education and Current Initiatives

Maryland's system of higher education is celebrated as one of the top educational resources in the world. This elevated status has been achieved through decades of support and dedicated efforts of the many professionals who strive to help our students reach their educational dreams. It is through each individual and each institution that we advance social and economic mobility to support the coveted advantage of Maryland's economic vibrancy and dynamic growth.

Governor Larry Hogan, the 62nd Governor of the State of Maryland, continues to hold higher education excellence as a top goal for this administration. Governor Hogan has demonstrated this by record operating and capital funding levels for higher education institutions. Governor Hogan has embraced the Maryland Higher Education Commission's focus on 'increased student success with less debt.' This focus is reflected in recent legislation as well as in this State Plan through the implementation of three primary goals and current strategies.

Maryland is one of the leading states in providing access to higher education to its citizens through a variety of focused practices and programs, which link access to success. The state has a fundamental commitment to equity, equality, and embracing diversity. Our higher education institutions not only serve a diverse student population but also welcome and embrace diversity. The majority of undergraduate students at Maryland public and independent institutions are members of minority groups.[1] Postsecondary education in Maryland maintains an ongoing commitment to ensuring equal access and opportunity for all.

The State of Maryland is among the nation's leaders innovation in the United States, highly ranked in research and development with seventy-two federal laboratories. Some of the innovative industries and academic studies for the 21st century include artificial intelligence, bioinformatics, biotechnology, biopharma, cybersecurity, data mining, data analytics, entrepreneurship, informational technology, nanotechnology, modern manufacturing, and robotics – all supported by our higher education institutions.

Maryland's Innovation

[1] Minority groups" include African-American, Hispanic (any race), Asian, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, and Two or More Races. Students identifying as "non-resident alien" or "unknown" are excluded.

The State of Maryland and higher education enjoy a national and international reputation for leadership in academic programs and institutional innovation. Maryland's higher education institutions continue to excel in supporting the economic vibrancy of Maryland as the twelfth-ranked state for innovation in the United States.[i] The Maryland Department of Commerce highlights the following rankings for Maryland:

- Maryland has the highest concentration of employed doctoral scientists and engineers. The state ranks first in employed Ph.D. scientists and engineers per 100,000 employed workers (1,288), with a first place ranking for Ph.D. scientists (1,031) and third for Ph.D. engineers (178). Maryland holds high ranks in the following fields for employed doctoral scientists per 100,000 employed workers:
  first in biological sciences (466)
  first in mathematical sciences (75)
  first in health (83)
  fourth in physical sciences (221)
  fifth in computer and information sciences (28)[ii]

- Maryland ranks first among the states in the percentage of professional and technical workers (28.3%) in the workforce. [iii]

- Maryland ranks third among the states in the percentage of the population age 25 and above with a bachelor's degree or higher (38.8%) and second in the percentage with a graduate or professional degree (17.7%). [iv]

- According to The Computing Technology Industry Association 2017 report, Maryland ranks fifth in the concentration of tech jobs in the private sector workforce (8.6%) and sixth in the tech concentration in the total workforce (7.0%). Maryland ranks eighth among the states in average tech industry wages ($107,193), eighth in the ratio of female workers in tech occupations (23.6%), and eighth for technology gross state product (GSP) as a percentage of total GSP (8.8%). Further, Maryland places ninth for most new tech startups and new tech business establishments in 2015[2] (1,040).[v]

- Maryland ranks fourth among the states in federal government employment, with 144,023 non-military federal jobs in 2015. On a per capita basis, the state ranks first with 240 federal jobs per 10,000 residents. Non-military federal jobs generate

[2] Most recent data is presented throughout this document.

$14.0 billion in total wages in Maryland, ranking fourth nationally. Further, these jobs pay better in Maryland than in any other state, with an average annual wage of $97,122, which is 25% higher than the national average. [vi]

- Baltimore City is third in a ranking of the best cities for women in technology based on tech jobs filled by women, tech job growth, overall pay for women, and the gender pay gap. [vii]

- According to the 2017 CBRE Research report "Scoring Tech Talent," Baltimore ranks eleventh as a top tech talent market based on the ability to attract and grow its tech talent pool. Components of the scorecard in which Baltimore ranks highest include eighth in tech labor pool growth, second in gender diversity in tech occupations, and tenth in tech labor concentration. [viii]

Serving the Students of Maryland and Beyond

Maryland is home to a diverse array of institutions with a variety of educational missions to suit the needs of its citizens. These institutions include community colleges, public four-year institutions, independent and private 4-year colleges and universities, private career schools, for-profit degree-granting institutions and religious institutions. These institutions annually enroll more than 350,000 students, awarded more than 77,000 degrees and certificates in 2016, and support employment in federal laboratories, businesses, and industries in Maryland.

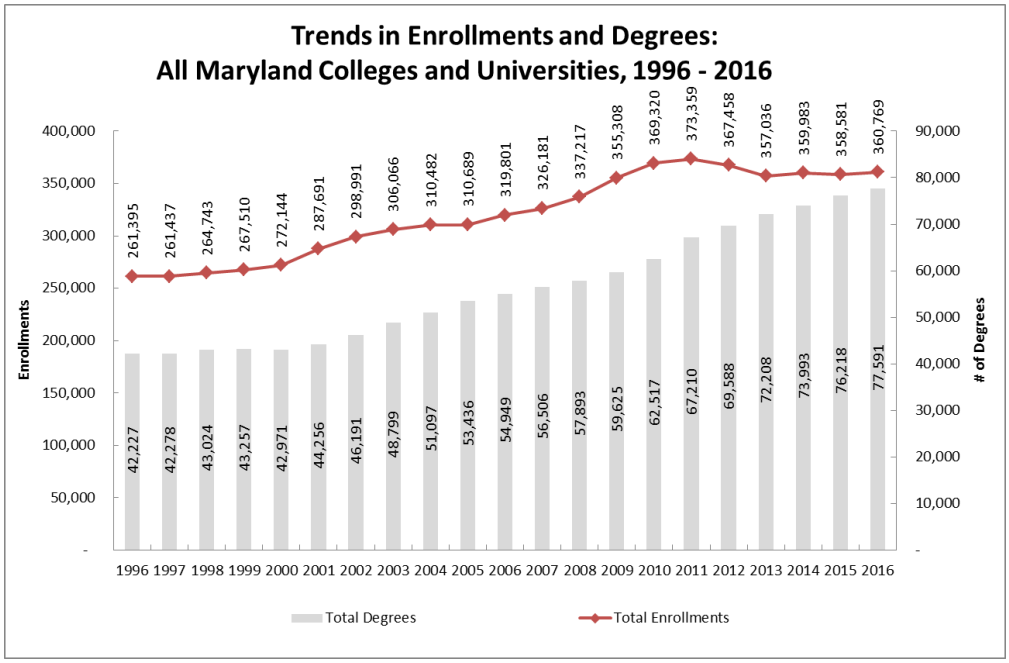

Figure 1. Trends in Enrollments and Degrees: All Maryland Colleges and Universities, 1996-2016[ix]

Embracing Diversity

Maryland is a leading state in providing access to higher education to our citizens through a variety of focused programs. The state has a fundamental commitment to equity, equality, and embracing diversity. Numerous scholastic and financial assistance programs are funded to reduce the financial shortfall for students entering higher education. Our higher education institutions not only serve a diverse student population but also welcome and embrace diversity. Fall 2015 enrollment at public universities mirrored the racial and ethnic distribution of the Maryland population in 2014. Additionally, 56% of enrolled students were women.

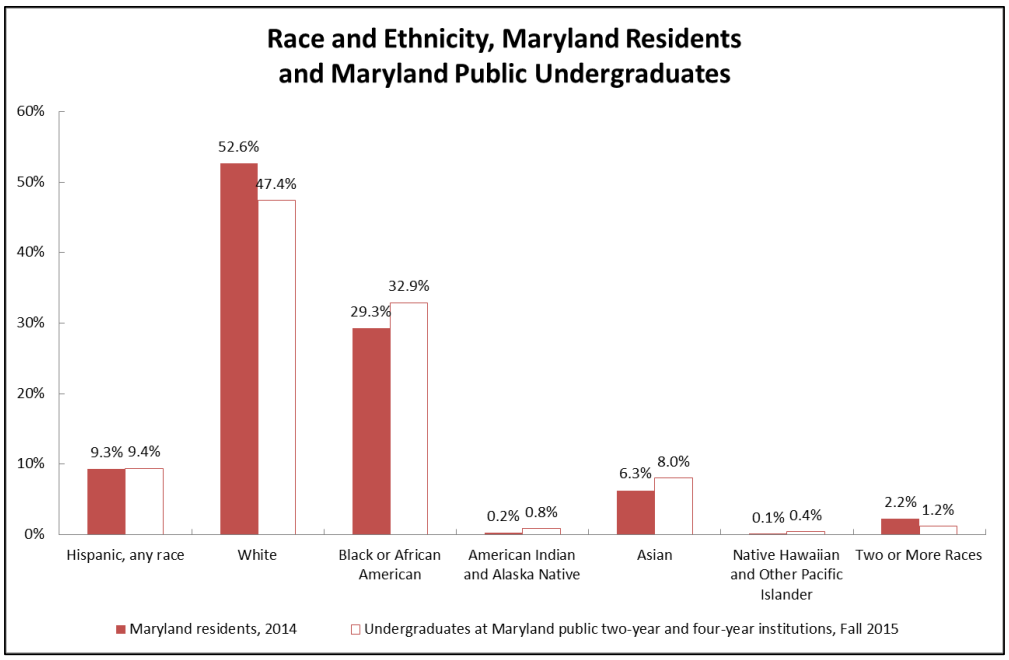

Figure 2. Race and Ethnicity: Maryland Residents and Maryland Public Undergraduates[x] [xi]

Postsecondary education in Maryland maintains the ongoing commitment to addressing equal access, success, and opportunity for all. Postsecondary education in Maryland continues to remedy past discrimination by focusing on serving students equitably. Closing the accessibility and achievement gap is an ongoing endeavor. The Maryland commitment to narrowing the achieving gap is woven through all three goals – access, success, and innovation – of this state plan.

Going Beyond the Notion of a Traditional Student

Maryland State policy, and higher education practice, is oriented toward what is commonly called the "traditional" student: a individual who has recently graduated from high school, is enrolled as a full-time student in a degree program (physically on campus), and expects to complete their program within a specific timeframe with no gaps in enrollment. However, this type of student constitutes a minority of students today.

Non-traditional students now comprise the majority of postsecondary students. Many students have delayed initial enrollment or are returning after earlier enrollment, enroll part-time, are financially independent of parents, support a family, and work full-time. These

students have needs and expectations that are often quite different than those of the traditional high school-to-college student.

It must be acknowledged that there is some debate about the use of the terms "traditional" and "non-traditional," and that different individuals and organizations encourage the use of different terms in different contexts for different reasons. The term "non-traditional" has been adopted for the purposes of this State Plan, but this term should be considered as representing the complete range of students who do not meet the expressed definition of "traditional," rather than excluding any of them.

Moreover, specific populations of students – regardless of traditional or non-traditional status – must also be acknowledged when considering student access and success in postsecondary education. Examples of specific student populations are students that have limited English proficiency, students with disabilities, students who are homeless youths, students who are in foster care or aging out of it, veterans, first-generation, accelerated learners, returning adults, home-schooled students, students with a variety of gender and sexual identities, students from ethnic and racial minority groups, students who have a low-income, and students who are near-completers.

Comment [ED1]: Callout box defining near-completers:

Near-completers are defined as undergraduate students that leave a Maryland institution in good academic standing after accumulating a significant number of credits, but have not earned a degree.

Principles of Public Higher Education in Maryland

In addition to Maryland's commitment to serving all students equitably, Maryland statutory law states that public higher education in Maryland should be based upon the following principles:

1. The people of Maryland expect quality in all aspects of public higher education: teaching, research, and public service;
2. Public higher education should be accessible to all those who seek and qualify for admission;
3. Public higher education should provide a diversity of quality educational opportunities;
4. Adequate funding by the State is critical if public higher education is to achieve its goal;
5. The people of Maryland are entitled to efficient and effective management of public higher education; and
6. The people of Maryland are entitled to capable and creative leadership in public higher education (Education Article §10–202).

Postsecondary education in Maryland must also comply with the State's equal educational opportunity obligations under State and federal law, including Title VI of the Civil Rights Act.

The Role of the Maryland Higher Education Commission

The Maryland Higher Education Commission (the Commission) coordinates the overall growth and development of postsecondary education in Maryland. The Commission is charged with producing a State Plan for Higher Education (the Plan) every four years (Education Article §11-105). The Plan shall identify:

1. The present and future needs for postsecondary education and research throughout the State;
2. The present and future capabilities of the different institutions and segments of postsecondary education in the State; and
3. The long-range and short-range objectives and priorities for postsecondary education and methods and guidelines for achieving and maintaining them.

A review of present needs and capabilities are presented in the following sections. The long-range and short-range objectives are presented as the three primary goals and the subsequent strategies. The future needs and capabilities have driven the development of the specific strategies presented and are discussed in detail.

Additionally, the Commission shall submit to the Governor and the General Assembly a quadrennial review of the Plan. The quadrennial review shall include a report on the status and needs of postsecondary education in the State.

The Commission is the coordinating state agency that oversees postsecondary education and works with numerous segmental partners in Maryland (Education Article §11–105). The Commission is overseen by a 12-person Governor-appointed governing board. The Commission has several advisory councils that work to inform and advise the Commission on issues in postsecondary education around Maryland.

The Commission has several departments and offices that serve both students and institutions. The Office of Academic Affairs reviews and makes recommendations to the Commission to approve all postsecondary institutions in Maryland, including community colleges, four-year colleges and universities, private institutions, religious institutions, private career schools, and out-of-state institutions that either operate in Maryland or provide distance education to Maryland residents. The Office of Academic Affairs also reviews and makes recommendations to the Secretary to approve specific academic programs including certificate programs, degree programs and non-degree programs that lead to employment. The Office of

Comment [ED2]: Callout box listing partners:

The University System of Maryland (USM)
Morgan State University
St. Mary's College of Maryland
The Maryland Association of Community Colleges (MACC)
The Maryland Independent College and University Association (MICUA)
The Maryland Association of Private Colleges and Career Schools (MAPCC)

Comment [EAAD3]: Callout box listing the advisory councils:

Segmental Advisory Council
Faculty Advisory Council
Student Advisory Council
Student Transfer Advisory Council
Financial Advisory Council

Comment [ED4]: Callout box listing all certificates

(a) Lower division certificate;
(b) Upper division certificate;
(c) Post-baccalaureate certificate;
(d) Post-master's certificate;
(e) Professional certificate;
(f) Certificate of advanced study; and
(g) Directed Technology Certificate.

COMAR *13B.02.03.02.B(3)*

Comment [ED5]: Callout box listing all degrees:

(a) Associate of Applied Science (A.A.S.);
(b) Associate of Arts (A.A.);
(c) Associate of Arts in Teaching (A.A.T.);
(d) Associate of Fine Arts (A.F.A.);
(e) Associate of Science (A.S.);
(f) Associate of Science in Engineering (A.S.E.);
(g) Bachelor of Arts (B.A.);
(h) Bachelor of Fine Arts (B.F.A.);
(i) Bachelor of Professional Studies (B.P.S.);
(j) Bachelor of Science (B.S.);
(k) Bachelor of Technical Studies (B.T.S.);
(l) Master's; and
(n) Doctorate.

COMAR *13B.02.03.02.B(5)*

Academic Affairs works closely with accrediting agencies and supports institutions in a variety of initiatives on student access, retention, and completion. The Office of Academic Affairs also coordinates efforts to support students when a Maryland institution closes.

The Office of Finance Policy administers the largest portion of State funds in the Commission budget: over $400 million annually in State aid programs to the community colleges, the independent colleges and universities, and the regional higher education centers. Major activities associated with these responsibilities include reviewing and certifying audited enrollment numbers, analyzing financial statements, calculating funding formulas and determining the level of State aid, certifying the use of funds, analyzing annual budget requests, developing guidelines, verifying documentation and processing all requests for State matching funds, and preparing budget projections. The Office of Finance Policy is also responsible for the annual operating funding guidelines for public four-year colleges and universities and administers the enhancement fund for the State's Historically Black Colleges and Universities (HBCUs). Finally, the Office of Finance Policy is responsible for capital budget management for higher education. It administers the Community College Capital Grant program, an $80 million capital bond program, which provides State assistance for the construction and improvement of facilities at community colleges.

The Office of Student Financial Assistance awards tens of millions of dollars in scholarships and state financial aid to over 60,000 students every year. During the 2016-2017 award year, the Office of Student Financial Assistance (OSFA) reached a 65% acceptance rate in the State's largest need-based aid program, the Educational Assistance Grant. This was the highest acceptance rate in over 15 years. OSFA attributes the increase in the programs acceptance rates to increased outreach, implementation of text messaging, and earlier awarding. In addition to student financial aid, the Commission oversees several grants for both students and institutions such as the Near-Completers Grant, Gear Up, and One Step Away.

