

## Policy Area 3. College and Career Readiness Pathways

**Develop a world class instructional system** that will enable Maryland high school graduates to match students in the highest achieving countries in the world in academic attainments, equip them with the complex skills they will need to be successful in a technologically sophisticated economy, contribute to their communities, and play their roles as informed and thoughtful citizens in the world's oldest democracy.

In the United States today, these goals cannot be fulfilled for most adults without at least some postsecondary education, often at the community college level. In that sense, the ability to succeed in the first year of a regular, credit-bearing community college program is the keyhole through which the vast majority of high school graduates will have to pass to achieve their dreams and to make the contributions of which they are capable to their family, their employer, their community, their state, and their nation.

Toward that ambitious but critical end, the State of Maryland will establish a standard of literacy in English and mathematics (and when practicable also science) at the level needed to assure a high probability of success in the first-year programs of the State's community colleges and other open-enrollment postsecondary institutions. This will be called the College and Career Readiness or CCR standard. The Commission believes that its recommendations, if fully implemented, will yield a K-12 education for Maryland that succeeds, approximately ten years after serious implementation starts, in getting nearly 80 percent of the high school cohort to CCR – 65 percent by the end of grade 10, 75 percent by the time they are 18, and several percent more thereafter.

Since a standard of this sort is met by fewer than half of Maryland's students today, the Commission's plan envisions massive improvement in performance and this will open opportunities to most of our young people that are far out of reach now. It will also provide an enormous boost in the capacity of the Maryland work force to compete effectively in the state, national and global economies. If the State continues to implement the Commission's recommendations with fidelity and determination, the Commission believes that, once a cohort of 3- and 4-year-old children experience the full education system recommended by the Commission and reach high school age, all but the most severely disabled will leave high school with a CCR endorsement on their diploma.

One might wish that all students could immediately achieve CCR by the end of 10th grade. But it is very important to recognize that today, in Maryland, fewer than half the cohort leaves high school having attained a comparable standard. More than doubling the proportion of students who do so within ten years would be a remarkable achievement. Sustaining such gains over the following ten years so that those not able to meet the

standard will shrink to a small number of young people with significant disabling conditions would be another remarkable – yet feasible – achievement.

These estimates are deliberately conservative. The targets set forth above are goals that other countries have both met and gone on to exceed. It is entirely possible that Maryland will be able to match, perhaps even surpass them. Typically, reports and legislation of this kind are unrealistic and set lofty goals that have never proven achievable at scale in any U.S. state. (Consider, for example, the “universal proficiency by 2014” goal of No Child Left Behind.) Once everyone concludes that no such thing will actually happen, the entire report’s credibility is compromised and many don’t even try very hard to carry it out. The Commission does not want its report to fall into this trap of overreaching and thereby dooming its recommendations. To repeat, the goals we have set are credible because entire nations have achieved them – and Massachusetts has approached them.

It is important to recognize that one’s educational achievement depends on more than schooling. Indeed, study after study shows that other factors – in particular the education and socio-economic circumstances of a student’s parents – greatly outweigh the influence of the school on educational achievement. Closing the gap entirely between what students can achieve and what they actually achieve will, realistically, involve making changes in the environment in which many students grow up, changes that are beyond the reach of the schools. The Commission’s goals and recommendations, in total, take this reality into account.

It is also important to bear in mind that many who do not achieve CCR by age 18 will still be able to receive high school diplomas. In the new system, students will get a diploma by passing high school courses and assessments required for graduation by the State Board of Education. Except for students with severe special needs, there will be no alternative to these requirements.

Many decent jobs in the Maryland economy that enable a person to support a family above the poverty level are available to those who can show that they have the grit, determination, self-discipline, basic literacy, numeracy, and overall work ethic needed to do those jobs. The measures described below will not only greatly increase the proportion of students who leave high school with a CCR endorsement, they will also greatly increase the proportion who do not drop out, and who go on to earn a high school diploma that employers will value.

The creation of an “early warning system” based on formative evaluations is critical to enable teachers to identify students who are beginning to fall behind and have teachers work together to get such students back on track. This process should be done in all grades, but will be particularly important for students who do not meet the CCR standard by the

end of 10<sup>th</sup> grade. They will need additional interventions in 11<sup>th</sup> and 12<sup>th</sup> grade, building on the State's current transition course model. Any student who meets the standard before 12<sup>th</sup> grade will have opportunities to participate in the post-CCR pathways described below. But those who do not meet the CCR standard even by 12<sup>th</sup> grade will still have opportunities to participate in career counseling and hands-on career exploration.

The immediate benefit for those who meet the CCR standard is access to a set of ambitious and rewarding **post-CCR pathway programs**. These include 1) programs that enable students to earn one of the following: ~~an AP Diploma or AP Scholar award (including Advanced Placement courses specified by the College Board)~~, the International Baccalaureate Diploma, ~~or~~ the Cambridge Advanced International Certificate of Education (AICE) Diploma, ~~or completion of a comparable program consisting of a series of Advanced Placement courses specified by the College Board (such as the AP Capstone Diploma)~~; 2) a program that enables students (at no cost to them or their parents) to earn an Associate's Degree to be awarded along with or subsequent to graduation from high school, or to commence work towards a baccalaureate degree with the possibility of transfer to a Maryland four-year college; and 3) access to robust career and technical education (CTE) programs offered by Maryland high schools, two- and four-year colleges, and training providers that allow students to explore and prepare for various career options and, via apprenticeships wherever feasible, to acquire technical credentials with significant value in the labor market.

We encourage most students who attain a CCR endorsement to choose one of the three options described above and energetically pursue the additional endorsement that comes with its successful completion. Others will embark upon a fourth pathway that involves components of some or all of the other three pathways: for instance, AP courses, IB courses, Cambridge AICE courses, and community college courses (academic and/or CTE). This fourth pathway may consist in large part of advanced academics with one or two CTE certificates added, or it may be a strong CTE program that keeps other college options open. Students in this fourth pathway may not achieve an Associate's degree, industry certification or other advanced CTE credential but they will obtain some college credit for advanced courses taken (e.g., AP courses or dual enrollment classes at a postsecondary institution) or some CTE certificates for courses completed and/or successful work experience.

