



Arizona State Board of Education  
A-F School Accountability Ad Hoc Committee

**NOTICE OF PUBLIC MEETING**

Pursuant to Arizona Revised Statutes (A.R.S.) §38-431.02, notice is hereby given to the members of the A-F School Accountability Ad Hoc Committee and to the general public, that the Committee will hold a meeting open to the public as specified below. The Committee reserves the right to change the order of items on the agenda, with the exception of public hearings. One or more members of the Committee may participate telephonically.

Pursuant to A.R.S. §38-431.02 (H), the Committee may discuss and take action concerning any matter listed on the agenda.

Pursuant to A.R.S. §38-431.03 (A) (3), the Committee may vote to convene in executive session for discussion or consultation for legal advice from the Committee's attorneys concerning any item on this agenda.

Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting the State Board Office at (602) 542-5057. Requests should be made as early as possible to allow time to arrange the accommodation.

DATED AND POSTED this 30<sup>th</sup> day of December, 2016.

By: \_\_\_\_\_

A handwritten signature in black ink, appearing to read "K. Schmidt", written over a horizontal line.

Dr. Karol Schmidt  
Executive Director  
(602) 542-5057

**AGENDA**

ARIZONA STATE BOARD OF EDUCATION  
A-F SCHOOL ACCOUNTABILITY AD HOC COMMITTEE  
Wednesday, January 4, 2017  
9:00 AM  
Arizona Department of Education  
1535 W. Jefferson  
Phoenix, AZ 85007  
Conference Room 122

9:00 a.m. CALL TO ORDER

GENERAL SESSION

1. CALL TO THE PUBLIC. This is the time for the public to comment. Members of the Committee may not discuss items that are not specifically identified on the agenda. Therefore, pursuant to A.R.S. §38-431.01(H), action taken as a result of public comment will be limited to directing staff to study the matter, responding to any criticism or scheduling the matter for further consideration and decision at a later date.
2. Presentation and discussion regarding college and career readiness indicators.
3. FUTURE MEETING AND PUBLIC HEARING DATES AND ITEMS FOR FUTURE AGENDAS. The executive director, presiding officer or a member of the Committee may discuss future meeting dates and direct staff to place matters on a future agenda.

ADJOURN

**EXECUTIVE SUMMARY**

<b>Issue:</b> Presentation and discussion regarding college and career readiness indicators
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Action/Discussion Item       Information Item

**Background and Discussion**

At the December 19, 2016 regular meeting, the Board adopted the attached conceptual framework regarding a menu of College and Career Readiness Indicators. Students and schools can choose from any combination of indicators to earn all 15 College and Career Readiness points. Students and schools also have the options of earning 7.5 College and Career Readiness points for a lower number of indicators chosen from the menu.

In addition, the adopted conceptual framework states that students and schools can earn two bonus points for students who successfully earn a specified combination of indicators. The intent of the bonus is to incentivize students and schools to expand beyond a single focus, without penalizing them for choosing a single focus.

The Board tasked the Ad Hoc Committee with making a recommendation regarding the indicators and point values to be included in the College and Career Readiness Rubric. It is expected the Committee may add or remove items from the list, as well as make adjustments to the specific value of each indicator.

Finally, it is expected that any College and Career Readiness Indicator will be adjusted in future years based on things learned after implementation.

**Recommendation to the Committee**

This item is for discussion only.

**Contact Information:**

Tim Carter, Vice-President, State Board of Education

# College and Career Readiness Rubric

12/17/16 Draft

Proposed indicators and point values have been entered as examples.  
Actual indicators and point values to be determined by A-F Ad Hoc Committee.

Indicator Points	Indicator
.35	Meets cut score on ACT, ACCUPLACER, or COMPASS English, reading, writing, math or science exam - (A)
.5	Meets cut score on SAT English or math exam (A)
.5	Meets cut-score on AP, Cambridge, or IB English, math, science, or social studies exam - (A)
.5	Passes a college level English, math, science, or social studies course with an A, B, or C (includes dual enrollment and concurrent enrollment) - (A)
1.25	Earns a Grand Canyon Diploma - (A)
1.25	Completes a CTE sequence and passes the Arizona Technical Skills Assessment for that sequence - (B)
.25	Completes a CTE course - (B)
.5	Meets benchmarks for ASVAB or ACT WorkKeys - (B)
.5	Earns an Industry-Recognized Credential, Certificate, or License - (B)
1	Completes a well-defined internship of at least 120 hours - (B)
.5	Passes a college level career pathway (CTE) course with an A, B, or C (includes dual enrollment and concurrent enrollment) - (B)
.3	Completes the FAFSA - (A & B)

## SCORING

- On the A-F scale each student has the potential to generate 100 points. Of the 100 A-F points, 15 points can be generated by “College and Career Readiness.”
- A student who accumulates 1 Indicator Point will generate 7.5 A-F Points.
- A student who accumulates 2 Indicator Points will generate 15 A-F points.
- A student who accumulates 1 Indicator Point of A Indicators AND 1 Indicator Point of B Indicators will generate 2 bonus A-F points.



# Redefining Ready!



ENDORSED BY





Dan Domenech, the executive director of AASA, The School Superintendents Association, and Dr. David R. Schuler, the 2015-16 AASA President and superintendent of the high-performing, 12,000-student High School District 214 in Chicago's northwest suburbs, initiated the **Redefining Ready!** campaign and have been leading the charge nationally. The Consortium for School Networking (CoSN), the National Association of Secondary School Principals (NASSP), Phi Delta Kappa International (PDK) and the National Superintendents Roundtable (NSR) have endorsed the initiative. A sample endorsement resolution is available at [www.RedefiningReady.org](http://www.RedefiningReady.org).



America's high schools have a profound responsibility to ensure that our nation's students are college ready, career ready and life ready. Standardized test scores – traditionally used as the primary readiness indicator – do not always provide an accurate representation of our students' potential. Today's students are driven by ideas and innovations. They should not be reduced down to, or defined by, a single test score.

**Our students are MORE than a SCORE.**



**Redefining Ready!** is a national campaign launched by AASA – The School Superintendents Association, to introduce a new multi-metric, research based approach to determining what it means to be college ready, career ready, and life ready. This campaign is designed to change the national narrative regarding public education from a one-standardized-test judges all (students, teachers, parents, and communities) philosophy to a focus on readiness for our nation’s 50 million plus public school students.

Our nation’s teachers and school leaders provide students with rigorous academic programs, personalized and career-specific learning experiences, along with social and emotional skills that prepare them to be global citizens in an ever-changing world.

Students learn in a variety of ways. Therefore, they should be able to demonstrate readiness in a variety of ways. The new readiness indicators, developed from research by world-class organizations, more accurately reflect the educational landscape of the 21st century. Multiple metrics include Advanced Placement and International Baccalaureate courses, Algebra II, early college credits, industry credentials, attendance, and community service, among others.

We invite parents, teachers, school leaders, school boards, communities, advocacy organizations and state and national leaders to learn more about the new college and career readiness indicators and partner with us to embrace **Redefining Ready!**

Providing an opportunity to consider the whole child, we seek to redefine readiness and change the national narrative surrounding public education in the country by focusing on the three main areas of importance to students, parents, teachers, and employers: college readiness, career readiness, and life readiness. Since the implementation of No Child Left Behind, educators have looked to meet the needs of a diverse student body with a narrow focus on assessment results. Now with the Every Student Succeeds Act the law of the land, **Redefining Ready!** offers educators an opportunity to diversify the manner in which we measure student success overall. The following summary provides an overview of the research-based, multi-metric **Redefining Ready!** indicators and the research that led to their development.

To view the research source documents and add your support for the campaign, AASA encourages you to visit the AASA website [www.aasa.org](http://www.aasa.org) or the Redefining Ready! website [www.RedefiningReady.org](http://www.RedefiningReady.org).





## College Ready Indicators

Students are **College Ready** if they meet either the academic indicators **OR** standardized testing benchmarks listed below.

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### Academic Indicators

GPA 2.8 out of 4.0 and **one or more** of the following academic indicators:

- Advanced Placement Exam (3+)
  - Advanced Placement Course (A, B or C)
  - Dual Credit College English and/or Math (A, B or C)
  - College Developmental/Remedial English and/or Math (A, B or C)
  - Algebra II (A, B or C)
  - International Baccalaureate Exam (4+)
- 

### Standardized Testing Benchmarks (minimum score)

- SAT Exam: Math (530) | Reading and Writing (480)
  - ACT Exam: English (18) | Reading (22) | Science (23) | Math (22)
  - College Readiness Placement Assessment (determined by post-secondary institution)
- 

### Additional Factors that Contribute to College Success

Earning As, Bs, Cs; FAFSA completion; enrollment in career pathway course sequence; college academic advising; participation in college bound bridge programs; senior year math class; completion of a math class after Algebra II.

## Career Ready Indicators

Students are **Career Ready** if they have identified a career interest and meet two of the behavioral and experiential benchmarks listed below. In addition, students entering the military upon graduation must meet the passing scores on the Armed Services Vocational Aptitude Battery (ASVAB) for each branch of the military.

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Career Cluster Identified and **two or more** of the following benchmarks:

- 90% Attendance
  - 25 hours of Community Service
  - Workplace Learning Experience
  - Industry Credential
  - Dual Credit Career Pathway Course
  - Two or more organized Co-Curricular Activities
- 

## Life Ready

Being **Life Ready** means students leave high school with the grit and perseverance to tackle and achieve their goals.