Comment [ED6]: Callout box listing all current grants programs

--College Preparation Intervention Program (CPIP)
--Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP)
--Hal and Jo Cohen Graduate Nursing Faculty Scholarship (GNF)
--Health Personnel Shortage Incentive Grant (HPSIG)
--Improving Teacher Quality (ITQ)
--Maryland Higher Education Outreach and College Access Pilot Program (MD HEOCAP)
--Maryland Offshore Wind Energy Research Challenge Grant Program (MOWER)
--New Nursing Faculty Fellowship Program (NNFF)
--Nurse Educator Doctoral Grants for Practice and Dissertation Research (NEDG)
--Nurse Support Program II – Competitive Institutional Grants (NSP II)
--Complete College Maryland – One Step Away (OSA)

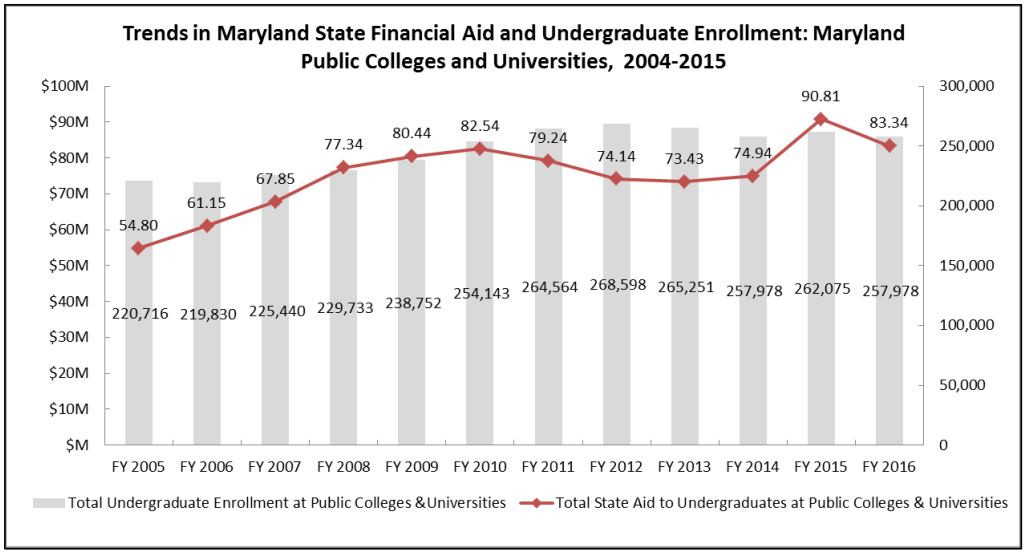

Figure 3. Trends in Maryland State Financial Aid and Undergraduate Enrollment: Maryland Public Colleges and Universities, 2004-2015[3] [xii]

The Commission's Office of Information Technology manages an extensive data collection from Maryland institutions. The Office of Research and Policy Analysis uses these data to conduct analysis and prepare reports for the Governor, the Maryland legislature, and the general public about issues such as enrollment, retention, financial aid, and degree completion. Data is also shared with the federal government. Both of these departments also coordinate with the Maryland Longitudinal Data System Center (MLDS Center) to support its work as the State's central repository of combined student and workforce data.

The Commission is also home to the State Approving Agency (SAA) for Veterans Education Programs. For a veteran, reservist, or dependent to use GI Bill® benefits in a program at a Maryland postsecondary institution, a program must be approved by a State Approving Agency. The current estimated number of veterans in Maryland is approximately 414,879.[xiii] In FY2017, the Maryland SAA reported 198 active postsecondary, secondary institutions and training establishments including public/private colleges, universities, for-profit schools, high schools, flight training centers, and employers offering Apprenticeship/On-the-Job training programs. The U.S. Department of Veterans Affairs most recently ranked Maryland as 10th in the nation with nearly 30,500 GI Bill® Education Benefit recipients totaling more than $133 million in Education Benefit payments.[xiv]

Comment [ED7]: Callout box listing facts about Veterans in Maryland:

--198 active postsecondary institutions and training establishments
--414,897 veterans in Maryland

[3] Note: Aid includes: Merit, Need-based, Career, Legislative, and Unique Populations

Postsecondary Partners in Maryland

There are several organizations that represent common bodies of postsecondary education that work together with the Commission to serve the needs of Maryland students. The University System of Maryland is Maryland's public higher education system composed of 11 degree-granting institutions and one research institute. In addition to the 11 institutions under the University System of Maryland, Maryland is home to two additional public four-year institutions: Morgan State University and St. Mary's College of Maryland. Four of Maryland's 13 public four-year institutions are historically black colleges and universities (HBCUs): Bowie State University, Coppin State University, Morgan State University, and the University of Maryland Eastern Shore.

Equally important are Maryland's 16 community colleges. All community colleges in Maryland are open access campuses, meaning that there are no scholastic admission requirements. Each community college serves their respective county in Maryland, with some community colleges serving multiple counties. The Maryland Association of Community Colleges (MACC) serves as the unified voice for Maryland's community colleges.

In addition to the 29 public institutions, Maryland is home to numerous private and independent degree-granting institutions. The Maryland Independent College and University Association (MICUA) represents 15 private, nonprofit colleges and universities, 13 of which receive funding from the State.

There are over 125 private career schools currently operating in Maryland. These schools provide specialized training in specific fields, such as allied health, real estate, personal care, and mechanical fields. The Maryland Association of Private Colleges and Career Schools (MAPCC) represents several of the non-real estate private career schools.

Other institutions in Maryland that serve students include for-profit degree-granting institutions, institutions with a religious exemption, out-of-state institutions operating in Maryland, and regional higher education centers.

Maryland is also a member of the regional postsecondary compact, the Southern Regional Educational Board (SREB). SREB is a non-profit regional interstate compact for education that helps state leadership advance public education through a variety of initiatives.

Comment [ED8]: Callout box listing the 12 institutions and 2 regional higher education centers: Bowie State University, Coppin State University, Frostburg State University, Salisbury University, Towson University, University of Baltimore, University of Maryland, Baltimore, University of Maryland, Baltimore County, University of Maryland, College Park, University of Maryland Eastern Shore, University of Maryland University College, University of Maryland Center for Environmental Science; Universities as Shady Grove, University System of Maryland at Hagerstown

Comment [ED9]: Callout box listing the 16 community colleges:
Allegany College of Maryland, Anne Arundel Community College, Baltimore City Community College, Community College of Baltimore County, College of Southern Maryland, Carroll Community College, Cecil College, Chesapeake College, Frederick Community College, Garrett College, Hagerstown Community College, Harford Community College, Howard Community College, Montgomery College, Prince George's Community College, Wor-Wic Community College

Comment [ED10]: Callout box listing the 15 MICUA institutions:
Capitol Technology University, Goucher College, Hood College, Johns Hopkins University, Loyola University Maryland, Maryland Institute College of Art, McDaniel College, Mount St. Mary's University, Notre Dame of Maryland University, St. John's College, Stevenson University, Washington Adventist University, Washington College, Ner Israel Rabbinical College, St. Mary's Seminary and University

Comment [ED11]: Callout box defining: "Regional higher education center" means a higher education facility in the State that (1) is operated by a public institution of higher education in the State or a private nonprofit institution of higher education operating under a charter granted by the General Assembly and includes participation by two or more institutions of higher education in the State, (2) Consists of an array of program offerings from institutions of higher education approved to operate in the State by the Commission or by an act of the General Assembly, (3) that specifically satisfies the criteria set forth in § 10–212(b) of this title, and (4) is either approved by the Commission to operate in the State or is established by statute. (Education Article §10–101)

Comment [ED12]: List states in SREB:
Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia

Through SREB, Maryland is also a member of the National Council for State Authorization Reciprocity Agreements (NC-SARA). NC-SARA provides a forum for states to oversee the delivery of postsecondary education from out-of-state institutions.

Current Initiatives in Maryland

There are several initiatives which Maryland postsecondary education is currently committed to. Many of these initiatives address goals presented in previous plans. A primary initiative is the 55% Completion Goal set during the 2013 legislative session, which states:

"It is the goal of the state that at least 55% of Maryland's adults age 25 to 64 will hold at least an associate's degree by the Year 2025" (Education Article §10-205(A)).

The Commission released a progress report in December 2016 (Report on Best Practices and Annual Progress Toward the 55% Completion Goal) concluding that Maryland is "on track to achieve the 55% completion goal by 2025" with most segments of higher education slightly over the target. Many institutions have implemented a variety of strategies that will be highlighted in the upcoming goals and strategies. The 2025 55% completion goal remains a top priority with a continued commitment from all postsecondary segments.

The 2025 55% completion goal was presented in the seminal College and Career Readiness and College Completion Act of 2013 (CCRCCA; Chapter 533 of the Acts of 2013). In addition to the 2025 55% completion goal, the CCRCCA legislatively required several coordinated changes to improve postsecondary education in Maryland. Such changes include:

- Developing a statewide transfer agreement and reverse transfer agreement, streamlining the transfer process between community colleges and four-year institutions (progress described on page xx)
- Creating the goal and developing incentives for community college students to complete an associate's degree before transferring to a four-year institution (ongoing)
- Creating a campaign to identify and encourage near-completers to re-enroll and finish their degree (progress described on page xx)
- Requiring students to file degree plans (a course of study requirement) at specific points during their academic career (implemented)
- Establishing graduation benchmarks (implemented)
- Requiring math and English courses within the first 24 credits (implemented)

- Requiring remedial or developmental coursework to be a co-requisite of credit-bearing work or a pre-requisite that is taken the semester before enrolling in credit-bearing work (implemented)
- Requiring students in danger of falling behind in meeting graduation and/or programmatic benchmarks to meet with an academic advisor (implemented)
- Providing financial aid to transfer students who transfer with an associate's degree (implemented; transfer scholarship described on page xx)
- Standardizing a baccalaureate degree to 120 credits and an associate's degree to 60 credits (with specific exceptions) (implemented)
- Establishing the Early College Access Grant, which provides financial assistance to dually enrolled students (students who are enrolled in both a secondary school and an institution of higher education) (implemented with no funding)
- Creating limitations on charging tuition for dually enrolled students and explicating tuition agreements between local school systems and institutions (implemented)

Comment [ED13]: Callout box defining remedial or developmental coursework:

"Remedial education" means a course or series of courses or services, or both, designed to remedy deficiencies in preparation for college-level work, especially in reading, writing, mathematics, and study skills that cannot be applied to credit for a degree or certificate. (COMAR *13B.02.01.03.B(16)*)

These changes are to be coordinated through efforts by the Commission and implemented by all postsecondary institutions. Many of these changes have been implemented. However, some of these changes continue to be refined. The postsecondary community in Maryland recognizes that these changes create transparency for students and improve educational opportunities and outcomes.

Related to these efforts, the Governor's P-20 Leadership Council of Maryland is similarly charged:

"To ensure college and career readiness and college completion strategies are implemented" (Education Article §24-801).

The Governor's P–20 Leadership Council of Maryland (P-20 Council) "is a partnership between the State, educators, and the business community to better prepare Maryland students for the jobs of the 21st century while enhancing the State's economic competitiveness by creating a workforce with 21st-century skills." (Education Article §24-801) In addition to the Secretary of Higher Education and representatives from other postsecondary partners, the P-20 Council includes higher education representatives from community colleges, independent colleges and universities, and a specific representative from higher education who has a responsibility for a science, technology, engineering, and math (STEM) discipline. Postsecondary education plays a vital role in the economic health of Maryland by working within the P-20 Council framework.

Comment [ED14]: Callout box listing facts/information about the P-20 Council

Current Chair of P-20: Secretary of Labor, Licensing and Regulation Secretary Kelly M. Schulz

Workgroups:
Workforce Development
GED/ Adult Education
Teachers Induction and Retention
Maryland College and Career Ready Standards (MCCRS)/PARCC
Maryland Longitudinal Data System
College and Career Readiness Implementation
At-Risk Students

In addition to the P-20 Council, the Governor's Workforce Development Board (GWDB) is the Governor's chief policy-making body for workforce development and is mandated by the federal Workforce Innovation and Opportunity Act (WIOA). Similar to the P-20 Council, the GWDB is a regularly convening body that recognizes the essential role postsecondary education has in coordinating an effective workforce system.

Most recently, Governor Hogan has supported the development and implementation of several P-TECH schools throughout Maryland. Through an RFP funding process, interested school districts can partner with community colleges to develop a P-TECH program for secondary schools. Currently, there are four programs in Maryland with the goal to add two more programs. The P-TECH model provides the opportunity for earlier access to postsecondary education to Maryland students with unique opportunities to engage with a specific industry.

Postsecondary education in Maryland partners with several other governmental agencies in a continued effort to meet the needs of Maryland students. As previously noted, this includes ongoing relationships with the Maryland State Department of Education (MSDE) to discuss and improve elements of college and career readiness, dual enrollment, teacher preparation, and early college access programs like P-TECH, such as Career and Technology Education (CTE). Similarly, postsecondary education must also work closely with the Department of Labor, Licensing, and Regulation and the Department of Commerce to align academic programs with workforce needs and funding opportunities. Finally, postsecondary education can benefit from the coordinated work of the MLDS Center.

Postsecondary education in Maryland would not be as successful as it is today without the support and commitment of the Governor's Office and the Maryland General Assembly. It is with their leadership that we can expect to be successful with the targeted goals for postsecondary education in Maryland.

Presented in the following sections are three primary goals for postsecondary education in Maryland: student access, student success, and innovation in higher education. Specific strategies to implement each goal are presented as targeted tasks for the postsecondary education community in Maryland to embrace over the next four years.

Challenges that Maryland currently faces around access and success are presented. Current initiatives to address those challenges are described, and recommended "action items" for postsecondary partners are suggested. National initiatives from non-profit organizations, like Complete College America and the Lumina Foundation, are presented as examples.

Comment [ED15]: Callout box listing facts/information about the GWDB

--Current Chair of GWDB: Louis M. Dubin, Managing Partner, Redbrick LMD

GWDB Mission: To guide a nationally-recognized workforce development system that aligns with the economic and educational goals of the State of Maryland and will result in a qualified workforce available to employers across the State.

GWDB Vision: A Maryland where every person maximizes his or her career potential and employers have access to the human resources they need to be successful. The vision includes:
Alignment of the business, workforce system, and economic development interests in Maryland.
Well-integrated, coordinated and collaborative systems across agencies, institutions, local areas, and business.
Preservation and expansion of Maryland's highly-educated workforce.
Creation of opportunities for all Maryland residents to participate and succeed in the workforce.

Comment [ED16]: Callout box defining P-TECH school:

a Pathways in Technology Early College High school (P-TECH) that:
--Is a public secondary school selected by the Department
--Partners with an institution of higher education that has received a certificate of approval from the Commission under Title 11, Subtitle 2 of this article
--Has a "P–TECH curriculum," meaning a course of study leading to an associate degree or a Commission–approved certificate.
--Includes mentorship and internship opportunities with a business partner

A summary of the strategies can be found on the next page, and a summary of the action items can be found at the end of this document. The Commission strongly encourages all segments and partners in postsecondary education to identify at least one strategy from each goal to focus on for the next four years and develop strategic plans accordingly.

This plan reflects the work of three workgroups aligned with each goal. Workgroup membership can be found in the Appendix and reflects participation from all postsecondary partners. The Commission reviewed this document and approved it as the 2017-2021 Maryland State Plan for Postsecondary Education on XX. The Commission, when appropriate, will convene various stakeholder groups to discuss and implement innovative initiatives that increase student access and success with less debt.

Higher Education Tomorrow: 2017-2021 State Plan Goals and Strategies

ACCESS: Ensure equitable access to affordable and quality postsecondary education for all Maryland residents.

Strategy 1: Continue to improve college readiness among K-12 students, particularly high school students.

Strategy 2: Cultivate greater financial literacy for students and families to encourage financial planning and to prepare for college.

Strategy 3: Expand efforts to cultivate student readiness, financial literacy, and financial aid for individuals outside traditional K-12 school channels.

SUCCESS: Promote and implement practices and policies that will ensure student success.

Strategy 4: Ensure equal educational opportunities for all Marylanders by supporting all institutions.

Strategy 5: Ensure that statutes, regulations, policies, and practices that support students and encourage their success are designed to serve the respective needs of both traditional and non-traditional students.

Strategy 6: Improve the student experience by providing better options and services that are designed to facilitate prompt completion of degree requirements.

Strategy 7: Enhance career advising and planning services and integrate them explicitly into academic advising and planning.

INNOVATION: Foster innovation in all aspects of Maryland higher education to improve access and student success.