Elective courses, extra-curricular activities and other programs, services and academic opportunities typically offered by Maryland high schools will remain available to students no matter which post-CCR pathway program they select.

**Element 3a:** Develop a **fully aligned instructional system**, including curriculum frameworks, course syllabi and assessments, together with clear examples of standard-setting work and formative assessments to ensure that students stay on track

This system will include:

1. **Standards, or curriculum frameworks with embedded standards**, in core subjects (English language arts, mathematics, sciences, history/social studies, music and fine arts) that are sensitive to cultural diversity and that map out the core learning goals of each subject at each grade level, laying these out in a logical sequence reflecting the content that students should previously have acquired as well as solid developmental science on how students absorb new skills, knowledge, and ways of thinking
2. **Curriculum resources** for each subject at each grade level, built on the aforementioned frameworks and standards. These should include, for each subject or subject cluster:
  - a. State-developed course syllabi for each course at each grade level, with sample lessons for teachers to use as models.
  - b. State-approved model curriculum units for all subjects and grade levels, aligned with the curriculum frameworks. These units may be gathered from courses and units developed by teachers and others in and beyond Maryland, and will be reviewed and approved for quality by MSDE and the State Board of Education.<sup>1</sup> Curricula approved by MSDE must be designed as complete courses, which, when properly implemented and taken in sequence, will enable students to meet the CCR standard by the end of grade 10.
  - c. Examples of student work in each grade that meet the standards for each required subject, and commentaries explaining why the work meets the standards so that teachers and students know exactly what is required.
3. Schools identified as low-performing by their scores on statewide assessments will:
  - a. Be visited by expert review teams assembled and working under the supervision of MSDE; based on what they find, and consistent with Maryland's ESSA plan for dealing with such schools, those teams will recommend courses of action for addressing the problems revealed by the review. (See further discussion in Element 5b.)
  - b. In situations where curriculum issues are among the problems, the review teams' recommendations may include requiring a school to use the State-developed syllabi and curriculum units until such time as its students are on

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<sup>1</sup> MSDE will use accepted benchmarks such as approval by EdReports or Tier 1 and Tier 2 evidence-based standards established by the federal Every Student Succeeds Act.

track to meet the CCR standards by the end of 10<sup>th</sup> grade. In such cases, the review team will also recommend appropriate forms of training and technical assistance for the designated schools, including possibly pairing them with schools that more successfully serve similar students.

- c. Other schools (i.e. those not low-performing) will be encouraged but not obligated to use the State-approved curricular frameworks and units.
4. **In the core subjects of English, math, science, and history/social studies, an assessment system** designed to assess students' acquisition of the qualities specified in the curriculum standards and frameworks must include:
    - a. Summative assessments that meet federal requirements;
    - b. Assessments (which may be State and/or local) that provide means by which to determine whether students have met the State CCR standard and "early warnings" by which teachers and school leaders can identify those who are beginning to fall behind, which will enable them to work together more successfully to diagnose the issues and help get those students back on track to meet the CCR standard (See Element 2 recommendations on use of the school day and teachers' time); and
    - c. Evidence of meeting high school graduation requirements.

#### **Implementation Considerations:**

1. The work should start with an inventory of the current instructional system and then build on curriculum review processes already in place at MSDE (notably, the Maryland District Curricular Support Materials Collaborative) to develop curriculum frameworks and lesson "seeds", which are lesson outlines for teachers to expand, although much work will be needed to accomplish this goal.
2. Designing this system will be a multi-year effort that will involve the development and piloting of each component by teachers and incorporating their feedback.
3. The system will require an online platform to house this set of tools.
4. The strongest teachers in each content area and grade level should play key roles in this work, which could tie into the teacher career lattice framework discussed in Element 2.

**Element 3b:** Establish and implement a **CCR standard** set to global standards. This standard will certify that students have the requisite literacy in English and mathematics (and when practicable science) needed to succeed in first-year credit-bearing courses in open enrollment postsecondary institutions in the State. This standard must be periodically reviewed to ensure that it remains internationally competitive.

## Design Assumptions:

1. Setting the standard:
  - a. At the outset, the CCR standard will be a score of 4 or higher on PARCC Algebra 1 and English 10 exams.
  - b. When Maryland moves from PARCC to the Maryland Comprehensive Assessment Program (MCAP), the State should base its CCR standard on NCEE's empirical study of community college curriculum, which can be found here: <http://ncee.org/college-and-work-ready/>
  - c. The State should subsequently conduct the research needed to establish whether the CCR literacy and numeracy standards set by the NCEE study are comparable to the global standard in top-performing countries for the same age cohort as in Maryland and whether they also align with the workforce needs of Maryland. This entails doing an equating study in which a sample of Maryland students take the assessments of top-performing jurisdictions as well as Maryland assessments and comparing the results. It also requires continuing coordination (as described in the section below on Career & Technical Education) with Maryland employers and with the bodies charged with economic and workforce development.
  - d. The State should put in place a process for reviewing the CCR standard periodically to ensure that it continues to align with the academic demands of first-year courses of open-enrollment institutions as well as with global standards and the State's workforce needs.
  - e. At such time as it is practicable to include science in the CCR standards, the State ~~should~~will follow similar procedures with respect to standards and assessments.
2. Assessments
  - a. The State will use PARCC until the State's new tests, MCAP, are fully implemented (estimated to be in the 2020-21 school year).
  - b. Those designing MCAP should incorporate the findings from NCEE's empirical study of community college curriculum in order to ensure that students have the opportunity to meet the desired CCR standard by grade 10.
  - c. Middle school students and 9<sup>th</sup> grade students should be able to take the CCR mathematics and English literacy tests at the end of any year they wish, and, if they reach the CCR standard, should be eligible to pursue the post-CCR options at any point thereafter.
  - d. Districts should develop accelerated pathways and enrichment programs to support elementary and middle school students who are gifted and talented and others performing above grade level in English and math to enable them to achieve the CCR standard before 10<sup>th</sup> grade and to pursue the post-CCR options immediately. Districts should engage in universal screening in the

early grades to identify students for this purpose.