Students who are **Life Ready** possess the growth mindset that empowers them to approach their future with confidence, to dream big and to achieve big.

Our nation's schools provide social and emotional support and experiences to equip students with the **Life Ready** skills they will need for success in their future.



# Redefining Ready! for the 21st Century

Preparing students for success beyond graduation is among the most important tasks facing America's educators, and they have responded with innovative determination, creating a relevant 21st century education that includes increased access to Advanced Placement (AP) and International Baccalaureate (IB) courses and early college credits that better position students for success; opportunities to complete industry credentials and college-level and career internships while still in high school; and rich exposure to co-curricular activities and community service projects that build skills for life.

Consequently, students should be able to demonstrate their readiness in ways other than solely standardized test scores. While standardized test scores are widely accepted as one key readiness indicator in our schools, they fail to show the whole picture – often inappropriately suggesting only a portion of students are college ready when in fact many more graduates successfully pursue two-year and four-year degrees.

## Ready for College

Research from world-class organizations indicates numerous factors that can significantly and more authentically demonstrate college, career and life readiness, including a 2.8 or higher Grade Point Average (GPA), enrollment in AP and IB classes and success on AP and IB exams, early college credits, completion of industry credentials, attendance records, participation in activities and community service.

Data from The National Center for Postsecondary Research, The Diploma Project, the Center for Public Education, the National Center for Education Statistics and others suggest the power of these varying metrics in assessing readiness. Specifically, a 2013 report published by the American Institutes for Research highlighted multiple indicators for success, including participation in dual-enrollment coursework, a score of 3 or higher on AP exams and FAFSA completion.

In 2010, the College Board released a report that specifically emphasized the need for multiple measures of readiness in preparing students for success.

In a University of California study, high school GPA was consistently found to be one of the strongest predictors of four-year college outcomes across all academic disciplines, campuses and freshmen cohorts in the research sample.

Moreover, a Brown University study has found that the courses students take in high school are more predictive of college success than family income and race.

AP coursework success is a widely accepted indicator of college readiness in university applications, and is used to rate and rank the rigor and excellence of high schools for nationally published lists by news organizations like *U.S. News & World Report*. Several studies have highlighted how performance in AP courses relates to college access and success showing that there is a strong relationship between high school students who take and pass AP exams and those who complete college.



Eighty-two percent of the nation's high schools report their students are enrolled in dual credit courses, according to a 2013 report by the National Center for Educational Statistics, concluding this also must be considered a readiness factor. Such courses offer students the opportunity to earn college credit while still in high school and later ease the transition to a post-secondary academic setting. In looking at data from Florida schools, the National Center for Postsecondary Research found that dual-enrollment students were statistically more significantly likely to persist in college to a second semester and earn a higher college GPA. In addition, male and low-income students, in particular, benefited from dual-enrollment courses in high school.

Additionally, studies show that successful high school completion of Algebra II, a gateway course for many post-secondary math, science, engineering and technology courses, correlates to college and career success. Data links Algebra II success to both college enrollment and bachelor's degree attainment: Students who study math at least through Algebra II in high school are more than twice as likely to earn a four-year degree as those who do not, and the level of math a student reaches in high school is the most accurate predictor of whether they will earn a bachelor's degree.

Success within an International Baccalaureate (IB) program is also predictive of readiness, with research from the Educational Policy Improvement Center determining students who participated in an IB program in high school were more likely than those who did not to earn post-secondary degrees and persist over two years while earning higher GPAs in their first two years of college. The impact on low-achieving students and students from low socioeconomic backgrounds is particularly profound; those who took an AP or IB course were found to be 17 percent more likely to persist in four-year colleges and 30 percent more likely to persist in two-year colleges than peers who did not take the coursework.

### Ready for Careers

Preparing students to enter two-year and four-year institutions of higher education is an integral piece of the readiness equation. In addition to college readiness, we cannot underestimate the importance of identifying students who are ready to enter the workforce after leaving high school, particularly given the abundance of idea-driven and high-profile middle-skill jobs that do not require a full college degree.

In 1988, the William T. Grant Foundation published a report that called the then 20 million non-college-bound youth the "forgotten half," warning they were "in danger of being caught in a massive bind that can deny them full participation in our society." A narrowly defined "college for all" goal – one that does not include a strong focus on career-oriented programs that lead to occupational credentials – appears doomed to fail.

More than two decades later, the Harvard Graduate School of Education published the Pathways to Prosperity Project in 2011, calling on America's high schools to increase work-based learning to equip those students who do not finish four years of college for success in the workplace.

Students need hands-on workplace learning experiences such as internships that enable them to explore their career interests while still in high school. The National Career Clusters® Framework is comprised of 16 Career Clusters and related Career Pathways to help students explore different career options. Identifying a career pathway is critical since it provides exposure to coursework directly related to a future career and often leads to an industry credential that allows students to be immediately employable upon graduation.



Research shows that students often lack the knowledge of the requirements for specific careers. One study highlighted the fact that young men in Career Academies earned more after high school because of their participation in internships and improved awareness of specific careers.

When students' interests and career aspirations are explored and connected through curriculum, their high school experience is elevated, with research showing career pathways in education can make school real, relevant and exciting to students and answer the "Why do we need to learn this?" question across courses. In particular, an *EdWeek* article noted the impact of internships on high school students, by equipping them with real-world skills including communications and teamwork.

Data shows school attendance, something at the very core of education, is central to success. In a report by Attendance Works, absenteeism influences not just chances for graduating but also for completing college. An analysis of Rhode Island data found that only 11 percent of chronically absent students who graduated from high school made it to a second year of college.

Additionally, civically engaged students make greater scholastic progress during high school, with data showing that community service to fulfill class requirements enhances the average odds of college graduation by 22 percentage points.

Finally, co-curricular activities promote student achievement, engagement and attitudes that lead to college aspirations and ultimately success, according to a study by the National Center for Educational Statistics and the U.S. Department of Education. The study indicated students involved in activities were more likely to aspire to higher education, and two-thirds were expected to complete a bachelor's degree or higher.

### **Redefining Ready!**

It is imperative that we consider multiple metrics when assessing readiness for life after high school. We know that our students are more than one standardized test score and using a "one score judges all" approach is simply unfair to our students, our teachers, our school boards and our communities. We need a more authentic, appropriate, and relevant definition of readiness in this country.

We are educating a generation of innovators – motivated by ideas and ingenuity. They learn in a variety of ways. And, they should be able to demonstrate college, career and life readiness in a variety of ways. A multitude of decisions are based on student readiness including college acceptance, which oftentimes sets a course for a student's success in career and life.

Higher education institutions and businesses will have a broader look into a student's commitment, character and resilience rather than basing their decisions on a standardized test score that may or may not accurately reflect a student's readiness level.

This new definition provides a full picture of how well students are prepared for a 21st century workforce that relies on creativity, vision, communication and other skills that cannot be measured through standardized tests.



## OVERALL Research META Analysis

Hein, V., Smerdon, B., & Sambolt, M. (2013). *Predictors of postsecondary success*. Retrieved from [http://www.ccrscenter.org/sites/default/files/CCRS%20Center\\_Predictors%20of%20Postsecondary%20Success\\_final\\_0.pdf](http://www.ccrscenter.org/sites/default/files/CCRS%20Center_Predictors%20of%20Postsecondary%20Success_final_0.pdf)

Wiley, A., Wyatt, J. N., & Camara, W. J. (2010). The development of a multidimensional college readiness index. Retrieved from <http://research.collegeboard.org/sites/default/files/publications/2012/7/researchreport-2010-3-development-multidimensional-college-readiness-index.pdf>

Rami Benbenishty, Ron Avi Astor, Ilan Roziner, and Stephani L. Wrabel (2016). Testing the Causal Links Between School Climate, School Violence, and School Academic Performance: A Cross-Lagged Panel Autoregressive Model. *Educational Researcher*, Vol. 45 No. 3, pp. 197–206 DOI: 10.3102/0013189X16644603. <http://edr.sagepub.com/content/45/3/197.full.pdf+html?ijkey=u1lBy7UeCAFOA&keytype=ref&siteid=spedr>

Jill Barshay (May 16, 2016) *The Hechinger Report*. The best school violence prevention program may start with raising test scores. <http://hechingerreport.org/best-school-violence-prevention-program-may-start-raising-test-scores-study-shows/>

## GPA

Sawhill, I. V., Winship, S., & Grannis, K. S. (2013). Pathways to the middle class: Balancing personal and public responsibilities. *Issues in Science and Technology*, 29(2), 47. Retrieved from <http://www.thenonprofitpartnership.org/files/sawhill--pathways.pdf>

Geiser, S., & Santelices, M. V. (2007). Validity of high-school grades in predicting student success beyond the freshman year: High-school record vs. standardized tests as indicators of four-year college outcomes. *Center for studies in higher education*. Retrieved from <http://eprints.cdlib.org/uc/item/7306z0zf>

Michelle Hodara and Monica Cox, Education Northwest (2016). *Developmental education and college readiness at the University of Alaska*. Retrieved from [http://ies.ed.gov/ncee/edlabs/regions/northwest/pdf/REL\\_2016123.pdf](http://ies.ed.gov/ncee/edlabs/regions/northwest/pdf/REL_2016123.pdf)