Strategy 8: Develop new partnerships between colleges and businesses to support workforce development and improve workforce readiness.

Strategy 9: Strengthen and sustain development and collaboration in addressing teaching and learning challenges.

Strategy 10: Expand support for research and research partnerships.

Strategy 11: Encourage a culture of risk-taking and experimentation.

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ACCESS: Ensure equitable access to affordable and quality postsecondary education for all Maryland residents.

Access is the key to entry into postsecondary education, and Maryland has been participating in the national effort to increase student college enrollment by providing increased accessibility to a wider range of students. To provide for access, the State must ensure that students are prepared for postsecondary education, and ensure that postsecondary education is affordable for all. Innovative academic programs with supportive financial aid programs can be designed to support students that traditionally have not been scholastically or financially prepared for the rigors of college. Access to postsecondary education must be tied to increasing college readiness, improving financial literacy, and expanding access to all students. Without access, the benefits and advantages of postsecondary education cannot be attained and achieved, and Maryland citizens will not be prepared for the ever-increasing complexity of educational demands today or tomorrow. By increasing access for all citizens, Maryland's institutions will increase participation by diverse populations, enabling Maryland to be a national leader in higher education excellence and diversity.

Strategy 1: Continue to improve college readiness among K-12 students, particularly high school students.

Strategy 2: Cultivate greater financial literacy for students and families to encourage financial planning and to prepare for college.

Strategy 3: Expand efforts to cultivate student readiness, financial literacy, and financial aid for individuals outside traditional K-12 school channels.

Strategy 1: Continue to improve college readiness among K-12 students, particularly high school students.

Demonstrating college readiness is a critical element for students interested in postsecondary education. Higher education stakeholders in Maryland have worked with the Maryland State Department of Education (MSDE) for many years to ensure academic alignment among elementary, secondary, and postsecondary outcomes. However, Maryland faces high rates of remediation for college students. Before the implementation of several strategies found in the College and Career Readiness and College Completion Act of 2013 (CCRCCA), more than 50% of students in the 2013-2014 academic year[xv] were assessed to need remedial coursework. As noted in the 2013 "Maryland Ready" State Plan, "remedial instruction at the postsecondary level represents an inefficient use of State resources: first resources are used for instruction at the K-12 level, and then additional resources are used for instruction in the same subject at the postsecondary level" (pp. 9-10). Such high remediation rates ultimately indicate that students entering postsecondary education are not college ready.

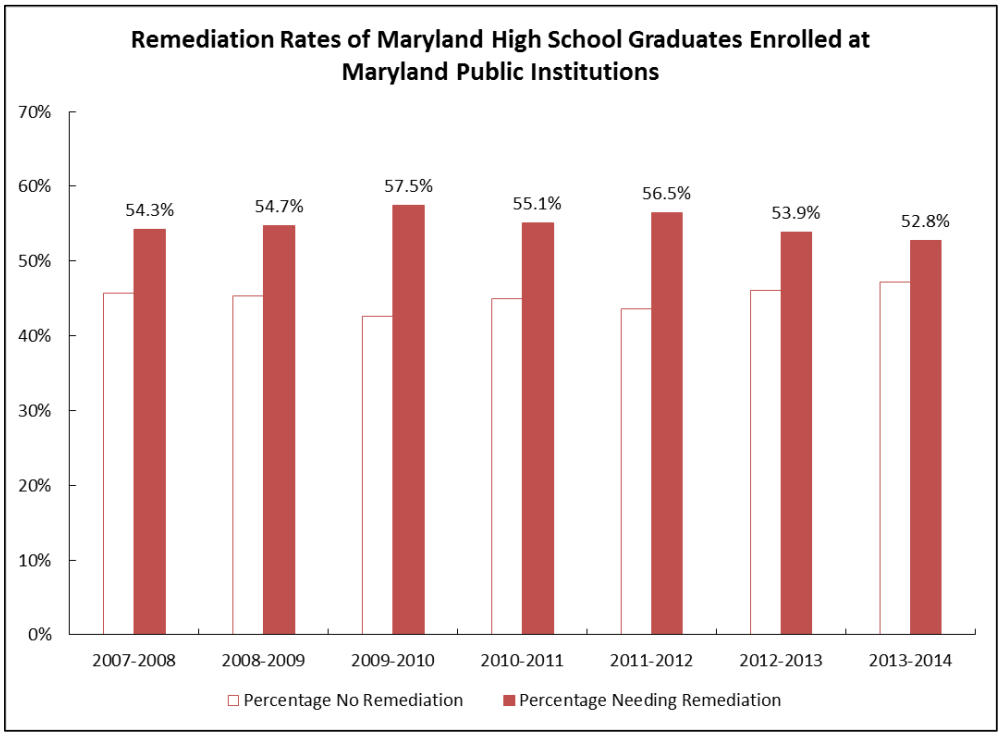

Figure 4. Remediation Rates of Maryland High School Graduates Enrolled at Maryland Public Institutions[xvi]

Measuring College Readiness

The first challenge in addressing college readiness is determining how to measure college readiness. The CCRCCA created a variety of initiatives designed to improve the readiness of high school graduates for colleges and careers. MSDE has been responsible for developing a number of programs and practices related to college readiness, and MSDE has consulted higher education institutions and various stakeholder groups in the development of these approaches. Many of these initiatives are designed to culminate in evaluations that signal student readiness for college.

There is some variability in measure college readiness, regardless of domain, throughout the State. The CCRCCA requires that students be evaluated, no later than 11th grade, for college (and career) readiness. The Maryland State Department of Education is using the PARCC exam, as well as other measures such as AP scores and dual enrollment, to determine college readiness. These standards were implemented in the 2015-2016 school year. As these evaluations are put in place, it will be important for the Commission and higher education institutions to work with Local Education Agencies (LEAs) to evaluate the effectiveness of college readiness assessments.

Comment [EAAD17]: Callout box for action item:

Work with LEAs to evaluate the effectiveness of college readiness assessments.

For many years, Maryland institutions have utilized their own college readiness measures for incoming students. It should be noted that admission criteria and measures of college readiness are interrelated but also independent factors affecting access to postsecondary education. A high school diploma has not necessarily indicated that a student is ready for college coursework. Therefore, students interested in enrolling in college must demonstrate college readiness through other means. Most often, readiness is evaluated by placement examinations, although high school grades and standardized test scores are also frequently used. If a student is found not ready for college coursework, they are expected to take remedial coursework. In Maryland, college readiness is measured in three broad domains: math, English, and reading. The time spent on remedial courses depletes financial reserves and leads to increased debt.

In August 2016, MACC, on behalf of all 16 Maryland community colleges, entered into a Memorandum of Understanding (MOU) with the Public School Superintendents Association of Maryland.[4] The MOU identifies college readiness placement scores for all community colleges on a number of examinations. While this is an important first step in ensuring that the same metrics are used at all community colleges, all postsecondary institutions should convene to

Comment [ED18]: Callout box: list of selected measures of college readiness

--SAT
--ACT
--PARCC
--Accuplacer
--AP Courses
--Dual Enrollment

[4] The MOU was recently resigned.

identify criteria for evaluating college readiness, complementing the measures used by MSDE. Again, public and private four-year institutions in Maryland independently determine college readiness. These placement scores may be different from entrance or admission requirements. A common understanding of measures in use across the state will ensure that students, families, and educators will have clear thresholds for determining college readiness.

Moreover, educators know that one single measure of college readiness is often inadequate for understanding student readiness. Multiple measures are currently considered good practice in ensuring that students are not boxed out of opportunities for success. Similarly, cumulative high school grade point average (GPA) is currently being considered a useful metric of college readiness.

In addition to considering multiple measures, it is also important to consider the longevity or life of a test score. Students may not immediately enter into postsecondary education after completing high school. Delayed entry may affect the accuracy of measures of a student's college readiness. Similarly, there may be a hiatus effect where students might be tested and deemed eligible at the end of 11th grade, but do not revisit similar material until two, three, or several years later. In order to ensure equal access for all students, postsecondary education in Maryland must systematically coordinate efforts for measuring college readiness.

Comment [EAAD19]: Callout box for action item:

Develop statewide metrics for college readiness that also considers the longevity of the measure.

Transition Courses: Supporting High School Students

In addition to college and career readiness metrics, MSDE is developing transition courses for students not deemed college and career ready by the end of 11th grade. Students who do not meet the MSDE college readiness standards by 11th grade are to enroll in a "transition course" in 12th grade. While the college readiness standards were implemented in the 2015-2016 school year, the transition courses were implemented in the 2016-2017 school year. Transition courses currently vary by LEA and school, with some schools working with their local community college to develop the curriculum for each course.

The transition courses for high school seniors should help to lower the high rates of remediation in Maryland, ultimately improving college readiness in Maryland and move students more quickly to completion of their educational goals. Beginning in the 2017-2018 school year, MSDE will begin collecting information on transition and module courses, and reassessments through several data collections. Additionally, transition courses that are developed with institutional partners can ensure alignment among college readiness outcomes.

Comment [ED20]: Additional information regarding data collections: the Maryland Course Catalog (MCC), Student-Course Grade-Teacher (SCGT), High School Status and Completers (HSSC) data collections. The MCC data collection will gather the transition courses and modules offered by subject area in each LEA. The SCGT data collection will collect information on individual students taking and passing transition courses or modules. The HSSC data collection will collect information on students as they exit Maryland public high schools including their College and Career Readiness designation, any transition courses or modules, and reassessments

Comment [ED21]: Callout box for action item:

Develop transition courses in alignment with remedial or developmental coursework at partnering institutions

Early Access to College

Well-qualified high school students have a multitude of opportunities to engage with college coursework. Students throughout Maryland have the opportunity for dual enrollment in courses offered at community colleges. Postsecondary institutions in Maryland often sign MOUs with local school systems to implement policies and procedures related to dual enrollment. There are many examples of more formal early college access programs throughout Maryland, such as Career and Technology Education (CTE), P-TECH schools, and early/middle college programs.

MSDE provides CTE opportunities to students in secondary schools in Maryland that include ten career clusters. While some CTE programs help students prepare for direct entry into careers, other high school CTE programs of study give students the opportunity to transition smoothly into further education or postsecondary education and to earn college credit and industry credentials in a career field of interest. Postsecondary institutions in Maryland can maximize on these programs when they align with specific programs offered at their institution, facilitating an effective progression from high school to college.

Community colleges throughout Maryland have implemented programs often referred to as middle or early college. These programs allow students to earn an associate's degree and a high school diploma by the end of the 12th grade. A student completing one of these programs is prepared to enter upper-division four-year college education. Maryland has several early college programs that function under different names. The P-TECH model is one example of an early college program that includes partnerships with local businesses and is geared towards the science, technology, engineering, and mathematical fields. Similarly, Bard College opened a high school in Baltimore with an early college program that is unique to the academic and programmatic outcomes of Bard College. Higher education institutions can increase the number and effectiveness of these programs by working collaboratively with their local school systems. These initiatives improve and expand access to college materials for students who are ready for college before graduating from high school. These programs are also often cost effective for both the student and the Maryland taxpayer.

Comment [ED22]: Callout box defining dual enrollment:

A "Dually Enrolled" student means a student who is dually enrolled in (1) a secondary school in the State and (2) an institution of higher education in the State. (Education Article, §18–14A–01.)

Comment [ED23]: Callout box for information about the CTE Clusters:

Maryland's CTE Career Clusters
- Arts, Media, and Communication
- Business Management and Finance
- Construction and Development
- Consumer Services, Hospitality, and Tourism
- Environmental, Agricultural, and Natural Resources
- Health and Biosciences
- Human Resource Services
- Information Technology
- Manufacturing, Engineering, and Technology
- Transportation Technologies

Comment [ED24]: Callout box for action item:

Align academic programs with CTE programs for smooth transition

Comment [ED25]: Callout box for action item:

Work with local school systems to improve middle college programs that award degrees.

Strategy 2: Cultivate greater financial literacy for students and families to encourage financial planning and to prepare for college.

Finances continue to be one of the primary reasons why students do not persist in their quest for a postsecondary education credential. Many students underestimate or are not aware of the total price of college. Others do not understand the advantages and disadvantages of using debt as a means of investing in their academic career. Additionally, financial stressors disrupt their focus on their studies and discourage their progress.

Across the nation, the cost of postsecondary education has increased over the past decade, requiring most students to seek loans. The number of students with over $30,000 in student debt has increased 18% from 2003 to 2011. While the price of postsecondary education has increased, wages have not had a similar increase. Average wages have only increased by $6,600 during the same time.

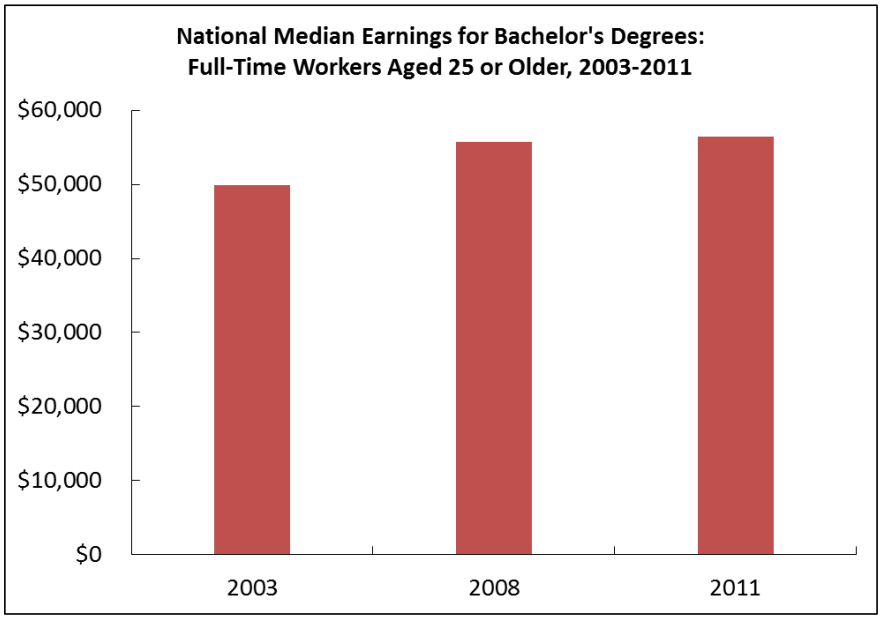

Figure 5. National Median Earnings for Bachelor's Degrees: Full-Time Workers Aged 25 or Older, 2003-2011[xvii]

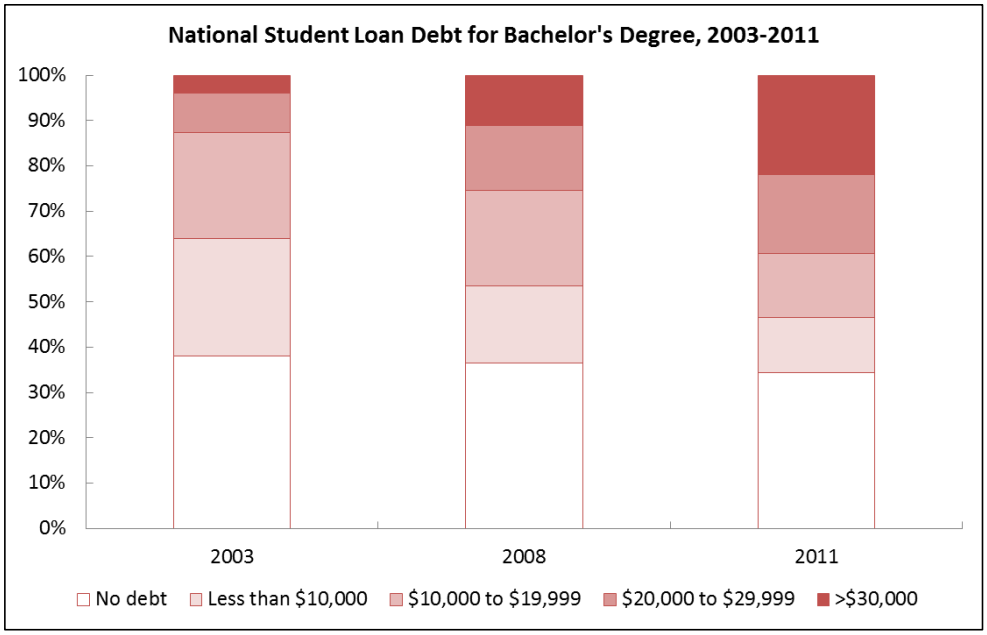

Figure 6. National Student Loan Debt for Bachelor's Degree, 2003-2011[5] [xviii]

Federal, state, and local governments, as well as individual colleges and universities, provide several programs designed to help students and families pay for college. However, many students and families are unaware of these programs, and often do not know how to make the most of these public and private resources to pay for college.