3. Once the empirical study has been conducted to establish the mathematics and English literacy standard for the CCR endorsement, Maryland community colleges and other open-enrollment post-secondary institutions should be required by law to enroll—in credit-bearing courses leading to certificates and degrees—students who have met that standard.
4. [MSDE should](#) develop a communication strategy to explain the new CCR standard, the new State assessment system, and the implications for college entry and career readiness to parents, students, educators and the wider public.

### **Element 3c**

As a guiding principle, all students who are below proficiency in the foundational skills of literacy and math should receive additional support using a wide variety of evidence-based programs and strategies. The Commission’s Preliminary Report—and the paragraphs above—call for creating an early warning system as soon as possible based on formative evaluations, including school readiness and other assessments, that enable teachers to identify students who are beginning to fall behind so that teachers will be able to work together to get students back on track. This process should be done in all grades. The Commission’s Preliminary Report—and this report—also recommend reorganizing schools so that teachers trained to diagnose and address students’ learning needs will work collaboratively to monitor students and intervene when they are struggling. Teachers will meet regularly to compare notes on student progress, decide on any needed interventions or additional supports—academic or referral to services—and assign a single teacher to take responsibility for following the student until he or she is back on track.

### **Transitional Supplemental Instruction (TSI), including tutoring, for all K-3<sup>rd</sup> grade students identified as struggling learners.**

As it will take time to put the new system proposed by the Commission in place, it is necessary to develop a transitional program to address the needs of struggling learners in grades K-3 while the systemic approach is being implemented for all students. This transitional program will provide additional academic support through supplemental instruction, using evidence-based programs and strategies in reading. All such strategies should meet the expectations of “strong” or “moderate” evidence as defined in the federal Every Student Succeeds Act, and may include tutoring as well as other evidence-based supplements. These are intended to bring them up to proficiency in reading by 3<sup>rd</sup> grade. Funding will be provided for a lead teacher in each school who will be in charge of this transitional program. The design of the program will be up to the school so that it can determine how best to address the unique needs of its pupils and to take advantage of local

resources. MSDE will be responsible for developing a statewide professional development program for the lead teachers.

### **Design Assumptions for TSI Program:**

1. Many components of the Commission's reform program are intended to provide a deep web of systemic support for students who now achieve far less than they could and should in school. Although many elements of this program will yield results early, it will take years before the new system is fully in place and produces the kind of transformative results envisioned. When that happens, the Commission expects the State to see a dramatic reduction in the proportion of its students assigned to special education because of a dramatic improvement in the performance of many who would now be assigned to special education.
2. The priority for the TSI program should be literacy in grades K-3 since literacy is the gateway to academic success. Reading is the key to achievement, in school and out. Students who cannot read will not be good at mathematics, science, history or automotive repair and maintenance. Those who cannot decode text and comprehend what they have decoded by the end of grade three will find it extremely difficult to learn to read at grade level by the time they graduate high school. Funds provided through the TSI program may also be used to support supplemental math instruction if a local school system determines that this is a priority need of their students. Other available funds may also support math interventions.
3. Supplemental instruction may include (but is not limited to) one-on-one tutoring using certified teachers; tutoring in small groups by a certified teacher, teaching assistant, or other trained individual; and cross-age peer tutoring. The Commission encourages school and district experimentation and piloting to determine the most promising means of screening, identifying, and addressing literacy deficits. Because students in K-2 do not take the PARCC exam, grade 3 PARCC levels will be used as a proxy for estimating resources needed to serve all K-3 students needing additional reading support.
4. As the new system is implemented, school leaders and teachers should be trained in new approaches to supporting students. This will involve three strands of training: for school leaders on the system of supports; for veteran teachers already working in schools; and for new teachers going through preparatory programs.
5. Students who continue to need additional support after the transitional program is phased out will be tutored by their regular teachers, and resources for at-risk students and the formula funds for disadvantaged students will provide funding for additional supports and services.



The Commission recommends that the General Assembly fund the TSI program based on an estimate of the cost of providing each school with a certified teacher who would be responsible for coordinating it, as well as funds for tutors initially based on a ratio of one for every 125 students. The cost of the tutors will be estimated based on a blended tutoring model, i.e. one that includes a range of models in levels 1 and 2 of the ESSA proven programs, from cross-age peer tutoring models to highly structured models using fully certified teachers.

### **Implementation Considerations:**

1. HB 1415, which authorizes funding for evidence-based early literacy intervention in grades K-8 with a priority for K-3<sup>rd</sup> graders, in a school with a high concentration of students living in poverty has been enacted, so implementation of reading tutors will likely begin this year. The bill mandates \$2.5 million in each of fiscal 2019 through 2022 for the program.
2. HB 1415 funding for these interventions expires after fiscal 2022, with a requirement to evaluate the effectiveness of the program at that time. Because tutors are considered a transitional program, needed until teachers have time and capacity to provide this support themselves, HB 1415 funding will have to continue in order to cover the full 6 to 8 years required to fully implement the new forms of school organization and professional development that will make it possible for regular teachers to take over the tutoring function.

**Element 3d:** Develop alternative educational approaches for students in middle school and early high school who are not likely to meet the CCR standard by the end of 10<sup>th</sup> grade that gives them extra time and more supports to help them meet that standard as soon as possible. Such approaches may include allowing students to progress at their own pace; individualized instruction tailored to students' different learning styles; and targeted supports that address barriers to academic success.

### **Design Assumptions:**

1. Given the availability of supplemental instruction in the early grades, the number of students who are not on track to meet the CCR standard when they reach middle and high school will gradually decrease.
2. Students in middle and high school who are not progressing to meet the CCR standard by 10<sup>th</sup> grade do not need "more of the same." Instead, they require alternative approaches that are tailored to their specific circumstances and needs. Differentiation may include culturally responsive lessons, adjustments in pedagogy (especially project- and problem-based applied learning), and varied instructional timing.