## AP Course C+

Dougherty, C., Mellor, L., & Jian, S. (2006). The Relationship between Advanced Placement and College Graduation. 2005 AP Study Series, Report 1. *National Center for Educational Accountability*. Retrieved from <http://files.eric.ed.gov/fulltext/ED519365.pdf>

## AP Exam 3+

Nagaoka, J., Roderick, M., & Coca, V. (2009). Barriers to college attainment: Lessons from Chicago. Washington, DC: Center for American Progress. Retrieved from [http://www.studentclearinghouse.org/high\\_schools/files/STHS\\_ChicagoSchools.pdf](http://www.studentclearinghouse.org/high_schools/files/STHS_ChicagoSchools.pdf)

Wiley, A., Wyatt, J. N., & Camara, W. J. (2010). The development of a multidimensional college readiness index. Retrieved from <http://research.collegeboard.org/sites/default/files/publications/2012/7/researchreport-2010-3-development-multidimensional-college-readiness-index.pdf>



### Dual Credit English/Math

Karp, M. M., Calcagno, J. C., Hughes, K. L., Jeong, D. W., & Bailey, T. R. (2007). The Postsecondary Achievement of Participants in Dual Enrollment: “An Analysis of Student Outcomes in Two States”. *Community College Research Center, Columbia University*. Retrieved from <http://www.nrccte.org/resources/publications/postsecondary-achievement-participants-dual-enrollment-analysis-student>

Thomas, N., Marken, S., Gray, L., Lewis, L. (2013). *Dual Credit and Exam-Based Courses in U.S. Public High Schools: 2010-2011, First Look*. National Center for Educational Statistics. Retrieved from: <http://nces.ed.gov/pubs2013/2013001.pdf>

### Developmental Education

Hughes, Edgecombe, and Snell (2011). Developmental Education: Why and How We Must Change It Retrieved from <http://ccrc.tc.columbia.edu/media/k2/attachments/developmental-education-why-reform.pdf>

Bailey, T. R., & Cho, S. W. (2010). Developmental education in community colleges. Retrieved from <http://ccrc.tc.columbia.edu/media/k2/attachments/developmental-education-community-colleges.pdf>

(2013) Florida Senate Bill 1720. Jobs for the Future. Retrieved from <http://www.jff.org/initiatives/postsecondary-state-policy/developmental-education-redesign-florida>

### Algebra II C+

Musen, L. (2010). Pre-Algebra and Algebra Enrollment and Achievement. Leading Indicator Spotlight. *Annenberg Institute for School Reform at Brown University (NJ1)*. Retrieved from <http://files.eric.ed.gov/fulltext/ED533119.pdf>

Carnevale, A. P., & Desrochers, D. M. (2001). *Connecting education standards and employment: Course-taking patterns of young workers*. U.S. Department of Education. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.165.6376&rep=rep1&type=pdf>

Muller, R., & Beatty, A. (2008). The building blocks of success: Higher-level math for all students. Achieve Policy Brief. Retrieved from <http://www.achieve.org/files/BuildingBlocksofSuccess.pdf>

### International Baccalaureate Exam (4+)

Conley, D., McGaughy, C., Davis-Molin, W., Farkas, R., & Fukuda, E. (2014). International Baccalaureate Diploma Programme: Examining college readiness. Retrieved from [http://www.ibo.org/contentassets/d74675437b4f4ab38312702599a432f1/ib\\_diploma\\_programme\\_examining\\_college\\_readiness\\_2014\\_0715\\_000.pdf](http://www.ibo.org/contentassets/d74675437b4f4ab38312702599a432f1/ib_diploma_programme_examining_college_readiness_2014_0715_000.pdf)

Klepfer, K., & Hull, J. (2012). High school rigor and good advice: Setting up students to succeed. Center for Public Education for the National School Boards Association. Retrieved from <http://www.centerforpubliceducation.org/Main-Menu/Staffingstudents/High-school-rigor-and-good-advice-Setting-up-students-to-succeed>

### College Readiness Placement Assessment

Locally identified placement assessments, such as Compass, AccuPlacer, ALEKS.

### SAT College Readiness Benchmarks

Wyatt, J., Kobrin, J., Wiley, A., Camara, W. J., & Proestler, N. (2011). *Development of a college readiness benchmark and its relationship to secondary and postsecondary school performance* (No. 2011-5). College Board Research Report. Retrieved from <https://research.collegeboard.org/sites/default/files/info2go/2012/8/infotogo-2011-5-college-readiness-benchmark-secondary-performance.pdf>



## ACT College Readiness Benchmarks

ACT. (2012). The condition of college & career readiness. Iowa City, IA: Author. 2015 version <http://www.act.org/research/policymakers/cccr15/pdf/CCCR15-NationalReadinessRpt.pdf>

### 90% Attendance

Allensworth, E. M., & Easton, J. Q. (2007). What matters for staying on track and graduating in Chicago Public High Schools. *Chicago, IL: Consortium on Chicago school research*. Retrieved December, 17, 2007. Retrieved from <http://ccsr.uchicago.edu/sites/default/files/publications/07%20What%20Matters%20Final.pdf>

### Community Service

Davila, A., & Mora, M. T. (2007). An Assessment of Civic Engagement and Educational Attainment. Fact Sheet. Center for Information and Research on Civic Learning and Engagement (CIRCLE). Retrieved from <http://files.eric.ed.gov/fulltext/ED497603.pdf>

OnlineCollege.org (2012). 12 Reasons Community Service Should Be Required in Schools. <http://www.onlinecollege.org/2012/06/27/12-reasons-community-service-should-be-required-schools/>

### Identifying a Career Cluster of Interest

Symonds, W. C., Schwartz, R., & Ferguson, R. F. (2011). Pathways to prosperity: Meeting the challenge of preparing young Americans. *Cambridge, MA: Pathways to Prosperity Project at Harvard Graduate School of Education*. Retrieved from [http://globalpathwaysinstitute.org/wpcontent/uploads/2015/03/Pathways\\_to\\_Prosperty\\_Feb2011-1.pdf](http://globalpathwaysinstitute.org/wpcontent/uploads/2015/03/Pathways_to_Prosperty_Feb2011-1.pdf)

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Adams, C. (2013). Internships Help Students Prepare for the Workplace. *Education Week*, 32(19), 8. Retrieved from [http://www.edweek.org/ew/articles/2013/01/30/19internship\\_ep.h32.html](http://www.edweek.org/ew/articles/2013/01/30/19internship_ep.h32.html)

Bangser, M. (2008). Preparing High School Students for Successful Transitions to Postsecondary Education and Employment. Issue Brief. *National High School Center*. Retrieved from [http://betterhighschools.org/docs/PreparingHSSStudentsforTransition\\_073108.pdf](http://betterhighschools.org/docs/PreparingHSSStudentsforTransition_073108.pdf)

### Industry Credential

#### What is a Credential?

[https://www.acteonline.org/uploadedFiles/Assets\\_and\\_Documents/Global/files/Publications/What\\_is\\_a\\_Credential-UpdatedAug2015.pdf](https://www.acteonline.org/uploadedFiles/Assets_and_Documents/Global/files/Publications/What_is_a_Credential-UpdatedAug2015.pdf)

### Co-Curricular Participation

O'Brien, E., & Rollefson, M. (1995). Extracurricular Participation and Student Engagement. *Education Policy Issues: Statistical Perspectives*. Retrieved from <http://nces.ed.gov/pubs95/web/95741.asp>

Johnston, H. (2008). Extracurricular Activities and Student Achievement: Everyone Gains, Education Partnerships. Retrieved from <http://oregongearup.org/sites/oregongearup.org/files/research-briefs/extracurricularactivities.pdf>



## Help us champion the **Redefining Ready!** initiative.

**Redefining Ready!** has a growing list of supporters who agree America's students are more than a score, based on numerous data points to support the metrics.

Use the Twitter hashtag **#RedefiningReady** to add your voice to the conversation, or contact **RedefiningReady@aasa.org** to share stories, ideas or additional research. Visit **www.redefiningready.org** to download materials or add your endorsement.





U.S. CHAMBER OF COMMERCE FOUNDATION YOUTH EMPLOYMENT SERIES

# CAREER READINESS

A BUSINESS-LED APPROACH FOR  
SUPPORTING K-12 SCHOOLS



U.S. CHAMBER OF COMMERCE FOUNDATION  
Center for Education and Workforce



## **U.S. CHAMBER OF COMMERCE FOUNDATION**

The U.S. Chamber of Commerce Foundation is dedicated to strengthening America's long-term competitiveness. We educate the public on the conditions necessary for business and communities to thrive, how business positively impacts communities, and emerging issues and creative solutions that will shape the future.

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## **U.S. CHAMBER OF COMMERCE**

The U.S. Chamber of Commerce is the world's largest business federation representing the interests of more than 3 million businesses of all sizes, sectors, and regions, as well as state and local chambers and industry associations.

## TABLE OF CONTENTS

<b>Introduction .....</b>	<b>1</b>
<b>Recent Approaches to Career Readiness in K-12 Schools .....</b>	<b>5</b>
<b>A Framework for Defining Career Readiness .....</b>	<b>10</b>
<b>Measuring Career Readiness .....</b>	<b>14</b>
<b>Adopting Career Readiness in State Accountability Systems.....</b>	<b>17</b>
<b>Business Leadership in Advancing Career Readiness in States and Districts.....</b>	<b>19</b>
<b>Conclusion.....</b>	<b>23</b>
<b>Checklist: Starting a Career Readiness Conversation .....</b>	<b>24</b>
<b>Example Report Card Dashboard.....</b>	<b>25</b>
<b>Acknowledgments.....</b>	<b>27</b>
<b>End Notes.....</b>	<b>28</b>
<b>Infographic .....</b>	<b>29</b>



## INTRODUCTION

In today's economy, career readiness is receiving increased attention at the state and federal policy levels and in our schools. Much of this is driven by growing interest in improving student transitions to both college and employment. Schools have long sought to better prepare students for the future—including careers—by improving the number of students entering college academically prepared. Employers too are signaling that our schools need to help address a persistent and deepening skills gap that is impacting many industries vital to our country's economic future. For these reasons and more there is renewed interest in addressing the career readiness of students in our K-12 education systems.