The State of Maryland, via the Commission, administers over $100 million each year in state scholarships, financial aid, and tuition waivers. A recent change in Commission practices now allows students to complete one form, the Free Application for Federal Student Aid (FAFSA), to determine eligibility for Maryland state aid. By combining these two processes – eligibility for federal aid and eligibility for state aid – the Commission helps students to maximize their opportunity for financial assistance.

Additionally, OSFA implemented text messaging as a form of communication and outreach to Maryland residents for State financial aid grants and scholarships. Today there are more than 20,000 subscribers. Many institutions are using similar methods to engage potential students.

Comment [ED26]: Callout box listing all MHEC financial aid:

Need-Based Grants
- Howard P. Rawlings Program of Educational Excellence Awards:
  - Guaranteed Access Grant
  - Educational Assistance Grant
  - Campus-Based Educational Assistance Grant
- 2+2 Transfer Scholarship
- Part-Time Grant
- Graduate and Professional Scholarship Program

Legislative Scholarships
- Delegate Scholarship
- Senatorial Scholarship

Career/Occupation-Based Grants and Scholarships
- Charles W. Riley Firefighter and Ambulance and Rescue Squad Member Scholarship Program-
- Janet L. Hoffman Loan Assistance Repayment Program (LARP)
- John R. Justice Grant Program
- Maryland Loan Assistance Repayment Program for Physicians (MLARP)
- Maryland Dent-Care Loan Assistance Repayment Program (MDC-LARP)
- Nurse Support Program II - Hal and Jo Cohen Graduate Nursing Faculty Scholarship
- Tuition Reduction for Non-Resident Nursing Students
- Workforce Shortage Student Assistance Grant Program
- Service Obligations

Unique Populations
- Jack F. Tolbert Memorial Student Grant Program
- Edward T. and Mary A. Conroy Memorial Scholarship Program and Jean B. Cryor Memorial Scholarship Program
- Veterans of Afghanistan and Iraq Conflicts Scholarship
- Tuition Waiver for Foster Care Recipients
- Tuition Waiver for Unaccompanied Homeless Youth
- Tuition Waiver for Maryland National Guard
- Tuition Waiver for Students with Disabilities

Comment [ED27]: Callout box highlighting elements of the FAFSA, such as:

--when the form opens
--deadline to complete the form
--information needed for the form

[5] NOTE: Data includes both federal and nonfederal borrowing for students at public 4-year institutions.

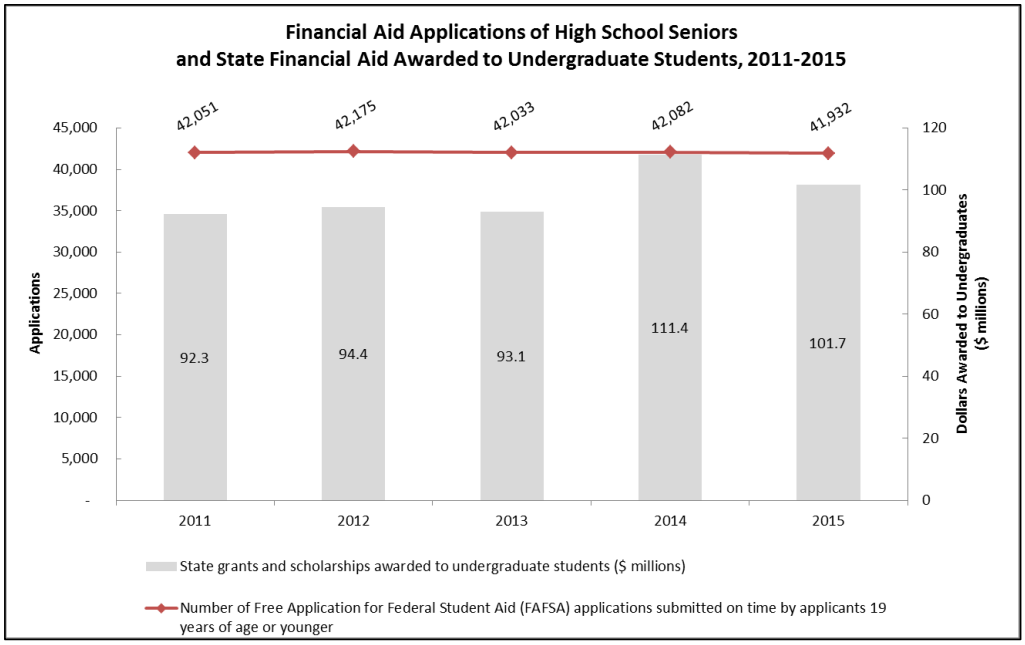

Figure 7. Financial Aid Applications of High School Seniors and State Financial Aid Awarded to Undergraduate Students, 2011-2015[6] [xix]

Financial Literacies: Going Beyond the Basics

Educating students on financial competencies should go beyond a list of scholarships and should be an active ongoing process through a student's high school and college career. Many first-time, full-time students in Maryland attend a postsecondary institution immediately after graduating high school. And many Maryland students are first-generation students. Therefore, students are likely to be both inexperienced in handling their own finances and may not have the familial experience to help navigate a system intended to help them. Working with MSDE, the postsecondary community in Maryland can help to expand current efforts to educate Maryland students interested in college.

Comment [ED28]: Callout box defining first-generation students:

Students who are the first in their immediate family to attend or graduate from college

For example, MSDE's K-12 Personal Financial Literacy Program is at the front line in this effort. In June 2010, the Maryland State Board of Education adopted regulations requiring local school systems to implement a program of instruction in personal financial literacy education for all students at the elementary, middle and high school level.

[6] NOTE: this includes students enrolled at Private Career Schools

Programs and curriculums like this should maximize existing partnerships between the Commission, MSDE, LEAs, and local colleges and universities. They should be expanded to provide greater financial literacy initiatives, programs, and/or curriculums for students. These initiatives should include a variety of financial competencies, such as:

- Maximizing scholarship funds
- Assessing return on academic investment
- Smart federal borrowing
- Pre-borrowing loan repayment planning
- Smart employment choices
- Maryland's 529 Plan

Comment [ED29]: Callout box for action item:

Expand and empower existing partnerships to improve financial literacy initiatives, programs, and/or curriculums

Comment [ED30]: Callout box for action item:

Expand financial competencies to go beyond a basic understanding of student loans, grants, and scholarships.

In addition to explicit curriculums and programs within Maryland's K-12 system, guidance counselors and other key staff at local public schools are often the point of contact in planning for college, both financially and academically. In addition to in-house guidance counselors, many school districts have contracts with non-profit organizations to help reach all students. These professionals, often identified as "college access professionals," can help ensure that students are well-educated about the various educational opportunities and their options to fund those opportunities.

The higher education community in Maryland should work with local partners to ensure that all guidance counselors and college access professionals have access to information that helps students find the right information for their interests, such as a working knowledge of the FAFSA and an understanding of the postsecondary landscape in Maryland. Guidance counselors and college access professionals need to have all resources available to educate students and parents regarding decisions surrounding postsecondary education and employment opportunities.

Comment [EAAD31]: Callout box for action item:

Create and improve on relationships with local guidance counselors and college access professionals.

Linking Academic Planning to Financial Planning

Academic planning, such as setting a schedule and choosing a major, is often considered a separate planning process from financial planning. However, academic planning is directly tied to financial planning. Dual enrollment programs and choice of major can have a direct impact on the cost of postsecondary education and the ultimate return on investment. Academic planning should reflect a cost-effective academic-career planning process. For example, Complete College America, a nonprofit organization focused on college completion, promotes a "15 to finish" reform that has been successful in some states at increasing the number of students taking 15 credits or more per semester, or 30 credits per year.

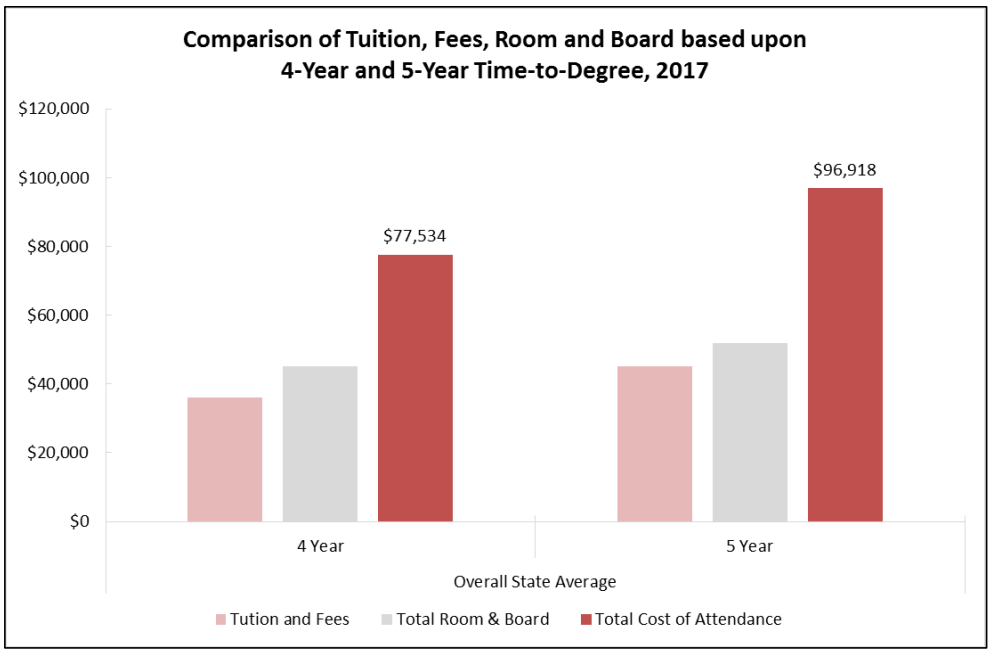

Figure 8. Comparison of Tuition, Fees, Room and Board based upon 4-Year and 5-Year Time-to-Degree, 2017[7] [xx]

For a student to complete an associate's degree in two years or a bachelor's degree in four, the student needs to successfully complete at least 15 credits each fall and spring semester, or 30 credits over an academic year. However, many financial aid programs depend on the federal definition of full-time status, 12 credits. This policy is designed to allow more students to have access to financial aid even when they choose to carry fewer than 15 credits because of readiness, personal and family obligations, or other limitations. However, this generous aid policy may have the effect of lengthening the time it takes for students to earn a degree. Students who end up taking no more than the minimum number of credits per semester will end up attending college longer than expected. And students attending longer than two or four years for each respective degree end up spending more money, incurring more student debt, and/or forfeiting wages that could have been earned after graduation.

Comment [ED32]: Callout box for action item:

Educate students about the definition of full-time status in the context of financially planning their postsecondary career.

The Commission has already begun to explore financial aid policies that might encourage more students to take 15 credits per semester, or 30 per year, to reduce the overall

[7] *Note: University of Maryland, University College and University of Baltimore were omitted from calculation as they do not have on-campus housing. Academic Year Room and Board were estimated for University of Maryland, Baltimore based upon their monthly charges.*

cost of a program. However, it should be noted that requiring 15 credits per semester might put students who have competing demands for their time at risk for failing or performing poorly in their coursework. The risk of failure might be greater than the consequences of not completing their program timely. Financial aid policies should be reviewed and adapted to ensure students do not use more financial resources than necessary to complete a program.

Comment [EAAD33]: Callout box for action item:

Explore financial aid policies that can improve time to completion.

Strategy 3: Expand efforts to cultivate student readiness, financial literacy, and financial aid for individuals outside traditional K-12 school channels.

Higher education in Maryland has typically disseminated information through traditional marketing, such as static websites and brochures, and typically has targeted high school students and their families. As the audience for higher education has expanded to include new generations, new communications tools, new family structures, and new populations outside secondary schools, it is important that the postsecondary community in Maryland utilize the power of other resources to reach both traditional and non-traditional students. In the context of this State Plan, traditional students are those that immediately transition from high school to postsecondary education.

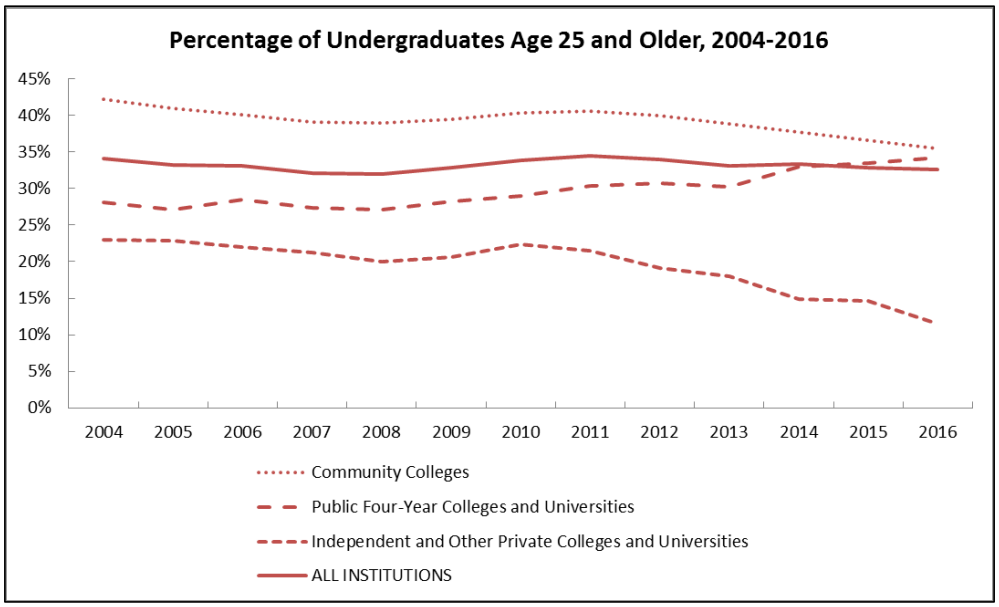

Figure 9. Percentage of Undergraduates Age 25 and Older, 2004-2016[xxi]

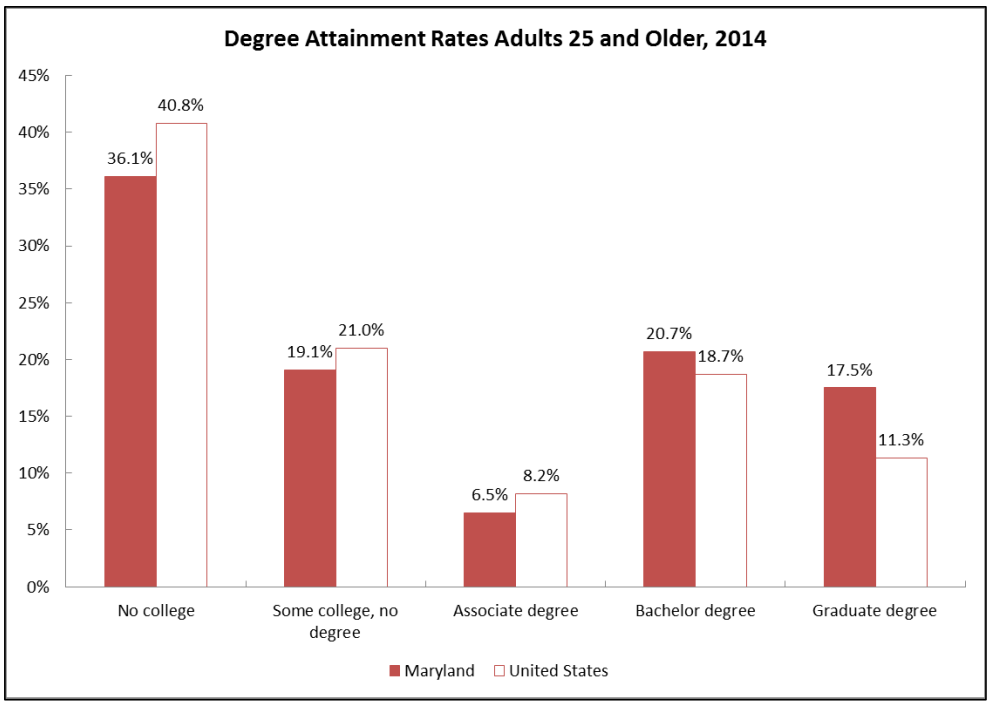

Figure 10. Degree Attainment Rates Adults 25 and Older, 2014[xxii]

Many prospective postsecondary students face information challenges. This is especially true for prospective students outside the traditional K-12 pathway to college. These students may not be explicitly aware of which colleges and programs are available, how college can improve prospects for employment and career success, and how they can benefit from public and private initiatives to increase their success. Additionally, prospective students may face logistical challenges, such as transportation and child care.

Higher education in Maryland must develop and expand policies and procedures that recognize and reward life/career experience, provide support for distinctive needs, and adequately balance flexibility and affordability with accountability (discussed further in Strategy 5). The State, too, should ensure that State policies effectively serve these populations, rather than focusing exclusively on the traditional population. Non-traditional students are important to the State and institutions, and they need more concentrated support in both policy and practice. While all institutions are open to non-traditional students, and while many provide different resources for non-traditional students, there are no statewide efforts to provide support tailored to the distinctive needs of non-traditional students. Maryland is a national leader in having a well-educated workforce. If Maryland wishes to maintain that status, it must

do more to ensure that non-traditional students can enroll and succeed in postsecondary education.