3. Such alternative approaches will work towards the *same standards*, but spend *more time* (and supply more varied support on the content) in order to assure student success.
4. Teachers will recommend students for this option, informed by standardized assessments, formative assessments, and their experience in the elementary and middle-school curricula. Parents can appeal this recommendation and request that students not be placed in an “extended” curriculum so long as they make adequate progress toward the CCR standard in the standard curriculum.
5. If any student placed in the extended curriculum makes more progress than expected, he or she should be transferred into the standard stream of classes.
6. Students can be placed in the extended/differentiated option for specific subjects, not necessarily their entire curriculum. (As CCR is based on ELA and math, those are the subjects where such differentiated options are most needed.)

**Element 3e:** Require all local school systems to provide all students who meet the CCR standard with access to a set of post-CCR program pathways that includes: 1) ~~an AP Diploma or AP Scholar program (consisting of Advanced Placement courses specified by the College Board)~~, the International Baccalaureate Diploma program, ~~or~~ the Cambridge International AICE Diploma Program, or a comparable program consisting of Advanced Placement courses specified by the College Board (such as the AP Capstone Diploma); 2) a program that enables students (at no cost to them or their parents) to earn an Associate’s Degree to be awarded along with or subsequent to graduation from high school, or to commence work towards a baccalaureate degree with the possibility of transfer to a Maryland four-year college; and 3) access to robust CTE programs offered by Maryland high schools, two-year and four-year institutions, and training providers that allow students to explore various career options and (via apprenticeships wherever feasible) to acquire technical credentials with significant value in the labor market. Electives, extra-curricular activities, and the full range of courses and services typically offered by Maryland high schools will remain available to students no matter which post-CCR pathway they select.

### **Design Assumptions:**

1. Local school systems will ensure that all high schools that offer at least one of the selective college preparatory programs will be certified by the organization that provides and scores their examinations, and will train staff to deliver the curriculum.
2. Local school systems will partner with Maryland colleges, community colleges, and out-of-state institutions approved by the Maryland Higher Education Commission (MHEC) to offer programs leading to Associate’s degrees or coursework pointed toward four-year degrees. Students can take college credit courses at their high school or at a postsecondary institution, depending on specific agreements between

districts and those institutions. There is also the option of using technology (online or distance learning) to assist with delivery of courses in whole or in part to increase student access. Some courses may count for both high school and college credit under dual enrollment agreements.

3. Schools will be encouraged to introduce students to career and advanced academic options early, beginning in elementary school. During the initial implementation period, this can include giving students the opportunity to take introductory CTE coursework before meeting the CCR standard in order to engage their interest and retain them in high school. It may also include selected AP, IB or Cambridge courses. When the Commission's recommendations are fully implemented, continuation into CTE courses required as part of sequences leading directly to approved occupational credentials will be available only to students meeting the CCR standard.<sup>2</sup> Similarly, students who plan to take a full AP, IB or Cambridge Diploma program will not be able to begin those programs until they have met the CCR standard.

### **Implementation Considerations:**

1. Maryland will need to set a date by which all local school systems must offer students access to the post-CCR pathways specified above.
2. It is the Commission's intent that there should be statewide uniformity in the way postsecondary courses taken during high school, and regular high-school courses, are paid for. This includes but is not limited to Associate's Degree programs, certificate programs and dual enrollment programs. All such programs should be offered to high school students who have attained CCR at no cost to the student or the student's parents and without regard to ability to pay. Because many students may be expected to take such programs and courses, the State cannot be expected to pay both the high school and the postsecondary institution for the same instruction, as is sometimes currently the case. A determination must be made as to whether the funds appropriated for this purpose flow to the school district or the postsecondary institution or some combination of these institutions. In addition to tuition, this decision will need to take into account any applicable fees and necessary textbooks.
3. Postsecondary courses and programs offered as part of the high school program may continue to be offered on the postsecondary institution campus or the high school campus, but preference should be given to the latter so as to minimize the need for student travel, accommodate students' desires to participate in sports and other extracurricular activities in their high school, and in recognition of parents' concerns about children who may not yet be ready for the social environment of college.

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<sup>2</sup> There will be a limited number of special circumstances where the industry sponsors of CTE programs require students to start coursework earlier than 10<sup>th</sup> grade.

4. Legislation should require Maryland school boards to give high school graduation credit for college-level courses taught by postsecondary instructional staff if those courses are integral to the post-CCR program options described in this report.
5. Maryland may need to provide start-up funds for AP, IB and Cambridge programs in situations where these programs are not already available.

**Element 3f:** The State Board of Education will revise high school graduation requirements so that students who achieve CCR will be able to enter any of the post-CCR pathways and still earn high school diplomas. This includes retaining the expectation that students will satisfactorily complete four years of English and math, which is the admission standard for the University System of Maryland. All courses required for graduation, including those in history, science and social studies, should be organized such that students can, by the end of their senior year, satisfy both the requirement for post-CCR pathways described in Element 3e and the State high school diploma requirements. Students who participate in one of the post-CCR pathways may take as many of the other courses offered by their high school as their schedules will allow and may participate in high school extracurricular activities.

#### **Design Assumptions:**

1. Any high school graduation requirements in mathematics or English that go beyond the CCR requirements and that have not been met by the time a student achieves CCR will need to be made available by the providers of the pathway on which the student progresses. Requirements not yet met in other subjects will have to be provided by the high school at times worked out in collaboration with the pathway provider.
2. Students who complete all course requirements will still earn a Maryland high school diploma upon graduation. Award of the high school diploma will require successful completion of these courses and any tests associated with required courses or otherwise required by the State Board of Education.
3. The State Board of Education is considering whether to ~~will~~ create diploma “endorsements” that acknowledge students with attainments that go beyond the course-completion requirements, which could, if implemented, include endorsements for including meeting the CCR standard and post CCR pathway completions such as, getting an AP, IB, or Cambridge diploma, getting an Associate’s Degree, and/or earning an industry-recognized credential or completing a youth or other apprenticeship program.
4. While students pursue any of the post-CCR pathways, they will remain enrolled at least part-time in their high school and the high school remains responsible for them

until their diplomas are awarded; this includes the range of services that a student may need, such as academic, career and personal advising.