Many states have proactively raised academic standards to ensure students are making progress toward important transitions to either college or careers. Many others have been engaged in modernizing their Career and Technical Education (CTE) systems. Others have forged partnerships among K-12 schools, colleges, and workforce systems to ensure students are provided with pathways to careers in fields that are in demand.

A recent development that has generated an increased interest in career readiness is the passage of the Every Student Succeeds Act (ESSA). Formerly known as No Child Left Behind (NCLB), the reauthorization of our nation's primary K-12 education law has placed a spotlight on career readiness as part of state accountability systems.

Under the new law, a great deal of flexibility and latitude is afforded to states, including in accountability systems, where they are now tasked with defining and measuring what success looks like for their students. States must track progress against three required indicators and at least one optional indicator, such as "postsecondary readiness." [See Figure 1](#). New state accountability systems must set measurable goals for local districts as well as identify appropriate interventions when goals and benchmarks have not been met.

Many states are now seeking to leverage the new law to build on the advances that have been made to date in supporting career readiness. This too is a topic of great interest within the business community, which depends on our nation's schools for a skilled and competitive workforce. However, while increased

attention on career readiness is a welcome development brought about by the passage of ESSA, the question is how to define and implement it as part of state accountability systems.

Presently, there is very little consensus within the business community—or among education organizations—around how to best define and measure career readiness. For many years, the terms “career readiness” and “college readiness” have been interchangeable and generally understood to mean achieving proficiency in reading and math when measured against rigorous standards. This proficiency was seen as a necessary readiness level to transition to college without needing remediation or to enter the world of work. However, with the possibility of having postsecondary readiness become a significant part of state accountability systems, we must now ask two questions:

- 1) Are college and career readiness in fact different?
- 2) Can postsecondary readiness be measured in a way that captures both?

Answering these questions is critical to the successful implementation of ESSA and to the students whose progress will be measured. As states design and implement their new accountability systems, it is crucial for the business community to be involved. The business community is well positioned to play a lead role in helping states and districts define and implement career readiness to ensure it remains a meaningful part of ESSA implementation moving forward.

**For many years, the terms “career readiness” and “college readiness” have been interchangeable and generally understood to mean achieving proficiency in reading and math when measured against rigorous standards.**

## Figure 1: ESSA State Accountability Requirements

### REQUIRED INDICATORS

- 1) Academic achievement (including math and reading/language arts)
- 2) Another academic indicator (e.g., student growth in elementary/middle school or graduation rate in high school)
- 3) English-language proficiency

### OPTIONAL INDICATORS (STATES MUST CHOOSE AT LEAST ONE)

- 1) Student engagement
- 2) Educator engagement
- 3) School climate and safety
- 4) Access to and completion of advanced coursework
- 5) Postsecondary readiness
- 6) Any other indicator selected by the state that is valid, reliable, comparable, and statewide and allows for meaningful differentiation in school performance

*Note: The required indicators must, together, carry substantial weight compared with the optional indicator.*

The U.S. Chamber of Commerce Foundation (USCCF) calls on the business community to lead in two important ways by supporting states and local districts with:

- 1) Adopting postsecondary readiness as a combined college and career readiness indicator under ESSA accountability, and defining, implementing, and measuring it in a way that reflects the changing needs and requirements of the business community; and
- 2) Implementing the career readiness components of a postsecondary readiness system by addressing key gaps and systemic challenges involved in managing employer engagement, scaling work-based learning, identifying industry-recognized credentials, securing employer endorsements, and evaluating performance.<sup>1</sup>

This paper begins with a review of how states and districts have historically approached career readiness in K-12 schools. From there, it addresses some of the limitations and challenges with current approaches. Next, the paper offers a definition of career readiness and argues that it should be pursued as an integrated measure under postsecondary readiness as part of ESSA state accountability systems. Last, the paper provides specific recommendations for how the business community is uniquely positioned to lead in addressing key implementation challenges involving the career readiness components of a postsecondary readiness indicator.



## RECENT APPROACHES TO CAREER READINESS IN K-12 SCHOOLS

The idea of implementing, measuring, and valuing career readiness is not a new concept. Over the years, there has been continued and widespread exploration of improving career readiness systems in states and regions. This is noticeable in recent CTE modernization efforts led by groups such as Advance CTE and the Association for Career and Technical Education. More recently, states had begun to expand on their career readiness efforts by including career readiness indicators as part of state waivers under NCLB. Currently, as many as 34 states publicly report and/or include some type of career-focused indicator in their accountability systems.<sup>2</sup> But before exploring a business-led definition of career readiness for state accountability systems, we first must take a closer look at how states and districts have traditionally supported career readiness in schools.

### FIVE APPROACHES

To date, the five most common approaches to supporting career readiness in K-12 systems have been 1) workforce readiness assessments, 2) courses with dual credit opportunities, 3) work-based learning, 4) industry-recognized credentialing, and 5) career guidance.

**Workforce Readiness Assessments:** The most common approach has been a focus on workforce readiness assessments and ensuring that students have attained the requisite math and reading proficiency to be successful in both college and the workplace. These assessments have come in many different forms, including assessments that are aligned to the adoption of higher standards for college and career readiness, such as PARCC and Smarter Balanced. Other assessments that have been a familiar feature of education systems include the ACT and SAT, which have traditionally been used to ascertain a student's readiness to enter a postsecondary program. Assessments such as ACT WorkKeys and the NOCTI 21<sup>st</sup> Century Skills Assessment hone in on workplace skills by posing to students contextualized questions that demonstrate their ability to apply their learning in a workplace setting. In addition, many states have developed their own technical skill assessment systems.

**Courses With Dual Credit Opportunities:** The next most common approach has been through course participation and the attainment of dual credit. Student acquisition of dual or articulated college credit has been seen as a validation of

college and career readiness. For college readiness specifically, this includes student participation in Advanced Placement or International Baccalaureate courses, which satisfy high school graduation requirements and are recognized by many colleges and universities for college credit. For career readiness, the dual credit model is often pursued in combination with CTE courses and programs of study that align secondary and postsecondary courses into a seamless career pathway through articulation and transfer agreements between high schools and community colleges. It can also include courses related to science, technology, engineering, and math (STEM). More recent efforts have focused on improving course alignment with in-demand industries based on better use of labor market data and employer surveys.

**Work-Based Learning:** Next, states and districts have emphasized the importance of work-based learning as a critical component of career awareness and preparation. Work-based learning is often embedded as part of course concentrations in a career pathway or as part of STEM programs. In many cases, these experiences are place-based and include internships, cooperatives, and—more recently—youth apprenticeships. However, they can also be project-based or simulated experiences that take place on the school premises. While these experiences have rarely been captured as part of accountability systems, there is increased interest in expanding these opportunities and providing districts credit for increasing the number of quality work-based learning placements.

**Industry-Recognized Credentialing:** States and districts have also attempted to better connect students to additional credentialing opportunities as a part of career readiness. These include—but are not limited to—industry-recognized credentials, such as those offered by the Manufacturing Skills Standards Council, National Institute for Metalworking Skills, and American Welding Society in manufacturing, as well as by CompTIA in information technology. Opportunities also include many other forms of credentialing, such as diploma endorsements in a career field or program of study as well as micro-credentials (e.g., digital badges).

**Career Guidance:** States and districts have also attempted to elevate the need for and delivery of career guidance. Given time constraints on school counselors, many districts have tried to expand access to career information through technology platforms and tools. One example is Inspire—offered through Career Cruising—which provides students with information about in-demand occupations, skill requirements, earning potential, and opportunities to connect to local employers. Many states now require students to complete a

personalized learning or career plan, the vast majority of which focus on having students identify their career aspirations and goals. Some of these plans go further and include a crosswalk of career aspirations to a student's academic achievement level, course selection, or future education plans. Innovative states are now supporting these conversations with students through career development standards and through specialized career coaches.<sup>3</sup>

Rather than pursuing a single approach to career readiness, most states have found opportunities to pursue a combined approach when supporting career readiness for their students. For example, the Pathways to Prosperity Network, a consortium of states that includes Illinois and California, is encouraging the implementation of career pathways that embed work-based learning and the attainment of industry-recognized credentials as part of a course sequence in an in-demand career field. P-TECH in New York is another example, in which IBM and other companies support a model where businesses sponsor a school and provide instructional support and work-based learning opportunities targeted toward growing in-demand occupations. And CTE programs of study combine aligned secondary and postsecondary courses with dual credit opportunities, work-based learning support, and industry credentialing across 16 career clusters that encompass 79 career pathways.

States have not just supported integrated approaches to career readiness systems, but they have also begun experimenting with including career readiness as part of their accountability systems. Advance CTE and Achieve recently released an updated report on *How States are Making Career Readiness Count: A 2016 Update* which catalogues as many as 34 states that publicly report and/or include some type of career-focused indicator in their state accountability systems. Of those, 32 states use career readiness indicators for public reporting purposes. Far fewer—17 states—utilize those indicators to influence their accountability formula, and eight states use them to award bonus points.