Expanding Partnerships

As previously noted, guidance counselors are often key resources for students in the traditional K-12 pipeline. Most students outside this pipeline do not have similar experts to help guide them and answer questions. In addition to working with college access professionals in local school systems, Maryland's higher education community should expand similar efforts in information services to other channels serving other populations, such as local nonprofits, businesses, and workforce development offices. Programs supported by federal TRIO grants may be of particular interest. For example, postsecondary education may be an opportunity for student experiencing homelessness to move out of homelessness. Homeless coordinators should be equipped with information and training on financial aid options for non-traditional students. Similar coordination could be made with upward bound programs, foster organizations, and organizations that work with immigrant or displaced individuals and families.

Comment [ED34]: Callout box for action item:

Expand partnerships with local services to improve information sharing to prospective students.

Comment [ED35]: Callout box defining TRIO Programs:

The Federal TRIO Programs (TRIO) are Federal outreach and student services programs designed to identify and provide services for individuals from disadvantaged backgrounds. TRIO includes eight programs targeted to serve and assist low-income individuals, first-generation college students, and individuals with disabilities to progress through the academic pipeline from middle school to postbaccalaureate programs.

Maximizing Digital Resources

A primary barrier to reaching non-traditional students is that there is no standard place to find them. Most traditional students can be located at high schools. However, most non-traditional students are not concentrated in a similar way. This means that it is hard to reach non-traditional students, to encourage them to consider higher education, and to guide them through the steps leading to admission (e.g. selecting a program, choosing a college, taking exams, filing the FAFSA) for which high school seniors routinely receive assistance. Different, broader outreach is needed in many venues and across many different media platforms. Similarly, online tools could help students overcome barriers that might otherwise prevent them from seeking postsecondary opportunities. For example, institutions and their partners might consider developing college readiness programs to be offered online. These programs, which should cover the same subjects as are covered in traditional college readiness programs, could prove a key form of outreach for non-traditional students considering college enrollment.

Comment [EAAD36]: Callout box for action item:

Expand outreach to communicate with non-traditional students and offer alternative pathways to access a postsecondary education.

Coordinating with GED programs

Traditional students are often entering postsecondary education with a high school diploma. However, non-traditional students may have other credentials, such as a General Equivalency Diploma (GED). The GED Test is the primary high school equivalency credential. In Maryland, the GED Test is administered through the Department of Labor, Licensing, and

Regulation. The Commission, the Department of Labor, Licensing, and Regulation, and higher education institutions should work together to develop "transfer" programs for GED programs and program participants. Such programs will help students maintain their educational momentum, develop their skills to prepare for postsecondary education, and make a successful transition to college.

Comment [EAAD37]: Callout box for action item:

Work with GED programs to create a pipeline for students completing their GED.

Focusing on First-Generation Students

First-generation students are sometimes in the traditional K-12 pipeline and sometimes in the non-traditional pipeline. Students who are first in their families to attend or graduate college may not have close contacts who know how to prepare for or attend college. They are often unable to depend upon family and friends to help them navigate obstacles and setbacks. First-generation students may not be aware that faculty are available to support them outside of class; tutoring services and counseling resources are available – often at no cost – to assist with academic and person difficulties, or that financial offices can often provide additional aid when students' family members lose jobs or face other financial obstacles. The families of some first-generation students may resist providing information about themselves to college representatives because they do not know how the information can help the student and because they fear that the information may be used in a discriminatory way. Finally, the families of some first-generation students experience a language barrier that they are unable to cross. First-generation students thus need additional support targeted to address these challenges. These initiatives, in time, will decrease the number of first general students.

Comment [EAAD38]: Callout box for action item:

Develop targeted campaigns and programs to support first-generation students.

Targeting Near-Completers

Students may pursue their educational goals but at some point need to leave higher education for a variety of reasons: when the work gets too difficult, when the money runs out, when family needs become a larger time priority, etc. However, this reality does not mean that students are abandoning their educational goals. Students close to completing their degree, or "near-completers", who want to complete their degrees should receive support. Through the state-funded One Step Away grant program, higher education in Maryland (in collaboration with the Motor Vehicle Administration) has worked to identify and contact near-completers, and to provide sub-grants to institutions for targeted initiatives. Institutions should develop initiatives to identify the specific obstacles for the students they serve and develop initiatives to address each obstacle. Efforts to identify and target near-completers should be expanded.

Comment [ED39]: Callout box defining near-completers:

Near-completers are defined as undergraduate students that leave a Maryland institution in good academic standing after accumulating a significant number of credits, but have not earned a degree.

Comment [ED40]: Callout box for action item:

Develop initiatives to identify and address obstacles that student face in preventing them from continued enrollment and completion.

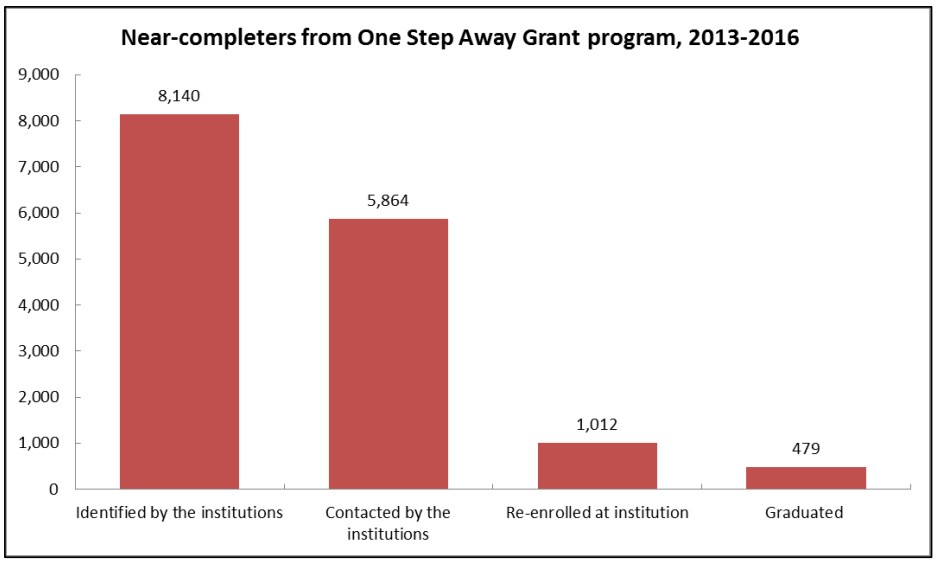

Figure 11. Near-completers from One Step Away Grant program, 2013-2016[xxiii]

The Commission sponsored a multi-media campaign designed to reach students who have not attended college or have not completed their degrees. This campaign ran for six months in 2017.

Supporting Veterans

Since 1944, the GI Bill® has helped millions of veterans pay for college, graduate school, and other training programs. Individuals who have served on active duty after September 11, 2001, the Post-9/11 GI Bill® provides covered individuals with a housing allowance, books and supplies stipend, and the option to transfer unused education benefits to their eligible dependents. To establish accountability of postsecondary institutions and ensure quality education programs, federal and state agencies have collaborated to protect veterans, service members and their families using GI Bill® Education Benefits.

Comment [ED41]: Callout box:

"GI Bill®" is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at www.benefits.va.gov/gibill.

The Commission serves as the official State Approving Agency (or SAA), an approving authority for the U. S. Department of Veterans Affairs. The SAA has approved and supervises postsecondary institutions that are operating in Maryland, including public and private colleges, universities, community colleges, training academies, high schools and private career schools. For a veteran, Reservist or dependent to use their GI Bill® benefits, the program must be approved by a State Approving Agency. Each SAA approved institution will have Veterans Affairs Coordinator for veterans to seek support.

Over the past decade, federal legislation has been enacted to protect the rights of eligible beneficiaries to ensure that these individuals have access to quality education and on-the-job training and apprenticeship programs. Additionally, veteran initiatives have been established through national and local student focused organizations to ensure veteran success and establish adequate resources on and off campus. These initiatives provide effective and efficient methods to assist individuals transitioning from military service to civilian life.

As a result of the enhancements and additions to policies related to veterans and members of the Armed Forces, the number of military-affiliated individuals has drastically increased over the last few years. The large population of working-age veterans in the state of Maryland demonstrates the need for education and training resources to support their efforts to complete their educational and vocational objectives and remain productive citizens in the state of Maryland.

Veterans face several unique challenges when entering into postsecondary education after their service. Veterans can benefit greatly from counseling and health care service providers with also pursuing their postsecondary goals. Institutions should work with veterans to ensure that these services are available and assist veterans in gaining access. Resources should be available to provide additional support systems to address the needs of veterans and service members while enrolled.

Comment [ED42]: Callout box for initiatives:

- Provide Veterans and members of the Armed Forces with information regarding postsecondary education, vocational training opportunities and counseling.
- Establish policies and best practices for awarding academic credit for military training and education.
- Expanding the eligibility requirements of the Fry Scholarship recipients and restricting tuition costs for covered individuals eligible for Post-9/11GI Bill® Education Benefits.
- Disclosure of the total cost of education programs, provide educational plans for all Military and Veteran education beneficiaries.
- Eliminate fraudulent and aggressive recruiting practices.
- Provide accommodations for Service Members and Reservists called to duty.
- Create a centralized mechanism for tracking and publishing feedback from students and State Approving Agencies regarding the quality of instruction, recruiting practices, and post-graduation employment placement of institutions of higher learning.

Comment [ED43]: Callout box for action item:

Support veterans by ensuring appropriate services are available and accessible, such as counseling and health care service providers.

(INTENTIONALLY LEFT BLANK)

SUCCESS: Promote and implement practices and policies that will ensure student success.

Maryland higher education is recognized nationally for its success. The State has the nation's third highest percentage of adults with advanced degrees: 17.3% of Marylanders aged 25 and older have a graduate degree, behind only the District of Columbia (31.3%) and Massachusetts (17.7%). [xxiv] Higher education in Maryland makes an essential contribution to a vibrant state economy. A strong economy enables growth. Therefore, to maintain the state's economic leadership, postsecondary education must remain committed to student success.

While many groups are committed to student success, the precise meaning of "success" can vary among stakeholders. For example, students may define "success" regarding acquiring skills and knowledge, earning credits, and completing degrees, with an eye toward employment and a better life.

Alternatively, institutions of higher education might add that "success" means students can enroll, remain enrolled, and graduate. These "successful" students will likely go on to provide networks of support for the institution and other students and alumni and become lifelong learners.

Finally, State policy and programming effectively defines "success" as the completion of a credential such as a licensure or certification, sub-degree certificate, or degree. Completions are an essential marker of a highly skilled workforce, which increases the productivity of Maryland businesses, grows the tax base, facilitates the purchase and maintenance of homes, and contributes to extensive economic activity across the state.

Common to these definitions is the central idea that more individuals should participate in higher education, and more should complete one or more credentials. While Maryland has emphasized the completion of associate and baccalaureate degrees as policy goals of the State, the completion of educational courses leading to licensure or certification and of non-degree credentials has also been supported by State policy. Students who do not complete a degree, or who cannot use a degree to obtain a better job, cannot realize the return on investment that they have made – or the investment that the State has made on their behalf.

Strategy 4: Ensure equal educational opportunities for all Marylanders by supporting all postsecondary institutions.

Strategy 5: Ensure that statutes, regulations, policies, and practices that support students and encourage their success are designed to serve the respective needs of both traditional and non-traditional students.

Strategy 6: Improve the student experience by providing better options and services that are designed to facilitate prompt completion of degree requirements.

Strategy 7: Enhance career advising and planning services and integrate them explicitly into academic advising and planning.

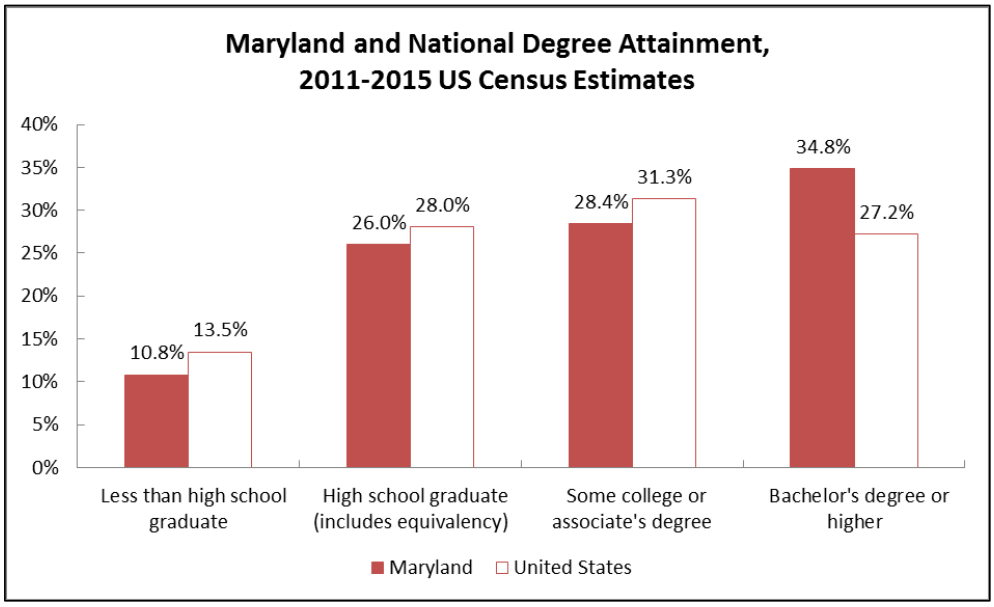

Figure 12. Maryland National Degree Attainment, 2011-2015 US Census Estimates[xxv]

Strategy 4: Ensure equal educational opportunities for all Marylanders by supporting all postsecondary institutions.

Student success will not be success for all if there is no consideration for equity. Every student, regardless of race, ethnicity, gender, or sexual identity, is entitled to equal educational opportunities under State and Federal law. Equal opportunity for all students not only is essential to compliance with Constitutional and civil rights laws, but it also is foundational to the State Plan for Higher Education and to the values of the Commission and each postsecondary institution in the State. A wide range of innovative strategies must be pursued by all partners in postsecondary education in Maryland to assure equal opportunities to all Marylanders.

Bring Equal Opportunity to the Forefront of Higher Education Policy in Maryland

The postsecondary community in Maryland must be dedicated to fulfilling its obligations under the law and to ensuring equal educational opportunities to every person in Maryland. This dedication and commitment must be explicitly visible in all policies and practices. Therefore, all policy matters and decisions must be made through the lens of creating a truly equal and desegregated system of higher education.

Comment [EAAD44]: Callout box for action item:

All policies and practices must reflect the dedication and commitment to equal education opportunities.

Supporting Historically Black Colleges and Universities in Maryland

In order to ensure equal educational opportunities for all Marylanders, it is necessary to ensure that all Maryland institutions have the fundamental resources to support all students. Therefore, Maryland must continue supporting the unique missions of Historically Black Colleges and Universities (HBCUs), which include Morgan State University, University of Maryland Eastern Shore, Coppin State University, and Bowie State University. This must include specific efforts to increase non-African American student attendance.

Comment [EAAD45]: Callout box for action item:

Support the unique missions of Historically Black Colleges and Universities.

Foster Collaboration between Historically Black Colleges and Universities and Traditionally White Institutions

Collaborations between HBCUs and TWIs in order to create highly desirable and unique programs attract diverse student bodies. Recently, the Secretary of Higher Education convened three institutions -- Morgan State University, University of Maryland, Eastern Shore, and Notre Dame of Maryland University -- to encourage their collaboration regarding the creation of a new hospitality program in the State. As a result of the collaboration, the three institutions will jointly offer articulated hospitality programs to students. The fostering of joint programs between HBCUs and other institutions is one of many innovative ways to enhance diversity at all institutions.

Comment [EAAD46]: Callout box for action item:

Enhance diversity and dismantle historical segregation by fostering collaborations between Historically Black Colleges and Universities and traditionally white institutions.

Promote the Excellence and Visibility of all Institutions

Noted throughout this State Plan, there are many opportunities to collaborate with various partners, such as the Maryland State Department of Education, Department of Labor, Licensing, and Regulation, and the Department of Commerce. It is essential that all institutions are considered and recognized in these collaborations. In doing so, prospective students -- including K-12 students -- are knowledgeable about the diverse and excellent educational opportunities available at all postsecondary institutions within the State, including Historically Black Colleges and Universities, Private Career Schools, and traditional 2-year and 4-year institutions.

Strategy 5: Ensure that statutes, regulations, policies, and practices that support students and encourage their success are designed to serve the respective needs of both traditional and non-traditional students.