5. College courses meeting high school graduation requirements and approved by MSDE must also count for high school credit.

**Element 3g:** Develop **11th and 12th grade programs** for students who do not meet the CCR standard by the end of 10th grade. At the outset, this will probably include many young people but their number will diminish over time, as the many Commission recommendations take effect that are designed to improve the performance of students at every stage of their education. Yet there will always be some students who do not meet the CCR standard by the end of grade 10 and who may benefit from programs designed to provide the content and develop the skills that they need to reach the CCR standard by the end of 12th grade.

1. The State and school districts must develop a set of programs and curriculum options specially designed to support and advance students who have not achieved CCR by the end of grade 10. The goal is to equip them to achieve CCR by the end of grade 12. Though aimed at the same standard, these options will be much more applied, experiential and “hands on,” including curriculum focused on the arts. They should yield courses and curricula that are project- and problem-based and highly engaging. (Consultants from countries that have built highly engaging curriculum of this sort may be engaged to help develop this curriculum.) Students will not be required to retake the courses in which they have not succeeded. It will in that sense not be a remedial curriculum at all. It may be occupationally focused. Many of these courses will be similar to—maybe even the same as—introductory Career and Technical Education courses, but enhanced to provide more opportunities for learning the necessary literacy and numeracy skills, enabling these students both to meet the CCR requirements and to make some progress toward meeting the requirements for progressing toward a CTE credential. Though helping students to achieve CCR will be a high priority, students will not be focused exclusively on English literacy and mathematics but will have a well-rounded curriculum designed to achieve the CCR endorsement, meet the State Board’s requirements for a high school diploma, and enable them to take electives that interest them.
2. For students who are close to meeting the CCR standard in 10th grade, the necessary instruction could be provided in the following summer to allow the student to participate in one of the post-CCR pathways beginning in 11<sup>th</sup> grade. Such programs must also enable students to satisfy all high school graduation requirements by the end of 12th grade.
3. Any student who has not achieved CCR by 10<sup>th</sup> grade will be assigned a teacher who acts as case manager for that student, with overall responsibility for the success of that student, supported by all the other teachers of that student, assembled as a team

under the leadership of the cognizant teacher to monitor that student's progress and do whatever is needed to get and keep that student on track, including visits to the student's parents or guardian, collaboration with public and private agencies providing various forms of support to that student and his or her family. Students who are struggling in schools benefit greatly from individual attention from their teachers and other adults. The Commission's proposals include giving teachers much more time to work with individual students and small groups of students, which will enable their regular full-time teachers to provide extensive one-on-one and small group tutoring and other forms of assistance to students that is closely tailored to their individual needs.

4. Students who have not achieved CCR by grade 10 will be given priority access to a greatly enhanced career counseling system designed in part to make the connection between the hopes they have for themselves and what they need to achieve in school in order to achieve those hopes. The Commission is proposing to develop a statewide system of career counseling and opportunities for job shadowing and internships that could dramatically increase young people's knowledge about work and jobs and the skills needed to get those jobs and give them solid opportunities to get a first-hand feel for what is out there and what it will really take to realize their dreams. In particular, these students will be provided access to organizations that provide volunteer mentors to young people, especially struggling learners, to help them over the humps and placing them on track for success.

~~4. [Checker cut a bunch of Implementation Considerations related to calculating costs and savings]~~

## **Career and Technical Education**

Maryland can lay claim to having one of the better versions of career and technical education in the United States. It has dedicated leaders and instructors and one can find high schools and community colleges that provide engaging programs and lead to rewarding careers.

But the numbers of students who leave our State's schools with a credential – the kind of credential that employers value enough to pay higher wages to young people who have it – are far too small. In Maryland, as in much of the United States, despite the best efforts of dedicated educators and employers that want to help, career and technical education is widely viewed as the place students go who are struggling academically. Such programs are often viewed as successful if they keep students who might otherwise drop out of school. As a result, too many of today's high school students leave without either a solid work credential to launch them on a career or the academic standing to have a decent chance of going to college and succeeding there.

That is unacceptable. Maryland's economy cannot long remain competitive if half of its workforce is uncompetitive in a labor market that is suffering from surpluses of people with low skills and severe shortages of people with high skills. That is the situation today in our State – as in most other states.

The future of our economy, and of many of our citizens, depends on a massive upgrading of the skills of the workforce, not so much among those who earn professional degrees in a university as among everyone else, from cosmetologists to medical technicians using advanced medical technology, specialty welders to farmers programming driverless tractors, from people who build and maintain factory automation systems employing advanced robotics technologies to automotive repair and maintenance technicians who are now dealing with computers on wheels.

### **What We Envision: A world-class career and technical education system for Maryland**

No economy can long survive employing only university-educated professionals. We envision a Maryland economy in which, by 2030, close to half our students are in apprentice and apprentice-like programs that involve much work-based learning supported by classwork tied to what is being learned in the work place. Students will constantly apply in the workplace what they are learning in class, using state-of-the-art equipment under the supervision of expert practitioners. These programs will lead to occupational credentials that are gateways to rewarding careers that do not necessarily require professional degrees. Because the standards for these credentials will be defined by employers, students will know that, at the end of their program, there is a good job leading to a rewarding career. Some of these credentials will qualify students to take the first step into a good career right out of high school, while others will choose careers in which the first job comes after a round of postsecondary education. These programs will include registered apprenticeships as well as many other opportunities for advanced technical training. The distinction will be much clearer than now between what students have to do to make the transition between programs that offer beginning skills in high-skill fields and programs that offer more advanced skills in those (and other) fields. For many careers, students will be able to start that progression earlier and complete it faster and at much less expense to them and their families than they can now.