Many of the indicators used are a variation on the five approaches previously covered and, in some cases, combine them. Sixteen states, however, rely on dual enrollment and postsecondary enrollment as their preferred career readiness indicator. This is followed by 11 states that report participation in CTE courses.<sup>4</sup>

## LIMITATIONS AND CHALLENGES WITH CURRENT APPROACHES

Many of the previously mentioned approaches and experiments have informed a deeper understanding of career readiness systems, but in their current form they each face limitations and challenges when being considered for inclusion in a statewide accountability system. These include the following examples:

- Assessments, while commonly used and important in addressing many of the essential skills students need to transition out of high school, often don't address many of the "soft skills" employers look for, such as effective communication, collaboration, critical thinking and problem solving, showing up on time, and conducting oneself professionally in a business environment.
- Career preparation courses have historically been subject to criticism that they track students into a less rigorous pathway that limits, not expands, opportunity.
- Managing quality consistently in work-based learning can be challenging, as can assessing what a student actually learned through his or her experience.
- There remains no consistent approach to understanding which credentials are valued by employers and get good labor market returns, nor does every industry offer credentials that can be attained at the K-12 level. In addition, in state systems, much of the data held by third-party vendors is not available for reporting or verification that a credential has been attained.
- Career guidance, for the most part, is in short supply with few opportunities for students to get meaningful access to information and coaching.

Even if one were to address the limitations outlined above, states and districts would still face several overarching and systemic challenges when considering career readiness as part of their accountability systems. These challenges include the following:

- Career education has largely been stigmatized, and gaining the necessary community buy-in to successfully implement it will be critical. A history of promoting "college for all" has resulted in a perception that anything "less

than college” is suspect, and is rightly critiqued by the business and civil rights communities as failing to provide a rigorous and equitable education.

- There is also a lack of shared accountability across our education and workforce systems, and critical outcome data is unavailable that can tell us whether students have transitioned successfully to employment in their chosen career fields. Currently, statewide longitudinal data systems do not track occupation or workforce performance. Even if states report on whether students make a transition to college and/or employment, feedback from colleges and employers on student readiness is missing.
- Outside of advisory boards, states and districts often lack the necessary employer engagement and leadership they need to implement career readiness successfully. Considering career readiness within a state’s accountability system will require an approach that ensures consistent and reliable feedback from employers in a constantly changing business environment.

Given current limitations and challenges, one might question whether it is possible to define and include career readiness as part of a state’s accountability system. Assuming it is possible, this would require an exploration of the gaps in implementation in order to overcome the challenges identified above. Before turning to how the business community can support the adoption of career readiness as part of a state accountability system and help address the implementation challenges, we first must establish a framework for defining and measuring career readiness that builds on progress made to date.

## A FRAMEWORK FOR DEFINING CAREER READINESS

Despite the limitations and challenges that have been experienced with building career readiness in K-12 schools, states have done well experimenting with multiple approaches and much can be done to build on this progress. The business community can also play a new leadership role in assisting with the adoption and implementation of career readiness in a manner that addresses many of the challenges that have been experienced to date, which this paper will return to later.

**The business community can also play a new leadership role in assisting with the adoption and implementation of career readiness in a manner that addresses many of the challenges that have been experienced to date.**

We begin with framing career readiness as a combined set of activities that, when taken together, can overcome many of the limitations of any one activity. This paper argues that career readiness is not a standalone activity or measure, but is instead an advanced level of college readiness that can be organized in a flexible and responsive manner to account for changing needs across industries and employers.

However, the question remains: which activities should be included and how should they be prioritized? To answer this we must build a common framework for defining career readiness and from there explore how it can be measured and ultimately included in state accountability systems.

### THE INTERCONNECTEDNESS OF COLLEGE AND CAREER READINESS

By breaking down postsecondary readiness into its component parts, we can explore the relationship between college and career readiness. As previously discussed, the component parts of career readiness should include (1) proficiency on core workforce readiness assessments, (2) successful completion of career-related courses (with optional dual credit), (3) participation in high-quality work-based learning experiences, (4) attainment of industry-recognized and valued credentials, and (5) meaningful guidance and the completion of a college and career plan.

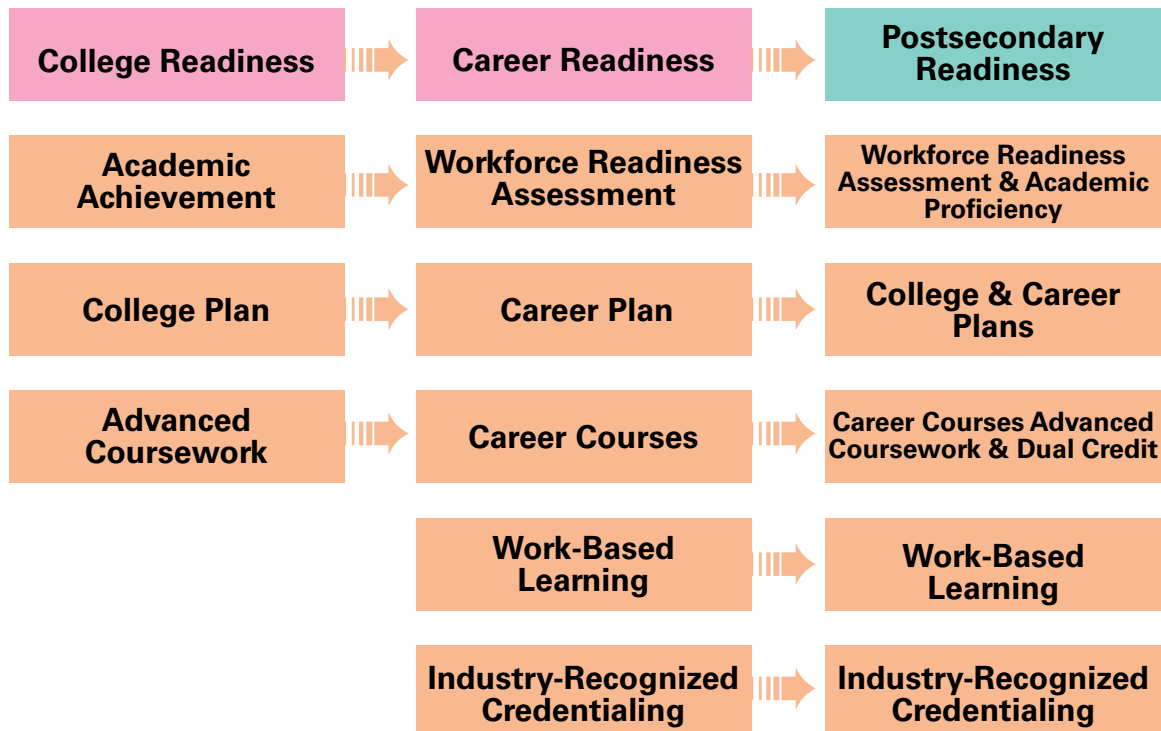
# CAREER READINESS: A BUSINESS-LED APPROACH FOR SUPPORTING K-12 SCHOOLS

We can similarly break down the components that make up college readiness. This paper defines college readiness as (1) proficiency on core assessments, (2) attainment of dual credit through advanced coursework, and (3) the completion of a college plan. When we compare the two, we can see the overlap between college and career readiness and that they mutually reinforce one another.

Given the extensive overlap and relationship between the two, any attempt at implementing postsecondary readiness can and should be inclusive of both college and career readiness, and—when possible—connected to the completion of advanced coursework. Using this approach would also account for one of the three required indicators under ESSA, namely academic achievement.

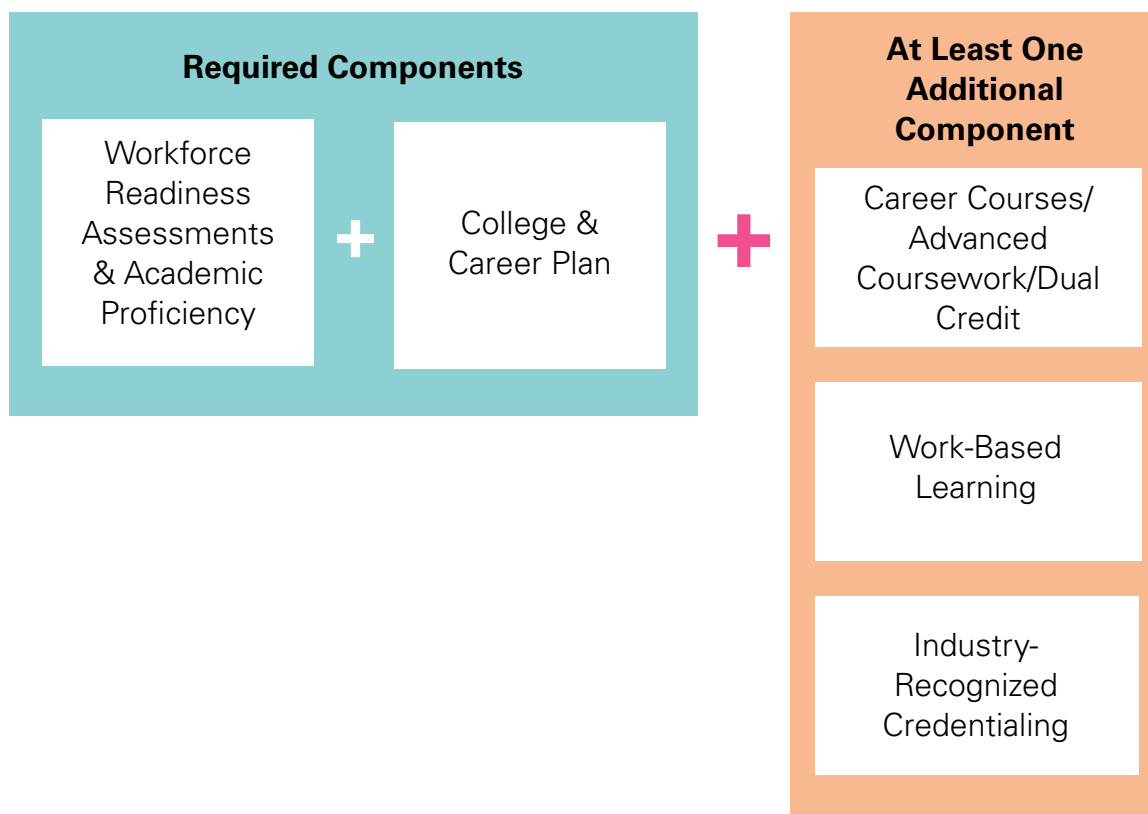
When organized under the ESSA accountability framework, we can see the interdependence of these indicators and how, when taken together, they make for a systemic approach to supporting high-quality college and career readiness in K-12 schools. [See Figure 2.](#)