Postsecondary education in Maryland is governed by legislation passed in the Maryland General Assembly (the Education Article) and subsequent complementary regulations found in the Code of Maryland Regulations (COMAR). Additionally, institutions have their own governing boards that set and implement policies and practices. It is important to periodically and systematically review all statutes, regulations, policies, and practices. This review should be student-focused and prioritize affordability, closing equity and achievement gaps, and ensuring student success.

Policies and Practices Regarding Remediation

As noted in Strategy 1, more than 50% of students consistently need remediation for math, English, and reading. There are two areas for improvement around remediation. The first is ensuring measures of college readiness are not only adequate measures, but also that they are consistent around the State to ensure equal access (discussed in Strategy 1). A second issue around remediation is identifying best practices in supporting students that are identified as not college ready. One element is pre-requisite versus co-requisite remediation.

Providing remedial or developmental coursework can happen either sequentially (as a pre-requisite, for example) or in tandem (as a co-requisite) with college-level work. The Community College of Baltimore County was a pioneer in co-requisite remediation, and its success inspired other colleges across the nation to adopt the strategy. Co-requisite remediation provides the opportunity for students to engage with college-level work immediately while also receiving needed additional support. Co-requisite remediation is akin to just-in-time instruction. This allows students to finish their program promptly by not delaying access[8] in credit bearing courses and provides them with the academic tools to succeed. Several colleges beyond CCBC have adopted co-requisite remediation in many cases. Institutions should consider whether pre-requisite remediation or co-requisite remediation is best aligned with the needs of their student populations, and implement remediation policies that align with student success.

Additionally, as noted in a previous section, college readiness standards – or, remediation determination for students – need to be systematically reviewed by the postsecondary community in Maryland. While the community colleges have endeavored to

Comment [ED47]: Callout box defining the difference between Statute and COMAR:

A statute is legislation that is enacted by the Maryland General Assembly, whereas a regulation is adopted by an agency of the State in order to implement a statute. Both have the force of law, but the purpose of the regulation is to carry out the statute, and it may not exceed the scope or authority of that statute.

Comment [ED48]: Callout box for action item:

Systematically review policies and practices to ensure they are student focused and are implemented with the goal of student success.

Comment [EAAD49]: Callout box defining each:

Pre-requisite remediation: A student must successfully complete remedial coursework in the domain they are not found college-ready for prior to enrolling in the parallel coursework that meets a graduation requirement.

Co-requisite remediation: A student concurrently enrolls in remedial coursework in the domain they are not found college-ready for while also enrolled in the parallel coursework that meets a graduation requirement.

Comment [ED50]: Callout box for action item:

Review and consider current policies and practices around remediation coursework.

[8] Note: Maryland regulations prevent students from earning graduation credits for remedial coursework.

establish cutoff scores that are consistent at all community colleges, there remains variability at four-year institutions as well as variability that goes beyond what is established (e.g., using GPA as determinate). It is important that college readiness standards are consistent throughout Maryland so that students are treated equally in determining if they are "college ready."

Practices that Improve Completion: Structured Schedules

Institutions have found success in implementing a variety of tools to help students complete their program, and complete their program on time. One such practice is structured scheduling. Complete College America and institutions across the nation have found increased student success in structured scheduling or block scheduling. Block scheduling can be useful to students in so much as it creates a predicable format for class schedules that is consistent from semester to semester. Additionally, block scheduling can naturally create student cohorts, which can create a community that can help promote student retention and student completion. Structured schedules can be developed with the student body in mind, and can be formatted to work for morning schedules, afternoon schedules, evening schedules, and weekend schedules.

Comment [ED51]: Callout box for action item:

Review and consider current policies and practices around structured schedules and academic planning.

Improve Policies and Practices to Strengthen Maryland's Academic Programs

Maryland offers more than 4800 academic degree and certificate programs at colleges and universities and more than 225 programs at private career schools. It is important to create processes for academic program approval that ensure that programs meets he needs of the state while also not duplicating programs or saturating the education market with an excess of programs. It is similarly important that Maryland eliminates barriers that hamper postsecondary institutions from responding to workforce needs. Postsecondary education needs to respond nimbly to changes in industries, and programs must support student development in critical thinking, problem-solving, and communication skills throughout the curriculum. Students should have an abundance of opportunities for career exploration and goal-setting.

Comment [EAAD52]: Callout box for action item:

Improve policies regarding academic program review that:
Meets State's needs – e.g., workforce shortages
Does not duplicate
Does not saturate
Allows for responsiveness
Does not sacrifice student growth and development
Allows for career exploration and goal setting

A Continued Focus on Non-traditional Students

As noted in Strategy 3, students who do not enter postsecondary education through traditional channels face unique challenges that hinder student success. Many non-traditional students, especially those who are the first in their families to attend college, do not have support networks to assist them or understand what to do when they encounter academic or non-academic setbacks. Many are unaccustomed to navigating the structures of colleges and

universities. They need assistance in locating and using student support services, IT services, career counseling, business services, library services, and even social services where appropriate. Non-traditional students face challenges that traditional students do not encounter. Most prominently, they often have children or other dependents that need care and supervision.

Comment [ED53]: Callout box:
Seven percent of undergraduates in the United States are single parents.

Source: L. Horn and D. Carroll, Nontraditional Undergraduates: Trends in Enrollment from 1986 to 1992 and Persistence and Attainment Among 1989-90 Beginning Postsecondary Students (Washington, DC: US Department of Education, National Center for Educational Statistics, 1996) (NCES 97-578).

Colleges and universities have responded to some of the realities of non-traditional students by establishing adaptations of academic policies. For example, many colleges and universities have developed transfer, accelerated, and full-term programs for the non-traditional learner. Institutions often offer extended hours for essential student services, such as the library, IT support, registrar, and advising. Some colleges offer child-care programs on campus, but these are invariably oversubscribed. Non-traditional students face these challenges when policies and procedures are not aligned with their needs, and institutions must ensure alignment to enhance student success. Additionally, the Commission currently devotes some of its marketing and outreach efforts to adults who are not in school and to improve these audiences' awareness of college, financial aid, and how to plan for college. These activities should also be expanded.

Comment [EAAD54]: Callout box for action item:

Ensure academic polices and campus practices support all students, including non-traditional students.

Review Financial Aid Policies

Comment [ED55]: Callout box for action item:

Review federal policies to determine if policies/regulations need to be updated to include non-traditional students in financial aid programs.

Financial aid policies for higher education in Maryland should ensure that all students, not only traditional ones, can achieve financial access to higher education. OSFA recently made several improvements to remove barriers for Maryland residents to apply for State scholarships and grants. Mainly, OSFA eliminated the supplemental application requirement for one of the State's largest need-based aid programs, the Guaranteed Access Grant. Many residents were unaware of this financial aid program and/or the additional requirement to complete a separate application. OSFA therefore removed the application requirement and instead used information garnered from the FAFSA. Beginning with the 2017-2018 award year, potentially eligible recipients were automatically identified through completion of the FAFSA. Prior to this change, approximately 3,000 students would apply annually. In the first year under this new process, OSFA was able to identify more than 6,000 students who were potentially eligible for the grant and increased the number of awards made by more than double from the prior year. This change created an automatic opt-in process for State aid by simply completing the FAFSA. For the 2017-18 award year, OSFA has awarded State aid to more than 1,300 students in comparison to the prior year of approximately 575. This change in practice led to identifying and awarding state financial aid to many more students. This is one example of how a change in a practice can improve student access, and ultimately student success.

Existing financial aid policies are not well suited to the financial realities faced by both traditional and non-traditional students. While financial aid formulas can identify students who do not receive financial support from others, they fail to account for how independent students are supporting family members. Moreover, many State scholarship programs are restricted to students who are full-time and/or who are recent high school graduates; there are relatively few scholarship dollars available for non-traditional students. Similarly, considering tax refunds or credits for child-care expenses when the parent is a college student may help to reduce a non-tuition financial barrier to educational success. Most Maryland state aid programs, and many private and institutional financial programs, assume that family and student income are generally consistent over time. For many students, though, income can change significantly and suddenly, and current financial aid structures often do not help students deal with sudden short-term shocks. Additionally, many financial aid programs require students to maintain a certain minimum grade point average, but educational policies do not reflect the reality that many students struggle and then work to improve. Inflexible GPA requirements for financial aid are often designed to motivate high performance, but they may instead function as obstacles to completion.

Comment [EAAD56]: Callout box for action item:

Review financial aid policies to improve access for all students.

Lastly, many state aid programs are available only to students in traditional academic programs. Students also continue to enroll in non-credit and non-degree programs that are also important to our vibrant economy. Many of these programs lead to licensure or certification in a specific field thereby supporting the local and state economy. Additionally, distance education is becoming increasingly popular as a modality to learn. As distance education continues to increase, scholarship or grant programs for these programs would further expand the higher education landscapes.

Comment [EAAD57]: Callout box for action item:

Expand financial aid programs to non-traditional programs like non-credit, non-degree, and distance education.

The College Affordability Act of 2016 (Chapter 690, Acts of 2016) was passed with the intent to promote on-time completion through incentives and annual credit completion requirements. Under the law, students that receive the State's need-based aid scholarship must complete a minimum of 24 credits at the end of their second academic year and thereafter to renew their award.

Comment [EAAD58]: Callout box for action item:

Expand financial aid opportunities that promote and incentivize on-time completion.

Despite changes to financial aid policy at the State level, students also face requirements from policy at the Federal level. There have been several recent changes in Pell Grant policies intended to improve flexibility in using that educational benefit, including expanding the use of Pell Grant to summer sessions. Federal policies that require a minimum of 12 credits to be considered full-time need to be reviewed as this change has contributed to students remaining in college longer, which in turn increases their financial burden.

Comment [ED59]: Callout box for action item:

Review State policies on credit minimums for state financial aid in an effort to promote on time completion.

Coordinate similar efforts with federal partners to improve access to non-traditional students and improve on-time completion.

Expanding Credit for Prior Learning

Many non-traditional students, by definition, come to college with a unique background that may not meet the tradition of transferring credit. The Lumina Foundation supports this work through one of their initiatives, expanding competency-based learning. Students may come to college with a wealth of work or industry-based experience that is challenging to translate into transferable credit. There is often inconsistency in standards amongst institutions evaluating and subsequently granting credit for prior credit and/or learning experiences.

Greater use of competency-based evaluation in transfer consideration is warranted. Existing structures such as the Articulation System for Maryland Colleges and Universities (ARTSYS, discussed further in Strategy 6) and articulation agreements use the course as the basic building block of credit evaluation: the beginning composition course at Community College X is equivalent to the beginning composition course at University Y, but is not equivalent to the two-course writing seminar at University Z, so the transferring student must take the entire University Z two-course seminar. However, colleges and universities could make more use of competency evaluation to substitute for course equivalencies. Transfer students might then face fewer delays in completing transfer-in programs.

Higher education in Maryland should consider developing a state-wide competency-based approach, whereby students might be considered to have satisfied specific education requirements by examination or because of work experience. For example, veterans will have had specific training and experiences while on active duty that could easily parallel content found in required coursework. The postsecondary community in Maryland can begin this work by identifying skills and training acquired while in the military and relating the skills/knowledge to specific requirements in postsecondary education. Objective-based program design can support the transfer of previous experience into credit-bearing coursework.

Comment [ED60]: Callout box for action item:

Establish appropriate guidelines endorsed by state, federal agencies and accrediting agencies or associations for the assessment of prior learning and granting of credit.

Due to the diversity of the State, higher education in Maryland should support and promote practices and policies that ensure all students are successful in their educational goals. Incentivizing institutions and organizations that succeed in educating non-traditional students can help to expand and promote best practices.

Strategy 6: Improve the student experience by providing better options and services that are designed to facilitate prompt completion of degree requirements.

Students may be unaware of all the opportunities and support systems available that promote degree completion. The State maintains the 2025 55% completion goal. While current indicators suggest that Maryland is expected to reach that goal, it will be imperative to improve, expand, and evaluate opportunities that support degree completion, particularly on-time completion. Improving the transfer experience, developing focused pathways, and badging and stacking credentials are some examples of initiatives that can support the State in meeting the 2025 55% completion goal.

Maximizing Statewide Transfer

The transfer process for students between postsecondary institutions has long been an area of concern. In fact, it has been an area of emphasis in several previous editions of the State Plan.[9] This is because the transfer process contains a constant tension between two ideas. On the one hand are stakeholders who would prefer a frictionless system, in which all credits earned anywhere else should be able to transfer anywhere and be counted for anything. On the other hand are institutional stakeholders who know that colleges and universities have carefully developed curricula that is aligned with their mission. This dynamic tension is generally a productive one, although in individual cases one set of stakeholders are bound to be disappointed.

Transfer students have been exposed to the processes of at least one particular institution, however briefly. However, all institutions implement different processes. The unique needs of transfer students, combined with institutional differences can impact the academic progress of transfer students. Higher education in Maryland must, therefore, ensure that their policies and procedures regarding transfer students both create a welcoming environment and provide the necessary support systems to improve time-to-degree and enhance career opportunities to make positive contributions to the Maryland economy.

In 2016, the Commission, with the guidance from the Student Transfer Advisory Committee, released a framework for a statewide transfer agreement and a statewide reverse credit transfer agreement, consistent with the College and Career Readiness and College Completion Act of 2013 (CCRCCA).[xxvi] The framework guarantees transfer admission, articulation agreements for course sequences, block transfer of general education, equity for

Comment [ED61]: Callout box describing the Student Transfer Advisory Committee

The Student Transfer Advisory Committee consists of various postsecondary stakeholders. The Committee is tasked to review and analyze:
(1) Articulation and student support services, including admission and advising practices; and
(2) Any other student transfer related issues as referred to the Committee by the Commission. (Education Article §11–106.1)

[9] See, for example, 2013 State Plan, Goal 4, Action Recommendation 1 (p. 49).

native and transfer students, and an oversight structure for transfer. The reverse transfer framework ensures eligibility criteria for reverse transfer, provides a process for evaluating students who consent to have their academic record evaluated, and guarantees that general education requirements at the four-year institution will be accepted as satisfying general education requirements at the two-year institution. Independent institutions may participate voluntarily. The framework was codified in the Code of Maryland Regulations (COMAR) in spring 2017. As the framework and regulations become practice, it will be important to note challenges and successes to continue to improve transfer within Maryland.

Comment [EAAD62]: Callout box defining reverse transfer

"Reverse transfer" means a process whereby credits that a student earns at any public senior higher education institution in the State toward a bachelor's degree are transferrable to any community college in the State for credit toward an associate's degree. COMAR *13B.06.01.02*

The Articulation System for Maryland Colleges and Universities (ARTSYS) is an online database interactive system intended to aid the transfer of students between Maryland community colleges, the University System of Maryland institutions, and other participating public and private four-year institutions. The ARTSYS program provides advisors, students, parents, and the general public the ability to search for courses, course equivalencies, recommended transfer programs, majors, and more. For example, a psychology student at the Community College of Baltimore County (CCBC) can review the "Recommended Transfer Program Evaluation" for required courses at CCBC that will transfer successfully to the psychology major at Towson University or Coppin State University. ARTSYS has done a good deal to facilitate student transfer and credit articulation, but there are reports of limitations to the system. ARTSYS should be evaluated to determine whether there are structural issues that limit its effectiveness for certain students and/or certain institutions.

Comment [ED63]: Callout box describing ARTSYS

ARTSYS is a computerized information system created to facilitate the transfer of students from Maryland community colleges to the University of Maryland System institutions and other participating institutions. ARTSYS was developed based upon the following principles: (1) students' needs must be the primary concern, (2) students should progress between institutions with little to no loss of credits, or be required to duplicate of successfully completed coursework, and (3) native and transfer students must be treated fairly and equally.

http://www.artsys.usmd.edu/faq.html

Comment [EAAD64]: Callout box for action item:

Evaluate structural issues and improvements for ARTSYS.

Focused Pathways

As noted previously, degree plans and benchmarks are an important element in the CCRCCA. Institutions provide degree plans and benchmarking information to students. In addition to these tools, focused pathways may also encourage college completion and student success.

While many students devote time in college to exploring interests and fields of study, other students are more interested in focused and efficient pathways to a degree. Colleges and universities should offer focused degree plans for students with highly specific goals. For example, a focused pathway may demonstrate the fastest way to get an associate's degree by taking specific courses in a specific sequence. Focused pathways may compliment structured schedules.

Comment [EAAD65]: Callout box for action item:

Consider utilizing focused pathways to improve college completion and student success.

Badging: Stacking Micro-Credentials

The emerging practice of "badging" in higher education refers to the award of sub-certificate credentials called badges that signify a student's knowledge or mastery of a skill. In addition to badging, "stacking" is another emerging practice. A student who may earn a sequence of appropriate badges allowing the student to stack the badges into a micro-credential. Stacking skill sets in this manner could reduce the "transfer loss". Badging and stacking of credentials are still very new initiatives, and the postsecondary community should evaluate this practice and consider ways in which the practice could be used or expanded at Maryland institutions.