There will be no dead ends. Students will have much better opportunities, beginning in elementary and middle school, to learn about the varieties of work that adults do and to explore careers that might interest them. Once they have chosen a path to follow, students will be able to start out getting enough knowledge to begin at the bottom of the ladder, go to work and then go back to get a more advanced credential if they wish. They will be able to go down one path and then shift to another without returning to square one. They will

be able to start out in a CTE direction and then shift to a university path—or start on a university-bound path and pick up a CTE credential, too. There will be smooth transitions among high school CTE programs, community college programs, post-high school apprenticeship programs, and university-based technical programs. Far from being a refuge for the academically challenged, the CTE route will be chosen by many academically strong students who prefer a hands-on approach to their education and can see that CTE is as good a route to the board room or corner office as the university.

To produce those outcomes for almost half of Maryland’s young people will require a *whole system* that is carefully designed for this purpose. Our purpose here is to describe the essential elements of such a system. Its crucial foundation is the Commission’s bold proposal to get Maryland students to a solid college-and-career-ready standard by the end of grade 10 (or earlier, or later). At that point, many will be able to pursue credentials that employers will be willing to pay for. When that system is in place, no one will be able to say that CTE is for weak students. It is where you go for compelling, absorbing and exciting education and training that lead to limitless possibilities. It is where you go to master complex technical skills in an economy that provides rich rewards for people with such skills but also where you go for an education broad and deep enough to enable you to turn your career around on a dime, as well as an education for citizenship.

This is no dream. There are countries that are doing exactly this right now. There is no reason why Maryland cannot do it, too. Fortunately, there is much to build on. Officials at MSDE; the Governor’s Workforce Development Board; the Department of Labor, Licensing and Regulation; the Department of Commerce; the Maryland Higher Education Commission; the community colleges; the Maryland Economic Development Commission; the P-20 Council; and many local leaders, employers, trade unions, and professional educators have all been working on pieces of this problem. The highlights of our proposed plan follow.

The Commission recommends designating the Governor's Workforce Development Board (GWDB) as “home” for direction and governance of the proposed new CTE system for Maryland. The GWDB is a business-led board of 53 members that serves as the State's chief policy-making advisory body for workforce development. Federally mandated by the Workforce Innovation and Opportunity Act (WIOA), the GWDB works to address the challenges of Maryland's workforce needs in the 21st century. Members include the governor, cabinet secretaries, college presidents, the state superintendent of schools, elected officials, business people, labor, and representatives of nonprofit organizations.

The GWDB is already responsible for developing policies and strategies to form a variety of education, employment, and training programs. It is charged to bring together and focus various workforce development partners and stakeholders on two key outcomes—a



properly prepared workforce that meets the current and future demands of Maryland employers, and opportunities for all Marylanders to succeed in the 21st century workforce.

For the GWDB to shoulder the additional responsibility of leading the State's new CTE system, its duties and responsibilities will need to be expanded. It will also require authority to create and/or amend regulations, review agency budget requests, issue grants and create advisory structures. This will fundamentally alter the board from primarily an advisory role to an executive board but is consistent with the Commission's intention to create a powerful engine of change and leadership for Maryland's future CTE system.

**Element 3h:** A new Committee of the Governor's Workforce Development Board (GWDB) will be created, to be known as Career and Technical Education Committee (CTE Committee). It will be charged with building a world-class career and technical education system for Maryland, taking into consideration the priorities established by the Economic Development Commission. Its members—drawn from the GWDB itself--will include the heads of MSDE, MHEC, DLLR, and Commerce; a representative of the community colleges, which provide much of the State's postsecondary training; the Chair of the Skills Standards Advisory Committee (see below); and will include at least four additional representatives of employers, industry associations, and labor. The Committee's members—and its chair, who should be a business representative--will be selected by the Governor, the President of the Senate, and the Speaker of the House. As future appointments are made to the GWDB, consistent with applicable federal and State law, the Commission recommends including additional representatives of K-12 and postsecondary education (including community colleges) as well as parents and community leaders, the intention being to make it possible for such individuals also to serve on the CTE Committee.

The Committee will be tasked with creating a system focused on developing the talent needed for staffing the high-tech industries on which Maryland's future depends, from health care and agriculture to cybersecurity and precision manufacturing. It will take the lead in developing the framework for the State's CTE system, mobilizing the business community to become a central player in developing opportunities for apprenticeship and work-based learning, approving CTE programs and standards, bringing the schools and colleges and universities together to align their offerings, assuring that Maryland's entire CTE system is fully aligned with the State's priorities for economic and workforce development and benchmarking that system against the best CTE systems in the world, to make sure that Maryland's workforce is—and can remain—among the most competitive in the world.

## Design Assumptions

1. The CTE Committee chair will be selected jointly by the Governor, the President of the Senate, and the Speaker of the House. The chair of the Committee will serve on the Governor's P-20 Leadership Council, which will be tasked with paying heightened attention to the improvement and coordination of CTE throughout Maryland's education system. The CTE Committee will have the authority to issue whatever regulations are required to implement the statewide framework that it develops for CTE, allocating roles and responsibilities to agencies, mandating required offerings and resolving conflicts that arise among agencies in the course of carrying out those responsibilities. This includes, but is not limited to, deciding which institutions set qualifications for instructors and whether credit is awarded for a course or program. The Committee will issue regulations describing all approved course sequences for CTE.
2. The CTE Committee will address operational issues incident to the development of a modern work-based learning system, such as transportation to and from work-based learning venues and insurance for firms providing places for young people.
3. The CTE Committee will (in transparent, public meetings) review all agency budget requests for CTE-related programs and make recommendations to the Governor and General Assembly.<sup>3</sup>
4. The CTE Committee will have a budget of its own, intended to give it the capacity to make start-up grants, invest in promising innovations and experiments, contract for needed research and analysis, and more.
5. Assisted by its staff, the CTE Committee will monitor the progress of Career and Technical Education in Maryland, including timely implementation of this Commission's recommendations, and will obtain and analyze data on the CTE system's performance and that of participating students. See also element 5C.
6. The CTE Committee may create such advisory structures as necessary to ensure essential input from educators, parents, community organizations, local workforce boards, and other key stakeholders such as local school boards and superintendents.
7. The CTE Committee, through the GWDB, will provide annual public reports to the Governor and the General Assembly on the performance of the Maryland CTE system and, in those reports, will recommend statutory, regulatory, budgetary and structural