**Figure 2: Integrated Postsecondary Readiness Framework**



Going a step further, this paper argues not only that career readiness and college readiness are interdependent under a postsecondary readiness framework, but also that career readiness is in fact inclusive of college readiness and demonstrates a more advanced level of preparation—College Ready Plus. This is particularly important to ensure that career readiness is not perceived or implemented as a lesser pathway when compared to college readiness. [See Figure 3.](#)

**Figure 3: College Ready Plus**





## PRIORITIZING CAREER READINESS INDICATORS THROUGH EMPLOYER ENGAGEMENT

There is more to defining career readiness than choosing the right indicators, however. This paper argues that there is no one measure that is sufficient; instead, it is the unique combination of measures that, when consistently and reliably validated by the business community, makes for a robust career readiness approach.

Determining which indicators should be prioritized is dependent on feedback received from employer partners based on changing expectations of readiness for their industry. Some industries may prioritize experience over credentials. In other cases, there may be components that are not relevant at all—at least at the K-12 level. For example, in some career pathways, industry credentialing may not be a viable option given it may require licensure that can be attained only post-high school, as seen in many healthcare professions.

What is required is for states to establish a College Ready Plus approach that ensures at the state level that all students have the opportunity to attain an advanced level of readiness beyond college readiness, but allows for local flexibility to make almost real-time adjustments in response to changes in the business environment and across industries. This approach is also important to ensure that postsecondary readiness is not applied uniformly as a generic set of indicators across all industries and career pathways.

**This paper argues that there is no one measure that is sufficient; instead, it is the unique combination of measures that, when consistently and reliably validated by the business community, makes for a robust career readiness approach.**

## MEASURING CAREER READINESS

Once a postsecondary readiness framework is established that encompasses both college and career readiness, states and districts will need to decide how it will be measured. In addition, states and districts will need to establish performance goals for specific measures related to participation and outcomes as well as transitions.

**Every student should have an experience that prepares him or her for college with participation in at least one additional career readiness component. States and districts can start by supporting all students in college and career planning and achieving proficiency on core academic assessments.**

This paper encourages a broad application of career readiness to be inclusive of all students, or as many students as possible. Every student should have an experience that prepares him or her for college with participation in at least one additional career readiness component. States and districts can start by supporting all students in college and career planning and achieving proficiency on core academic assessments. From there, states can prioritize other components of career readiness based on input from priority industry and employer

partners. Components include career-related course sequences, work-based learning, and industry credentialing—indicators that go beyond the college readiness components.

An integrated set of measures allows opportunities for both CTE students and the broader student population to be included without imposing the same standard of readiness. Students pursuing deeper exploration of a career pathway have the opportunity to meet additional requirements, thereby achieving a more advanced level of readiness.

### PARTICIPATION AND OUTCOME MEASURES

Setting specific performance measures for any one indicator (e.g., assessment scores, number of courses completed) is a decision that needs to be made by individual states, but should be made with input from the business community.

This includes setting expectations and goals around participation-oriented measures such as the numbers of students participating in courses, participating in work-based learning, and accessing career planning. Expectations also need to be set for related outcome measures, such as student performance on assessments (both academic and technical) and attainment of industry credentials.

For students who have successfully achieved the required proficiency for college readiness and met all the related career indicators in their chosen program of study, districts should then reflect those students as having achieved College Ready Plus in their state accountability system. This meta-indicator that is more reflective of a student's readiness level should be prioritized since it goes beyond student performance against any one sub-indicator of career readiness and begins to account for other readiness criteria related to his or her career interest area.

States and districts should also be flexible and explore different performance requirements and expectations both within and across industries, career pathways, and even employers. This approach allows employers to provide more specific feedback on what readiness means for particular industries and occupations, and it provides students an opportunity to better communicate their level of readiness. Employers can even specify not just baseline levels of readiness, but also more advanced levels of readiness, allowing students to move *from career ready to career competitive*. Student performance against each sub-indicator must also be available to be disaggregated at the state and district levels for a closer look into how students are meeting performance goals.

## TRANSITION MEASURES

Career readiness should go beyond traditional participation and outcome measures and be inclusive of new transition measures that communicate success over time, including, at a minimum, transitions to college and employment.

Statewide longitudinal data systems today have varying degrees of capability when reporting transitions. While they can report that someone is employed and who the employer of record is, they are, however, incapable of reporting what occupation someone is enrolled in or what function he or she performs inside of a company. Statewide longitudinal data systems are also incapable of

reflecting the strategies employers use to identify, recruit, and source talent for key occupations or functions inside their companies (e.g., music majors working in information technology companies due to their cognitive capabilities).

Given these inherent limitations, the best use of outcome measures to start with is validation that a transition to college or work did in fact occur. Statewide longitudinal data systems are capable of reporting whether a former student is enrolled in a postsecondary program and/or employed post-high school. On the college-ready side, many states can report student remediation rates (with the exception of students who leave the state or are enrolled in non-public colleges and universities in state). While outcome measures related to the preparation level of students entering employment are important, they require a level of feedback and reporting from employers that is currently not available.

Given present limitations, the most important transition measures to monitor for first are the number of students who are not in school or in work post-graduation and the remediation rate of students entering college.

## ADOPTING CAREER READINESS IN STATE ACCOUNTABILITY SYSTEMS

States will need to determine the extent to which career readiness should be incorporated into their new accountability systems for inclusion in school year 2017-2018. This includes how the indicator will be weighted in comparison with other indicators—required or otherwise—under ESSA. In addition, states will need to determine how the measure should be used, whether for public reporting, intervention purposes, or continuous improvement.

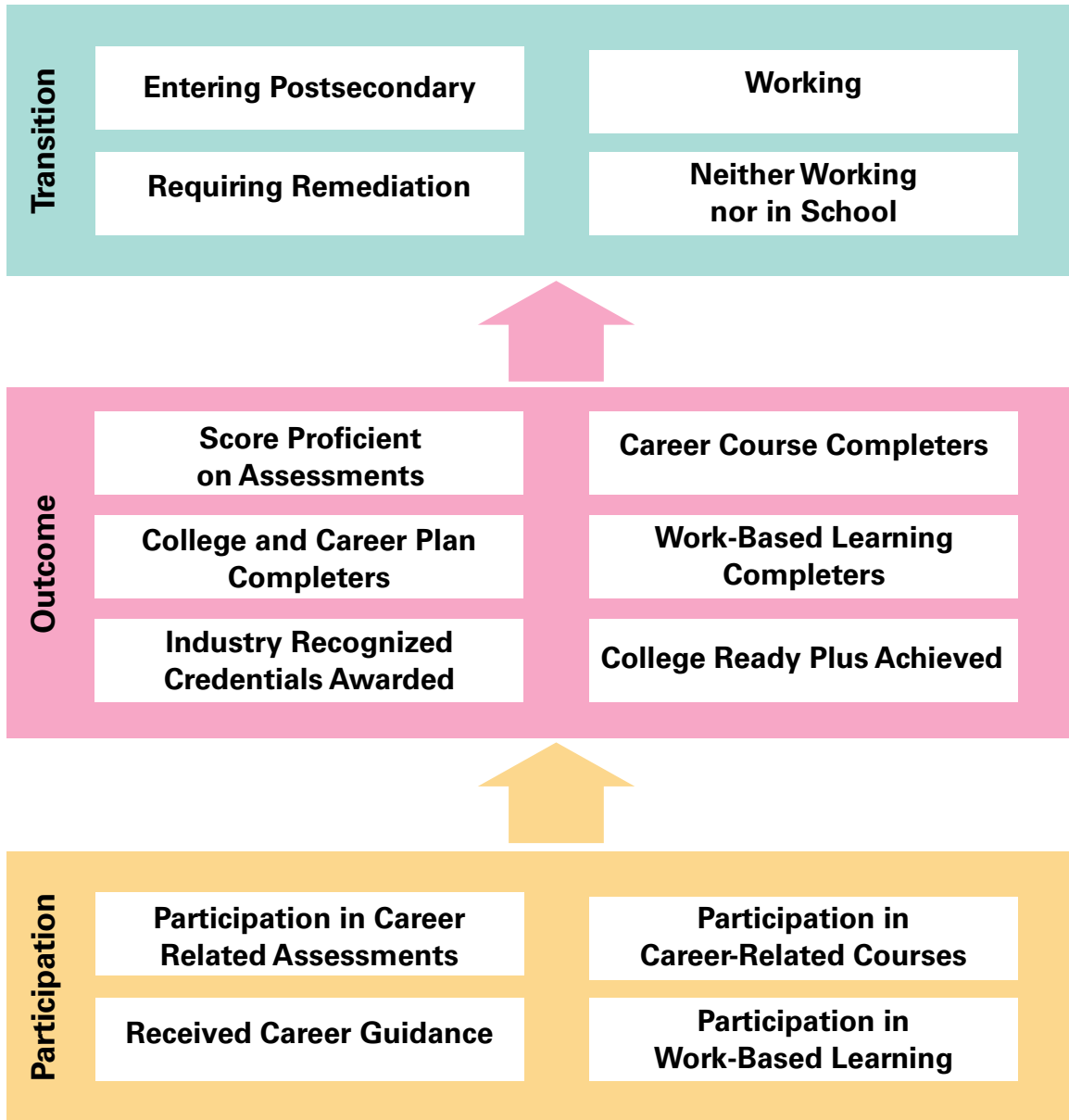
The business community can play a strong leadership role in advocating for the adoption of career readiness as part of ESSA accountability, but it should be done following the framework set forth in this paper to ensure it is rigorous. In addition, the business community can work directly with state superintendents and departments of education—as well as governors—on ensuring career readiness is included in a way that meets its needs for developing a skilled and competitive workforce. This includes ensuring that career readiness is combined with postsecondary readiness as an integrated college and career readiness approach.