Comment [EAAD66]: Callout box defining this:

Transfer-loss is a phenomenon in which transfer students are required to take courses at the transfer-in institution that are similar but not equivalent to courses taken at the transfer-out institution

Strategy 7: Enhance career advising and planning services and integrate them explicitly into academic advising and planning.

There are a few indicators of success in higher education, particularly completion. In addition to completion, one of the most commonly used and best understood indicators is post-completion – or post-graduation – employment. Graduates use the knowledge, skills, and abilities that they have developed during their studies to obtain satisfying and well-paying jobs, excel in those positions, and continue to learn from experience to develop thriving careers.

It is more important than ever that students have access to information about career options and opportunities at all points of their educational journeys. This is especially true as more students enter higher education, and as employers become increasingly dependent upon a highly skilled workforce. Institutions should also expand career advising and integrate it intentionally with academic advising. Career advising is especially important as partnerships between higher education and Maryland industries increase (see Strategy 8).

The Lumina Foundation similarly prioritizes this effort: make quality learning transparent and connect credentials. In doing so, students, learning providers, employers, policymakers, and the public understand the knowledge and skills attained by those with specific postsecondary credentials. Improved career advising can ensure credential transparency throughout a student's postsecondary education.

Comment [ED67]: https://www.luminafoundation.org/transparent-credentials

Improved coordinated efforts with the Department of Labor, Licensing, and Regulation and the Department of Commerce – through the P-20 Council and the Governor's Workforce Development Board – would ensure that accurate and necessary information is shared among all partners. As these three state departments focus on career pathways and student success, it is natural to include government, business, and education together in our future.

Utilize Existing Sources of Information: The Maryland Workforce Exchange

Currently, the Department of Labor, Licensing, and Regulation hosts the Maryland Workforce Exchange. The website provides tools for individuals to find a job, review the job market, and explore a new career. Career advisors can use this tool to help students navigate potential jobs in Maryland. Additionally, the Department of Commerce and the Department of Labor, Licensing, and Regulation provide a wealth of information that can help to inform a student's choice of academic programs. Information about unemployment rates and workforce training are often natural resources for businesses, but not necessarily for postsecondary

Comment [ED68]: https://mwejobs.maryland.gov/vosnet/Default.aspx

education. New pathways of information sharing can ultimately help inform students. Gaining and sharing this information can have a positive and transparent impact on career advising.

Comment [ED69]: Callout box for action item:

Become informed about employment opportunities in Maryland.

Create pathways of information sharing for students regarding employment, careers, and industries in Maryland.

Improving Career Advising

Academic advising, career advising, and personal counseling services each play different but highly important roles in the continuum of exploration and development for the undergraduate student. Recent efforts have focused on academic advising and personal counseling services. Academic advising is rightly understood as an essential process for helping students explore interests within the context of the academic career. However, a paradigm shift is needed in career advising in higher education. Career advising can be just as critical to student self-discovery and exploration. A growing body of empirical research suggests that career and personal concerns are often linked, and that there is mounting evidence of the link between career planning and retention and graduation rates.[10] Students often make academic decisions with careers in mind, whether those decisions are relatively broad (i.e., to major in geology) or narrow (i.e., to concentrate on hydrogeology or petrogeology).

Comment [ED70]: Callout box for action item:

Find ways to incorporate career advising into academic advising.

Many institutions in Maryland have a career center or career services for students to access. Students often use career centers to help develop resumes or identify internship opportunities. Career centers may engage alumni in helping students to connect and network within a specific industry. Career centers are often responsible for sponsoring job fairs. Career centers can also be spaces that may help students learn about themselves, opportunities for suitable careers, and academic experiences that can help prepare them for those careers.

Comment [ED71]: Callout box for action item:

Create or expand existing career centers to be an essential element of their academic experience.

Career advising has traditionally been an opportunity that students will seek if they want it. However, students who are most in need of career counseling are often the least likely to know that they need it, may not know how to obtain it on their own, or may be too late in the academic career to fully benefit from it. Students may not have realistic educational and career goals or a clear understanding of how secondary and postsecondary education can help them reach those goals. Students may benefit when career advising and exploration are fully integrated deliberately and intentionally into academic life.

[10] One national initiative that encourages intentional linkage of career and academic counseling is American Association of Colleges and Universities, *Greater Expectations* (http://www.aacu.org/sites/default/files/files/publications/GreaterExpectations.pdf). For connections between internships and student outcomes, see Walker, R.B. (2011), Business internships and their relationship with retention, academic performance, and degree completion. Graduate thesis and dissertations, Iowa State University. Paper: #12015. Retrieved from http://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=3026andcontext=etd, May 1, 2017. See also Divine, R., Linrud, J., Miller, R., and Wilson, J. H (2007). Required internship programs in marketing: Benefits, challenges and determinants of fit. Marketing Education Review, 17(2), 45-52.

Expanding and Promoting Internships

One element of a higher education workforce partnership is the internship experience. Higher education in Maryland should work with a variety of partners to provide accessible information to students and institutions about workforce needs in the present and the future.[11] Many academic programs require a student internship or a guided workforce-related experience that aligns with their academic studies. Internships (and all working-and-learning experiences such as mentorships, apprenticeships, cooperative education, and so on) are a valuable part of learning for many students. They provide practical experience for students, help students apply concepts learned in the classroom to the workforce, and allow students to try out careers and work experiences.

Comment [ED72]: Department of Labor, Licensing, and Regulation, the Department of Commerce, and the Maryland Longitudinal Data System Center

While internships are exciting opportunities for students to explore a specific industry relevant to their academic program, internships can also be opportunities for students to develop a relationship with a specific organization that could lead to employment. Additionally, internships can also be an opportunity for academic programs to engage with business partners that could lead to improvements in curricula and programmatic outcomes. To help develop these opportunities, the Commission is working with a variety of partners to explore digital internship platforms to help improve internship opportunities for students and employers.

Comment [EAAD73]: Callout box for action item:

Increase internship opportunities to improve career planning.

Supporting Apprenticeships

Apprenticeships, like internships, offer direct exposure to the workforce. Apprenticeships recognized by the State go through a registration process with the Department of Labor, Licensing, and Regulation. However, a primary and important difference between apprenticeships and internships is that apprenticeships in Maryland are jobs. The apprentice works full-time and receives training to master a set of skills. An apprentice's wages will increase as they increase their skills and complete the program. Apprenticeships are at least one-year in length. Currently, there are over 230 registered occupations and over 9,000 registered apprentices.

Comment [ED74]: Callout box definition:

An apprentice: a full-time employee that receives supervised, structured, on-the-job training combined with related technical instruction in a specific occupation

Comment [EAAD75]: Link to DLLR website – Find an Apprenticeship

https://www.dllr.state.md.us/employment/approcc/

Apprenticeship programs offer both on-the-job training and related traditional, classroom instruction. Maryland requires at least 144 hours of related instruction for an approved apprenticeship programs. The postsecondary community in Maryland should support local apprenticeship programs by coordinating efforts in required instruction for registered

Comment [EAAD76]: Callout box for action item:

Support local apprenticeship programs by coordinating efforts in required instruction for registered apprenticeships.

[11] See 2009 State Plan, Goal 5, Action Recommendation 2 (p. 49), and 2004 State Plan, Goal 5, Action Recommendation 2 (p. 36).

apprenticeships where the required instruction may culminate in a credential that is portable, e.g., a certificate. For example, Wor-Wic Community College and the Salisbury Police Department recently collaborated to implement a program for their entry level law enforcement officer training.

Supporting Faculty and Staff

Faculty members often oversee the academic credit of the internship experience. Resources to manage internships for all students can be limited at the institutional level, as opposed to the program level. However, managing internships at the institutional level may help to build and maintain relationships with a variety of employers, as well as to connect students with diverse opportunities. Faculty need the training to ensure that they can integrate academic components within a work experience, and support to ensure that they can guide students in combining working and learning. Staff also needs support for their efforts in connecting students to workplace mentors and faculty mentors.

Comment [EAAD77]: Callout box for action item:

Support faculty and staff in integrating career advising and internship opportunities

(INTENTIONALLY LEFT BLANK)

INNOVATION: Foster innovation in all aspects of Maryland higher education to improve access and student success.

Higher education in Maryland needs to be innovative by being both flexible and sustainable. Although higher education is quick to incorporate evolving knowledge in its teaching and research capacities, it can often be slow to adapt to new and developing economic conditions. It is imperative that all higher education institutions become more nimble in responding to student needs in creative and cutting edge ways.

Innovation in this context is not simply about innovative products – e.g., academic programs that match new or evolving industries – but also about innovative processes. Similarly, innovation can be used to solve new problems or it can used to provide new ways of solving ongoing or recurring problems. Either way, innovation and innovative ideas for postsecondary education should be implemented in both of the previous goals: access and student success.

Within the larger context of research, innovation, and entrepreneurship in Maryland, students, faculty, and staff are using principles of innovation to add value to and impact our vibrant state community. Innovation is a driver and precursor to growth and it is critical for institutions to improve their ability to translate knowledge into action and create services and products with relevance and economic value

The United States Department of Commerce has recognized three pillars that enable innovation and entrepreneurship to flourish at universities: developing innovation ecosystems, creating an entrepreneurial culture, and providing financing. Maryland strives to develop systems that incorporate all three of these pillars to enable innovation in entrepreneurship to flourish within our institutions. By expanding and leveraging the relationship among education, business, and government, Maryland can grow an ecosystem that supports an entrepreneurial cultural and develop financial supports for promising programs that carries Maryland's economy forward.

Maryland currently has several innovative initiatives to address affordability, workforce readiness, and completion. As noted earlier, P-TECH schools help to address access by making an associate's degree affordable (no cost to the student) and easily accessible (both the associate's degree and the high school degree are earned at the same time). Additionally, P-TECH schools help to address success by incorporating required internships into the curriculum, as well as mentors from industry partners. These unique aspects of the P-TECH program give students tools to help them to employment and career pathways. Other innovative initiatives

Comment [ED78]: Callout box for current P-TECH programs

Baltimore City:
P-TECH@Dunbar: Partnership with Johns Hopkins Hospital, Kaiser Permanente, and University of Maryland, Baltimore; A.A.S. degree in Health Information Technology, Respiratory Care, Surgical Technician
P-TECH@Carver: Partnership with IBM; A.A.S. degree in Cyber Security, Computer Information

Allegany County Public Schools:
Allegany in partnership with Western MD Health Systems; A.A.S. degree in Cyber Security, Computer Science

Prince George's County Public Schools:
2 P-TECH Schools at Fredrick Douglas High School

around access and success include postsecondary partnerships that embrace a 2+2 model and financial programs like the Guaranteed Access Partnership Program. Innovation should be woven throughout a student's academic pathway.

Strategy 8: Develop new partnerships between colleges and businesses to support workforce development and improve workforce readiness.

Strategy 9: Strengthen and sustain development and collaboration in addressing teaching and learning challenges

Strategy 10: Expand support for research and research partnerships.

Strategy 11: Encourage a culture of risk-taking and experimentation.

Comment [ED79]: Callout box defining 2+2 model

Academic Programs that start with a 2 year associate's degree with a clear articulation agreement with a partner institution that offers a bachelor's degree.

Comment [ED80]: Callout box defining the program

The Guaranteed Access Partnership Program (GAPP) is a financial program implemented at Maryland's Independent College and Universities in 2016. The GAPP is a public/private partnership between Maryland's independent colleges and universities and the State of Maryland to bridge the gap to college access for low-income high school graduates.

The Guaranteed Access (GA) grant is available to recent high school graduates who meet certain income and eligibility criteria. The GA grant covers the full cost of tuition and mandatory fees for students attending a public institution and up to $ 18,400 for students attending a private, nonprofit institution. Institutions participating in GAPP agreed to match the State GA grant. Therefore, a student receiving a GA grant and a matching GAPP award may receive up to $35,000 annually for four years to cover the costs of tuition and mandatory fees at a participating institution.

Strategy 8: Develop new partnerships between colleges and businesses to support workforce development and improve workforce readiness.

The contemporary workplace is changing rapidly, and long-held beliefs about academic majors, career paths, and the connections between them have been transformed. More than ever, employers seek employees who have the flexibility to understand changing conditions and solve emerging problems. Technical knowledge is not enough. A competitive workforce can work with diverse people, understand emerging technologies, communicate clearly, and find effective answers to questions that have never been asked before. In order to keep Maryland at the forefront of innovation, the postsecondary community needs to improve or develop new partnerships with businesses and industries.

The previous strategy – Strategy 7 – focused on career advising. This strategy expands that focus to include partnerships with businesses that go beyond simple career advising and internships. The postsecondary community in Maryland should develop partnerships with businesses and other organizations to open multi-dimensional communication channels. These communication channels can be supported by government agencies, particularly the Commission, the Department of Labor, Licensing, and Regulation, and the Department of Commerce. It is in the overlap of these three organizations that we can find ways to solve emerging problems or unique ways to solve continued problems.

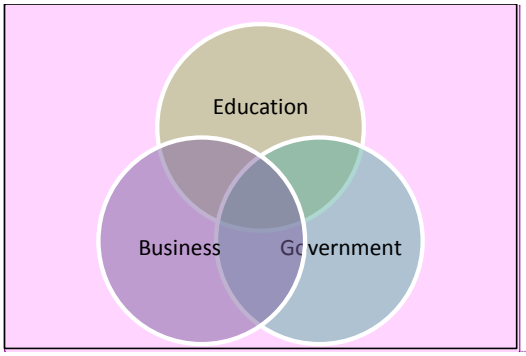

Figure 13. Catalysts for Innovation

Comment [EAAD81]: Callout box:

The overlap are of the three organization is the catalyst for innovation.

The Lumina Foundation prioritizes a similar initiative: develop effective systems for assuring and improving the quality of credentials so that all who attain credentials are well prepared to succeed in the workplace and participate actively as citizens and community members. The Governor's P-20 Council and the Governor's Workforce Development Board are systems in which these ideas can be discussed and implemented. The postsecondary

community should embrace these opportunities to create and nurture a relationship with businesses and industries.

Gap Analysis

Partnerships between institutions and local employment can support and improve workforce development and readiness. Many colleges and universities have extremely effective partnerships with local employers. These direct partnerships enhance a two-way crosswalk to employment by providing the institution with critical information about skills and knowledge required for employment and by opening the door for students to seek and secure employment. Such partnerships between employers and institutions would allow for two-way feedback about skill gaps, competencies needed in the contemporary workforce, opportunities for growth and retraining, and regular feedback about labor demand.

Figure 14. Bidirectional Partnerships between Institutions and Employers

Postsecondary education needs to better understand the education-workforce pipeline. Prioritizing a gap analysis, in conjunction with Department of Commerce and Department of Labor, Licensing and Regulation, of what skills are necessary for jobs and changing state needs can help to better understand the education-workforce pipeline. One strategy to help address any gaps found between education and the workforce is to use a backward design for degree programs. Employers, businesses, and industries could contribute to the expansion and evolution of degree programs by helping to inform the specific objectives of academic programs and supporting faculty in new research and in teaching in these areas, thus ensuring that students are well educated and well prepared to enter the workforce.

Comment [EAAD82]: Callout box for action item:

Perform a gap analysis for top industries in Maryland.

Preferred Partnerships

Preferred partnerships between businesses and postsecondary education can be very beneficial. For example, Starbucks recently teamed up with Arizona State University to offer the Starbucks College Achievement Plan. This provides access to a college degree with support from dedicated enrollment counselors, a 42% College Achievement Plan Scholarship, and tuition reimbursements directly through Starbucks payroll.

The postsecondary community in Maryland could develop similar partnerships with local businesses and industries unique to Maryland. Maryland is home to several federal laboratories and an expansive aerospace and defense industry, which include biodefense, avionics, cybersecurity, and weapons. Partnerships in these local and high-demand industries could include scholarships with priority for internships and potential employment. Partnerships between postsecondary institutions and businesses can be beneficial to both students and employers.

Comment [EAAD83]: Callout box for action item:

Identify and create preferred partnerships in Maryland.

Business-driven Credentials

Businesses may utilize internal resources to create unique training opportunities specific to their business needs. For example, Amazon has launched the AWS Training and Certification platform. The platform includes a training catalog of courses tailored to help individuals who use Amazon cloud services in a business context. Business-driven credentials such as these could easily be adapted to be a formal certificate (or as a badge or stackable credential, as discussed in Strategy 7) offered within Maryland.

Comment [ED84]: https://aws.amazon.com/training/course-descriptions/

Comment [EAAD85]: Callout box for action item:

Support business driven credentials.