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<sup>3</sup> This includes middle-and-high school career exploration and development programs, comprehensive CTE high school programs (where every student is in a focused program of study leading to an approved credential), and postsecondary career pathway options, including college credit-bearing certificate programs, two-year associate's degree CTE programs, and four-year technical CTE degree programs. It also includes postsecondary non-degree, non-credit options, including workforce training programs, non-credit certificate and licensure programs, registered apprenticeship training and other programs that lead to credentials approved by the CTE Committee.

changes based on its analysis of Maryland's needs and the performance of the evolving CTE system.

**Element 3i:** The CTE Committee will create an advisory group to provide advice on skills standards that can be used to drive the new Maryland CTE system. To be called the Skills Standards Advisory Committee, it will be comprised primarily of employers from a diverse mix of industries, leaders of industry associations, and labor groups. It will be charged with setting the standards for a greatly strengthened statewide system of work-based learning and apprenticeships that will form the backbone of the new system. Employers and labor will be asked to play the key role in defining Maryland's system of occupational standards. They will also take the lead in creating a robust array of opportunities for students to earn such credentials in workplace settings provided by employers all over the State and creating a quality-assurance system to ensure that those employers supply the experiences that students need to earn the credentials they seek. Finally, they will be asked to play a key role in developing a coherent framework for occupational standards, and, within that framework, organizing appropriate industry groups to establish the standards and criteria by which candidates will be evaluated for credentials. When the CTE system is fully operational, all programs leading to credentials needed for rewarding mid-level skill jobs will include major work-based learning/apprenticeship components, offered either on the students' high school or community college campus, or, preferably, at the work site of a private or public sector employer or provider of registered and/or youth apprenticeships.

### **Design Assumptions**

1. The Skills Standards Advisory Committee will be comprised of senior business executives, association leaders, a representative of the Maryland Apprenticeship Training Council and representatives of labor, all to be appointed by the Chair of the CTE Committee. Insofar as possible, the membership of the Skills Standards Advisory Committee will consist of GWDB members who are not already on the CTE Committee, but it may also include others, such as educators, parents, and community representatives. The Skills Standards Advisory Committee, supported by the staff of the CTE Committee, will adopt and, where appropriate, develop and regularly update a comprehensive, cohesive system of occupational skills standards to drive the Maryland CTE system, including a comprehensive array of career progressions, standards for each occupation and steps in those progressions, for the credentials to be issued to individuals when they achieve the standards, and the criteria to be used for awarding those credentials. The Advisory Committee need not develop new standards for occupations or industries that have already developed standards (such as registered apprenticeships) that the Committee finds well-matched to Maryland's needs, but should strive to build a system of standards which, when taken together, is coherent and makes it possible for students and

workers to move between careers with credit given for relevant skills and knowledge they already possess.

2. Standards and other components will comprise a comprehensive, unified system of career progressions for a wide range of occupations at various skill levels that embrace grades 11 through 14 and beyond, with particular attention to the industries and occupations prioritized by the CTE Committee.
3. The Skills Standards Advisory Committee will recommend to the CTE Committee whatever regulations may be needed to determine which credentials will be approved for award by Maryland high schools and postsecondary institutions; it will set the standards and criteria by which those credentials will be awarded to individuals, based, wherever possible, on performance assessments conducted (and where necessary developed) by expert industry practitioners. The standards (specifying both technical skills and generic employability skills) approved by the Skills Standards Advisory Board will, wherever possible, represent not average industry practice but state-of-the-art practice, designed to keep Maryland globally competitive.
4. The Skills Standards Advisory Committee will recommend to the CTE Committee the criteria under which employers will be authorized to offer various forms of work-based learning experiences, except that the existing authority vested in the Maryland Apprenticeship and Training Council and the Department of Labor, Licensing and Regulation to regulate registered apprenticeships will not change.
5. The Skills Standards Advisory Committee will be responsible for regularly updating all the skills standards components to reflect changes in technology and work organization.

### **Implementation considerations**

1. The first phase of this system will focus on high priority occupations and industries and will be in place no later than two years after passage of the enabling legislation.
2. Local workforce development boards will be expected to interpret state policies and priorities in light of local needs.

**Element 3j: Every middle and high school student should have ready access to individuals who can counsel and advise them on CTE pathway options and help them navigate among the available and emerging opportunities.** This can happen in several ways.

One option is a school counselor in every middle and high school whose primary focus is on those students who might be interested in pursuing some combination of CTE and further education. These counselors must be deeply knowledgeable about career options, have strong links to employers and apprenticeship providers, and understand all of the available CTE pathways.

A second option is offered by the State's American Job Centers, community colleges, public libraries and other sources of information and counseling such as Junior Achievement. The American Job Centers were created to provide information to adults about job openings, careers, training opportunities and financial support for further occupational training. Properly resourced, these Centers could also serve high school students and graduates to provide information on jobs and careers and make connections for young people to employers offering opportunities for work-based learning, youth and registered apprenticeships, internships and job shadowing. Today, however, these centers are under-resourced for their current task and do not have the bandwidth to offer their services to school-age youth. Nor are all middle and high schools located near Job Centers.