This paper only goes so far as to suggest that if career readiness is included as part of a state’s accountability system, it be used as an integrated postsecondary readiness indicator that is substantially weighted enough to be taken seriously and rewards those districts that implement it effectively.

Regardless of whether career readiness indicators become part of a formal accountability system, school districts would be well served by experimenting with new dashboard tools that allow for districts to report career readiness-related activities and measures. For example, states and districts should experiment with new scorecards that communicate performance across key measures. Any scorecard should also be inclusive of important transition measures that communicate whether students are advancing in their education or careers. Such tools will allow for a clearer view of the career readiness of students in a given district or school. [See Figure 4.](#)

While not including career readiness as a required indicator could result in lower take-up for accountability purposes, there are other incentives that could encourage district experimentation. For example, states could use discretionary funds—whether general revenue or funding made available through CTE leadership or reserve funds—to reward districts that score well on experimental measures.

**Figure 4: Example Scorecard Measures**



## BUSINESS LEADERSHIP IN ADVANCING CAREER READINESS IN STATES AND DISTRICTS

For many districts, securing consistent and reliable employer leadership has been a perennial challenge and one that is potentially made more daunting with the inclusion of career readiness in state accountability systems. The stakes are now much higher.

In addition to advocating for and helping define career readiness as part of state accountability systems, the business community can also play a critical role in supporting implementation of career readiness in states and districts. More specifically, the business community can play an expanded leadership role by launching employer-led strategies that address many of the limitations and challenges associated with career readiness systems that were previously identified.

For example, ensuring the right career readiness indicators are prioritized and implemented requires new levels of employer leadership, feedback, support, and validation. What is needed is a nuanced understanding of how career readiness indicators are organized across industry sectors and employers. This is even more challenging given the reality that requirements for career readiness in today's economy are constantly shifting across industries and employers. Therefore, states and districts must have in place a process for continually updating and prioritizing the right combination of measures as defined by the business community.

States will need the leadership and support of the business community to successfully implement career readiness in their community and for their students. With the implementation of ESSA, this is more an opportunity than a challenge and is an invitation to explore new and innovative ways for states and districts to partner with the business community.

The following recommendations outline how the business community can support state and district leaders in adopting and implementing career readiness indicators as part of their accountability systems:



**1) Managing Employer Requirements and Engagement:** A challenge facing many districts is that there is not necessarily a single point of contact who owns and is responsible for managing business engagement and understanding employer requirements. This function can occasionally be spread across a multitude of positions, ranging from CTE coordinators and instructors to school counselors and senior-level administration. The lack of standardization can make it difficult for employers to know how to sustain their engagement with schools and districts, a problem that can be further exacerbated by staff and faculty turnover.

The business community can address this challenge in new ways by assigning its own agent or liaison who can be embedded in districts and schools. This person would be responsible for both communicating employer partnership requirements for career programs and vetting potential talent on behalf of the companies he or she represents. In this way, employers have a direct connection to students and faculty to ensure their interests are represented and that students are receiving career guidance and being networked with the business community's liaison of choice.<sup>5</sup>



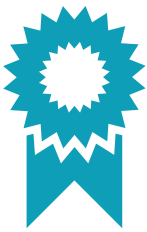
**2) Managing High-Quality Work-Based Learning:** One of the most challenging components of a career readiness system is how to scale up work-based learning opportunities for students while maintaining a high-quality experience. Too few students are afforded opportunities to engage in a real-world work experience, and districts are seldom recognized or rewarded for making these opportunities available. Given that it is instrumental for a student's career awareness and is highly valued in the eyes of the business community, ESSA provides a unique opportunity to recognize and value work-based learning at a higher level.

Accomplishing this, however, will require the business community to be active in new ways. The business community should take the lead in working through its preferred intermediaries—or through its liaisons as described above—to scale up the practice and to put in place industry-validated processes for managing and assessing the performance of students participating in either place-based experiences like internships or project-based learning performed individually or in teams.<sup>6</sup>

If the business community manages the validation process, it should also be the one to signal that a student has completed the experience



satisfactorily and demonstrated that he or she has attained workplace skills. Data around the successful completion of an industry-validated work-based learning experience can be maintained by a trusted intermediary and made interoperable with statewide longitudinal data systems for record-matching purposes. This would have the added benefit of encouraging more public-private data exchange that would shore up and address gaps in existing public data systems.



**3) Tracking the Attainment of Industry-Recognized Credentials:** Another missing piece in implementing career readiness is identifying which credentials are recognized and valued by employers and integrating data held by third-party credentialing organizations to track the attainment of industry-recognized credentials. States and districts simply do not have access to these records outside of self-reporting. Yet attainment of industry recognized credentials remains one of the most requested performance requirements in public policy today.

The first step is to have an employer-led process in place to communicate which credentials are required or preferred for hiring purposes. This process must be consistently updated and validated by relevant employer partners. From there, the business community will need to take a lead role in advocating for and supporting solutions around matching student records with third-party credentialing providers. This requires enhancing public-private data integration and interoperability to accurately capture performance against the attainment of industry-recognized credentials.



**4) Endorsing Districts and Schools That Meet Employer Requirements:** Another incentive the business community could provide to districts and schools is advanced levels of recognition and endorsement for meeting or exceeding performance against measures that matter most to employers and specific industries.

USCCF recently published a report on employer-led quality assurance in education and workforce systems.<sup>7</sup> Employer-led quality assurance can support the implementation of career readiness under ESSA by establishing new ways for national, state, and regional employers and their associations to specify the processes and performance requirements for attaining their endorsement. This includes specifying—and regularly updating—priority

career readiness indicators. Districts and schools can also secure multiple industry and employer endorsements, which can eventually be leveraged as part of state accountability or incentive systems. Such systems would enable district leaders to develop programs consistent with the expectation of their employers/industries of choice and provide a mechanism to undergo an audit to be formally recognized.

These endorsements could provide districts with priority access to work-based learning opportunities, funding, access to equipment, and many other incentives that are controlled by employers and should be given to those schools that are flexible and responsive in meeting the needs of employers or an industry.



**5) Evaluating State and District Performance:** The business community is ideally positioned to hold states and districts accountable for performance against college and career readiness indicators. This includes whether students are transitioning to college without remediation or to work, but can also include evaluating performance against more specific industry or employer requirements.

With better tracking of student outcomes and transitions, employers will have the information they need to continually evaluate and improve their guidance on career readiness activities and measures to ensure the activities are predictive of success. Tracking also provides the performance requirement data needed to operationalize an employer-led quality assurance system, as mentioned in the recommendation above. This requires new and more advanced methods for linking public-private data—such as data covered in the previous recommendations on work-based learning and industry-recognized credentialing—to validate outcomes and support periodic reviews at the state and district levels.

With the collection of improved and reliable data, the business community can also play a lead role in tracking national progress in implementing career readiness indicators. Similar to the *Leaders & Laggards* report—a USCCF publication featuring a state-by-state comparison of performance across priority education indicators—the business community can track performance of career readiness throughout ESSA implementation.

## CONCLUSION

The inclusion of career readiness as part of accountability systems under ESSA represents an opportunity for the business community to support a robust agenda in states and districts around building a skilled and competitive workforce. However, this will be possible only if the business community plays a leadership role in advocating for its inclusion as well as supporting its implementation.

More than simply advocating for the adoption of a given indicator, the business community must be proactively involved in defining career readiness and ensuring that it is implemented in a manner consistent with its requirements and expectations. This includes advocating for an integrated college and career readiness approach where career readiness is seen as an advanced level of college readiness, not “less than college.”