Partnerships to Support Graduate Education

The effectiveness of higher education is best understood through a long-term lens that can encompass not just the first job but also the next and the next one after that. At some point during an individual's career, advanced degrees may become necessary. Post-completion employment goes beyond the jobs of recent undergraduates. Maryland's economy depends on high-skill jobs requiring experience and advanced education. As mentioned earlier, only the District of Columbia and Massachusetts have higher adult graduate degree attainment rates than Maryland. This is due to many factors, including the State's support for graduate education, funding for facilities, financial aid for graduate students, support for faculty, support for research, etc. (explored further in the next two strategies, Strategy 9 and 10).

The rapidity of change forces a focus on short term economic needs (e.g., STEM frenzy). There is also a long-term reality that the current generation of students will have job opportunities in unknown businesses or industries. A key is not to exclude the development of skills for one term (short or long) over another, but to balance both. Life-long skills (e.g., critical thinking, communications) are crucial to students' long-term success, and ability to adapt to the future economy of Maryland. The continuing need to recruit, educate, and retain employees at all levels is imperative for the success of the State's future economy.

Comment [EAAD86]: Callout box for action item:

Include long term graduate education opportunities when considering a student's career trajectory.

Strategy 9: Strengthen and sustain development and collaboration in addressing teaching and learning challenges.

The scholarship of teaching and learning has recently contributed to the development of innovative strategies to improve student outcomes. Examples of these strategies include flipped classrooms, exploring the ideal use of technology in the classroom, competency-based learning (as noted in Strategy 6), and the value of co-requisite education, to name a few. Faculty and students are challenged to go beyond the tradition of lecture-based meetings. Engaged students are students who learn. The science of pedagogy has identified a variety of evidence-based strategies to support the changing demographics and needs of students in higher education.

Invest in the Science of Teaching and Learning

Postsecondary education in Maryland needs to make a substantial investment in pedagogy. Developing and supporting the scholarship of teaching and learning may include providing the necessary campus supports, resources, and infrastructure that would prioritize teaching and learning in higher education. Successful pedagogical practices should be shared with all partners, including the Maryland State Department of Education.

Explicit Training in Pedagogy for Faculty

Many faculty members in higher education are not necessarily explicitly trained in pedagogy before entering a classroom or working with students. The postsecondary community in Maryland can support the development of promising pedagogical practices by integrating explicit training into graduate coursework. Graduate students are often offered the opportunity to be a graduate student teaching assistant within a department during their graduate studies. Graduate teaching assistant responsibilities may range from leading an ongoing laboratory session during a semester or assisting in grading, advising, or out-of-classroom tutoring or support for students. Graduate students who take on these responsibilities may or may not have training in pedagogy before taking on these tasks. Graduate programs in Maryland should reflect on the pedagogical training offered and required. While all graduate students may not enter academia after graduation, most faculty members were, at some point, graduate students. Ensuring that graduate students have access to pedagogical resources will lead to a well-trained faculty workforce and make Maryland graduate education even more competitive.

Comment [ED87]: http://www.chronicle.com/items/biz/pdf/ChronFocus_TeachingGuidev4_i.pdf

Comment [ED88]: Callout box for definition of flipped classrooms

Science Mag: http://science.sciencemag.org/content/323/5910/50/tab-pdf

Comment [ED89]: The American Educational Research Association (AERA), founded in 1916, is concerned with improving the educational process by encouraging scholarly inquiry related to education and evaluation and by promoting the dissemination and practical application of research results.

ERIC database: Educational Research Information Center (1961)

Comment [EAAD90]: Callout box for action item:

Invest in the science of teaching of learning.

Comment [ED91]: Suggested elements to be included in a graduate course on pedagogy:

-backwards course design/designing a syllabus
-choosing materials
-choosing assessments/assessing students
-understanding and addressing biases in (and outside) the classroom
-recognizing reasonable expectations and setting limits
-accessing campus resources for students as a faculty member (disability services, career services, mental health services, sexual assault reporting, etc.)

Institutions, schools, and departments that recognize the importance of evidence-based teaching in higher education support faculty in a variety of ways. These may include promoting professional development in pedagogy, sponsoring ongoing dialogue around innovative strategies, and support faculty in the development of innovative strategies in the classroom. Professional development for faculty members in higher education is often focused on research or expertise. However, faculty members who teach should also be encouraged to pursue professional development that is focused on teaching and learning. Supporting graduate students and faculty in pedagogy in and of itself is not innovative. However, supporting these initiatives can spark innovation and provide the opportunity to share research and best-practices.

Comment [ED92]: Callout box for action items.
1. Include pedagogy in graduate student training
2. Provide ongoing training for best-practices in pedagogy to all faculty.
3. Support professional development outside the institution in pedagogy.

Z-courses: Challenging the Traditions of Postsecondary Education

As noted earlier, financial savvy is becoming an important element for student access and success. Sometimes, the cost of textbooks is overlooked when considering the cost of higher education, which may create obstacles for some students in successfully completing their coursework. Montgomery College is leading the way to address this by developing z-courses. Z-courses are specifically designed courses that utilize Open Educational Resources (OER) and eliminate textbook costs to students. Several Maryland postsecondary institutions have embraced this innovative idea, even to the point of starting to advertise z-degrees.

Comment [ED93]: http://cms.montgomerycollege.edu/mc-open/student/z-degree/

Comment [EAAD94]: Callout box for action items:

Utilize open access resources (OERs) to critically develop course materials and lower the cost of additional materials.

Z-courses (and z-degrees) are innovative for two important reasons. First, they address the ongoing challenge of the costs of secondary education that students experience. While this is important, z-scores also challenge faculty and departments to intentionally and selectively choose the course resources. Some faculty members have even started writing their own materials to meet the specific objectives of their courses. While z-courses certainly address financial barriers to student success, they also are an innovative way for faculty to intentionally consider the design of their courses.

Strategy 10: Expand support for research and research partnerships.

Higher education is founded on scholarship – scholarship that both promotes and leads innovation. Maryland is home to several institutions that support doctoral-level research and scholarship. Research and scholarship in higher education require critical thinking skills unique to specific fields. It is important to focus innovation within the context of entrepreneurship and the incubation and acceleration of new ventures. When looking at innovation through the lens of entrepreneurship, students should be able to develop skills that will enable them to solve problems through the lens of design thinking.

Postsecondary education in Maryland can develop, cultivate, and expand research partnerships. Encouraging and supporting institutions to collaborate and facilitate communication may help to reduce redundancies. Research partnerships may include sharing faculty between institutions, engaging all faculty in research and scholarship, and providing opportunities for faculty to share research beyond their home community. With this, all stakeholders should consider ways to incentivize new ventures and research opportunities to stay in Maryland.

Coordination of Resources

With over 50 degree-granting institutions and over 125 private career schools, there is an abundance of opportunity to coordinate and share resources. The relationship between scholarship and innovation centers on the notion of collaboration. Unbiased, well-informed replication is important to the advancement of knowledge. The ability to share ideas, results, findings, and best practices is imperative for innovation. The collaboration on research grants can bring a unique perspective not otherwise understood. Similarly, the opportunity for faculty to have joint appointments in different departments or different institutions can help to expand student exposure to ideas and techniques from multiple fields. Lastly, maximizing technology can help to reduce budgetary redundancies while improving services. Postsecondary education lives in a world of fiscal stringency. There are finite resources available for operating, expanding, and advancing. Maryland is dependent upon the scholarship that arises from our institutions. Scholarship allows Maryland to continue to be a desirable state for students and businesses.

Supporting the Development and Commercialization of Patents

"Faculty member" and "inventor" can often be synonymous. Colleges and universities can provide the job security and resources for faculty to explore, challenge, and implement new

Comment [ED95]: Callout box on the number of Maryland institutions with Carnegie classification "doctoral university (moderate, higher, or highest research activity)":

Johns Hopkins University
Morgan State University
University of Maryland Eastern Shore
University of Maryland-Baltimore County
University of Maryland-College Park

Institutions that offer doctoral degrees:

Bowie State University
Capitol Technology University
Coppin State University
Frostburg State University
Hood College
Johns Hopkins University
Loyola University
Maryland University of Integrative Health
Morgan State University
Ner Israel Rabbinical College
Notre Dame of Maryland University
Salisbury University
St. Mary's Seminary and University
Towson University
Univ. of Baltimore
Univ. of Maryland, Baltimore
University of Maryland, Baltimore County
Univ. of Maryland, College Park
Univ. of Maryland University College
Univ. of Maryland Eastern Shore

Comment [EAAD96]: Callout box for action item:

Coordinate and share resources to improve scholarship for students and faculty.

Comment [ED97]: In 2016, over $850 Million in funding from NIH at 11 institutions

https://www.report.nih.gov/award/index.cfm?ot=DH,27,47,4,52,64,10000,MS,20,16,6,13,10,49,53,86,OTHDHandfy=2016andstate=MDandic=andfm=andorgid=anddistr=andrfa=andom=nandpid=andview=statedetail

Institution (number of awards) total amount
Center for Environmental Science (1) $128,823
Goucher College (1) $381,861
Johns Hopkins University (1297) $650,878,713
Morgan State University (4) $5,385,928
St. Mary's College Of Maryland (1) $88,978
Stevenson University (1) $91,800
Towson University (3) $852,250
University of Maryland, College Park (127) $41,164,145
University of Maryland Baltimore County (25) $9,585,902
University of Maryland Baltimore (351) $148,216,207
University of Maryland Eastern Shore (1) $149,759

ideas. Many institutions will work with faculty to license and patent products and intellectual property. Shared ownership between faculty and institutions can often help faculty continue their research and promote innovative ideas. Faculty promotions should embrace, recognize, and reward work that transforms research into products and services. Faculty members should be provided the supports necessary to develop products and tools that can help to serve the vibrant economy of Maryland.

Comment [ED98]: University of Maryland (72 patents) and Johns Hopkins University (167 patents) were in the top 30 worldwide universities granted U.S. Utility Patents in 2016

http://www.academyofinventors.com/pdf/top-100-universities-2016.pdf

Also: "In fiscal year 2016, JHTV had 2,677 active patents and received more than 500 invention disclosures. Hopkins inventions generated $58 million in licensing revenue, and startups at Johns Hopkins received more than $430 million in follow-on funding. Last year, the university launched 22 new startups and partnered with 13 corporate sponsors to bring Johns Hopkins technology to market, including collaborations with Bayer, pharmaceutical company Celgene, and AstraZeneca's global biologics research and development arm, MedImmune." (From: https://hub.jhu.edu/2017/06/09/hopkins-top-ten-in-utility-patents/)

Also: The University of Maryland Office of Technology Commercialiszation reports recording "more than 2,500 information, life and physical science invention disclosures; secured more than 500 U.S. patents; licensed more than 900 technologies to business and industry, which have generated more than $16.3 million in technology transfer income; and assisted in the creation of more than 50 high-tech start-up companies founded on the basis of technologies developed at the University of Maryland." (From: http://www.otc.umd.edu/about)

Comment [EAAD99]: Callout box for action item:

Support faculty in developing and commercializing patents.

Strategy 11: Encourage a culture of risk-taking and experimentation.

Innovation rests on the opportunity to take risks and experiment. Higher education in Maryland should be structured to allow for such risk taking in both teaching and learning as well as in research. In order to embrace the goal of innovation, where we foster innovation in all aspects of Maryland higher education to improve access and student success, our community must allow ourselves to take risks. Without risk, there is no failure; without failure, there is no learning; without learning, there is no success.

The postsecondary community in Maryland should be prudent in challenging old ideas and in forging new ones. Risk-taking must be thoughtful and intentional. Risk-taking should be goal-driven. Risk-taking must eliminate any known negative outcomes. There should be an opportunity for evaluating successes and failures when taking risks. And, risk-taking should be a shared experience.

Risk-taking, as an innovative strategy, should be used to "increase student success with less debt." New ideas in improving access to postsecondary education should be approached using a formulated risk-taking model, and the same applies for ensuring student success. The 2017-2021 Maryland State Plan for Postsecondary Education embraces the need to develop creative, unique, and success initiatives, and these initiatives can only be embraced if they support all students. The Commission looks forward to the opportunity to discuss, test, and implement innovate strategies to support students in achieving their educational dream.

Summary of Action Items

	Postsecondary Partners Needed to Implement
ACCESS: Ensure equitable access to affordable and quality postsecondary education for all Maryland residents.	
Strategy 1: Continue to improve college readiness among K-12 students, particularly high school students.	
Work with LEAs to evaluate the effectiveness of college readiness assessments.	
Develop statewide metrics for college readiness that also considers the longevity of the measure.	
Develop transition courses in alignment with remedial or developmental coursework at partnering institutions	
Align academic programs with CTE programs for smooth transition	
Work with local school systems to improve middle college programs that award degrees.	
Strategy 2: Cultivate greater financial literacy for students and families to encourage financial planning and to prepare for college.	
Expand and empower existing partnerships to improve financial literacy initiatives, programs, and/or curriculums	
Expand financial competencies to go beyond a basic understanding of student loans, grants, and scholarships.	
Create and improve on relationships with local guidance counselors and college access professionals.	
Educate students about the definition of full-time status in the context of financially planning their postsecondary career.	
Explore financial aid policies that can improve time to completion.	
Strategy 3: Expand efforts to cultivate student readiness, financial literacy, and financial aid for individuals outside traditional K-12 school channels.	
Expand outreach to communicate with non-traditional students and offer alternative pathways to access a postsecondary education.	
Work with GED programs to create a pipeline for students completing their GED.	
Develop targeted campaigns and programs to support first-generation students.	
Develop initiatives to identify and address obstacles that student face in preventing them from continued enrollment and completion.	
Support veterans by ensuring appropriate services are available and accessible, such as counseling and health care service providers.	

SUCCESS: Promote and implement practices and policies that will ensure student success.

Strategy 4: Ensure equal educational opportunities for all Marylanders by supporting all institutions.

All policies and practices must reflect the dedication and commitment to equal education opportunities.

Support the unique missions of Historically Black Colleges and Universities.

Enhance diversity and dismantle historical segregation by fostering collaborations between Historically Black Colleges and Universities and traditionally white institutions.

Strategy 5: Ensure that statutes, regulations, policies, and practices that support students and encourage their success are designed to serve the respective needs of both traditional and non-traditional students.

Systematically review policies and practices to ensure they are student focused and are implemented with the goal of student success.

Review and consider current policies and practices around remediation coursework.

Review and consider current policies and practices around structured schedules and academic planning.

Improve policies regarding academic program review that: Meets State's needs – e.g., workforce shortages, does not duplicate, does not saturate, allows for responsiveness, does not sacrifice student growth and development, and allows for career exploration and goal setting.

Ensure academic polices and campus practices support all students, including non-traditional students.

Review federal policies to determine if policies/regulations need to be updated to include non-traditional students in financial aid programs.

Review financial aid policies to improve access for all students.

Expand financial aid programs to non-traditional programs like non-credit, non-degree, and distance education.

Expand financial aid opportunities that promote and incentivize on-time completion.

Review State policies on credit minimums for state financial aid in an effort to promote on time completion.

Coordinate similar efforts with federal partners to improve access to non-traditional students and improve on-time completion.

Establish appropriate guidelines endorsed by state, federal agencies and accrediting agencies or associations for the assessment of prior learning and granting of credit.

Strategy 6: Improve the student experience by providing better options and services that are designed to facilitate prompt completion of degree requirements.

Evaluate structural issues and improvements for ARTSYS.

Consider utilizing focused pathways to improve college completion and student success.

Strategy 7: Enhance career advising and planning services and integrate them explicitly into academic advising and planning.

Become informed about employment opportunities in Maryland.

Create pathways of information sharing for students regarding employment, careers, and industries in Maryland.

Find ways to incorporate career advising into academic advising.

Create or expand existing career centers to be an essential element of their academic experience.

Increase internship opportunities to improve career planning.

Support local apprenticeship programs by coordinating efforts in required instruction for registered apprenticeships.

Support faculty and staff in integrating career advising and internship opportunities.

INNOVATION: Foster innovation in all aspects of Maryland higher education to improve access and student success.

Strategy 8: Develop new partnerships between colleges and businesses to support workforce development and improve workforce readiness.

Perform a gap analysis for top industries in Maryland.

Identify and create preferred partnerships in Maryland.

Support business driven credentials.

Include long term graduate education opportunities when considering a student's career trajectory.

Strategy 9: Strengthen and sustain development and collaboration in addressing teaching and learning challenges.

Invest in the science of teaching of learning.

Include pedagogy in graduate student training

Provide ongoing training for best-practices in pedagogy to all faculty.

Support professional development outside the institution in pedagogy.

Utilize open access resources (OERs) to critically develop course materials and lower the cost of additional materials.

Strategy 10: Expand support for research and research partnerships.

Coordinate and share resources to improve scholarship for students and faculty.

Support faculty in developing and commercializing patents.

Strategy 11: Encourage a culture of risk-taking and experimentation.

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