We propose that the State create a grant program under the CTE Committee that local school districts and/or county governments would apply for, describing their approach to providing career counseling to their middle and high school students. This program would encourage districts and counties to determine how best to deploy available funds from federal, state and local sources for these purposes, including, for example, an additional counselor position at the high school or augmenting a local American Jobs Center, community college, or other entity to develop the capacity to serve area students. Alternatively, the district and/or county could develop innovative approaches that best meet its students' needs in other ways. Every district and/or county would have access to the dollars but would be able to frame the delivery of counseling services as they like. Schools providing direct services to their students would also be encouraged to use data from career assessment tools such as Naviance and ASVAB. The grant funds would be sufficient for communities using non-school services to provide for student travel between their schools and Job Centers, community colleges, etc.

### **Design Considerations**

Districts and/or county governments will be responsible for ensuring that grant recipients:

1. Arrange to have firms, associations, apprenticeship sponsors, and other representatives of the employer community make presentations to students in the schools at appropriate times;
2. Arrange to have students (with parent permission) visit the Job Centers or community colleges for presentations, counseling and information gathering
3. Provide counseling to individual students;
4. Arrange with firms for exploratory visits from students, internships, apprenticeships and other work-based learning opportunities; and
5. Obtain and create materials and software programs for students enabling them to access a wide range of information about jobs and careers.

**Element 3k:** The Commission's CTE proposals contemplate a CTE system in which classroom education and training (the theory) is combined with learning in a workplace (the practice). The schooling would take place in high schools, community colleges and other post-secondary institutions.

The Commission encourages the continued development of Comprehensive CTE High Schools, [of which there are many examples in the State, schools](#) that ~~also~~ provide [both](#) the theory portion of the technical training leading to credentials approved by the Skills Standards Board, ~~plus~~ [and](#) the [academic training](#) ~~education~~ needed to assure that the student leaves high school with the knowledge and skills needed to be a responsible citizen, learn quickly throughout his or her life, and develop fully as a person. [The Commission recommends that funds to create more such schools, whether within individual districts or jointly operated by several districts, be given priority in future capital budgets, along with funds to enable the conversion of existing schools and CTE centers into Comprehensive CTE High Schools.](#)

**The workplace-learning or apprenticeship portions of the CTE learning experience will be provided outside the school in an authentic job setting wherever possible.** In most cases, students in CTE programs will be expected to spend at least two days a week in workplace settings in structured workplace training leading to the relevant Skills Standards- Advisory-Committee-approved credential program. When that is not possible, the workplace-based or apprenticeship portion of the program will be provided by the school. The CTE Committee, in partnership with the Department of Labor, Licensing and Regulation and State and local workforce development boards, will be responsible for engaging employers and developing employer-based opportunities for apprenticeship and workplace-based learning throughout the state and for issuing regulations governing the provision of workplace-based learning.

**The CTE Committee will also be responsible for working with employers, apprenticeship sponsors, and secondary and postsecondary educators to define a system of course and program progressions that incorporate the standards developed by the Skills Standards Advisory Committee.** These progressions will be used to develop course sequences that begin in high school and continue seamlessly through community college and other post-secondary occupational programs (and sometimes into the programs of four-year institutions). The sequences will be designed so that students can earn credentials at various points, get a job with that credential and then, if they wish, go on later to acquire a more advanced credential in the same sequence.

Students in Comprehensive CTE High Schools will be able to take community college certificate programs in their high schools, so they can do college-level CTE work while

remaining involved in high school courses and extracurricular activities while they earn both a high school diploma and a credential leading toward a rewarding career. These programs will include both youth and registered apprenticeship programs of the kinds already offered in Maryland.

The Commission recognizes that the CTE system it proposes will take years to implement fully. It envisions full implementation of the structures, programs and policies that it is proposing—including a complete system of occupational standards and credentials, a full complement of institutions, a full set of course progressions defined, and a full set of approved courses on offer—within about ten years of the enactment of enabling legislation. Its goal for Maryland is for 45 percent of high school graduates to earn CTE Committee-approved credentials, to be awarded along with the high school diploma and the CCR endorsement (in most cases along with college credits for courses taken in high school). Of that 45 percent, the Commission expects more than half to be in Comprehensive CTE High Schools, with a greater proportion in later years.

The Commission is recommending (see Element 3m below) formula funding for CTE at an enhanced level to cover the cost of specialized instructors, equipment, and facilities. At the same time, the Commission places a high priority on provision of these specialized instructors, equipment and facilities by employers at the workplace wherever possible. The CTE Committee should consider the need for additional [financial incentives](#) ~~funding strategies~~ (e.g. tax credits, direct subsidies) to ~~incentivize~~ [encourage](#) employers ~~rapidly~~ to scale youth apprenticeship opportunities [in rapid fashion](#).

**Element 3l:** The entire CTE system will be informed by a close relationship between CTE providers and the State’s economic development, workforce development and labor agencies. While the CTE system will continue to prepare future carpenters, auto mechanics and cosmetologists, it will also prepare young people with the complex skills needed for success in an economy permeated by artificial intelligence, robotics, neural networks and machine learning. This will involve not just the technical skills specific to an occupation, but also the generic employability skills that cut across occupations. But mastery of these skills will be just part of a student’s career and technical education. The curriculum will also emphasize ethics, the qualities needed to collaborate with others in teams but also to work independently on finding solutions for real problems, as well as the habits of mind needed to learn new things quickly and well. Not least, the CTE programs will be designed to provide the insights and skills needed to play an active role as an informed citizen, engage with our cultural world and be a fully contributing member of society.

**Element Detail 3m: Funds from local, State and federal sources will be used to support development and delivery of the course and program progressions approved by the Committee that lead to industry credentials.** Funding formulas will need to be modified to provide more money for CTE students to pay for costlier facilities, equipment and – sometimes –required faculty. In addition, special grant programs (currently established in law as CTE Innovation Grants) will need to be expanded to make funds available to teams of schools, community colleges, apprenticeship sponsors, employers and others, often building on good work already going on, to develop occupational standards, curriculum, and new forms of assessment that will be needed as key parts of the infrastructure of the new system. The aim, as much as possible, is to grow the new system from the bottom up, building on the points of excellence already present in Maryland, guided by the framework provided by the CTE Committee and meeting the standards established by the Skills Standards Advisory Committee.