Employers are uniquely positioned to ensure that career readiness indicators—and the processes by which they are met—are organized to help states and districts adapt in a business environment that has constantly shifting requirements while ensuring all students can meaningfully access postsecondary education. Failure to provide this leadership jeopardizes the business community’s ability to leverage the career-ready workforce on which its competitiveness will increasingly depend.

To ensure that students are not only career ready but career competitive will require the business community to play an expanded leadership role in state and district implementation of ESSA now and through the foreseeable future.

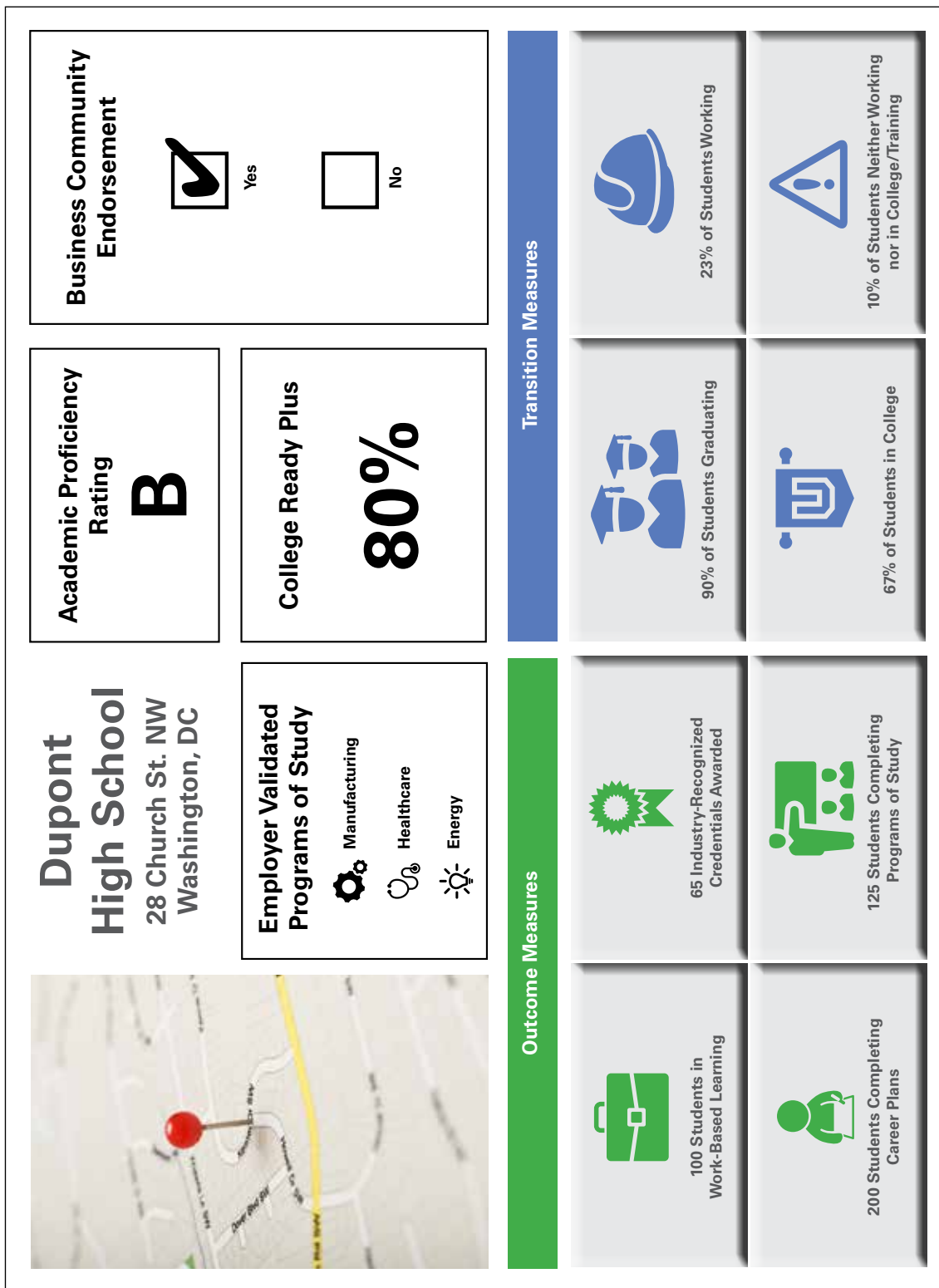
Are you ready to get started? If so, we have provided you with some tools to help you organize your approach:

- 1) A checklist that provides the business community with a useful starting point for having initial conversations about career readiness. [See Figure 5.](#)
- 2) An example dashboard designed to quickly and effectively communicate to employers how schools are performing against the College Ready Plus indicator. [See Figure 6.](#)

### Figure 5: Starting a Career Readiness Conversation

1. Does your state plan to use a career readiness-related indicator in your new accountability system?
2. If not, who can you reach out to in your state to get a conversation started?
3. If so, how will career readiness be defined?
4. How will it be measured and which students will be measured by it?
5. Will data be used strictly for public reporting or will it be used to award points to districts as part of the new accountability system?
6. If used to award points, how much weight does career readiness have compared to other indicators?
7. Has the approach been validated by the business community, and if so, how?
8. What role is the business community being asked to play?
9. What implementation challenges does your state or district anticipate (e.g., gaps in data collection)?
10. How will state and district performance be communicated to the business community and what process is in place to get consistent and reliable feedback from business moving forward?

Figure 6: Example Report Card Dashboard



## ABOUT USCCF'S YOUTH EMPLOYMENT SERIES

As employers continue to struggle to find the skilled workers they need to compete globally, the U.S. Chamber of Commerce Foundation (USCCF) commits to driving sustainable solutions that build capacity for employers to hire youth and young adults. USCCF's Youth Employment initiative engages chambers of commerce to explore how they are uniquely positioned to support the business community's efforts to create a talent pool of skilled workers. This series aims to highlight demand-driven approaches for chambers and other business associations looking to address youth unemployment to help America's economy grow, businesses remain competitive, and students access opportunities for success.

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The Center for Education and Workforce is a program of the U.S. Chamber of Commerce Foundation, an affiliate of the U.S. Chamber of Commerce. The center is dedicated to strengthening America's long-term competitiveness through informing and mobilizing the business community to be engaged partners, challenging the status quo, and connecting education and workforce reform to economic development.

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## ACKNOWLEDGMENTS

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## END NOTES

1. While career readiness can be pursued as a separate “optional” indicator under ESSA accountability, for the purpose of this paper, we argue that it is a more effective measure when combined with college readiness under the postsecondary readiness indicator.
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# How States are Making **CAREER READINESS** Count: A 2016 Update



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# Table of Contents

<b>Introduction</b> .....	3
<b>States' Current Use of Career-Focused Indicators</b> .....	3
<b>Public Reporting of Career-Focused Indicators</b> .....	4
<b>Inclusion of Career-Focused Indicators in State Accountability Systems</b> .....	7
<b>Intersection between State Accountability Systems and Public Reporting</b> .....	11
<b>Considerations for Using Indicators</b> .....	12
<b>Conclusion</b> .....	13
<b>Appendix A: States that Publicly Report Career-Focused Indicator(s)</b> .....	14
<b>Appendix B: States that Include Career-Focused Indicator(s) in Accountability Systems</b> .....	19
<b>Methodology</b> .....	22
<b>Glossary</b> .....	23
<b>Acknowledgments</b> .....	24





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## Introduction

In December 2015, the Elementary and Secondary Education Act (ESEA) was reauthorized and signed into law as the Every Student Succeeds Act (ESSA), requiring all states to redesign their accountability systems by the 2017–18 school year. ESSA includes a number of key provisions related to career readiness, most notably an updated definition of a “well-rounded education.” It also changes the accountability requirements to permit states to include measures of school and student success beyond core academic subjects. Specifically, ESSA requires states to use at least one “indicator of school quality or student success” in addition to the required academic indicators in their accountability systems. ESSA provides examples, some of which could be leveraged to capture career readiness outcomes, access to and completion of advanced coursework and postsecondary readiness.

As states begin the work of transitioning to new ESSA accountability systems, Achieve and Advance CTE have partnered again to release a status update on states’ use of career-ready indicators in their public reporting and accountability systems, including highlights from several states at the forefront of this work.<sup>1</sup> The brief includes considerations for using the indicators, appendices that provide details on how states define the indicators they use in their public reporting and/or accountability systems, and a glossary that defines key terms.

## States’ Current Use of Career-Focused Indicators

As states continue to evolve and implement their accountability and public reporting systems, they have an opportunity to select indicators that inform continuous improvement, guide decisions about resource allocation, inform policies, capture progress, and factor into accountability determinations. More specifically, through school-level **public reporting** on these indicators, states may make college- and career-ready (CCR) data more transparent, understandable, and useful to parents, educators, and policymakers. The indicators that states build into their **accountability formulas** may be used to differentiate and classify schools and districts for support and intervention and/or may be used as a way for schools and districts to earn **bonus points** or rewards for meeting specific benchmarks.

Currently, **34 states** publicly report and/or include career-focused indicators in their accountability systems, an increase from the 29 states reported in 2014. **Thirty-two states** publicly report anywhere from one to six career readiness measures at the school or district level. See Appendix A for specific details on what, how, and where states are reporting on the career readiness of their students. Far fewer, **20 states**, include some measure of career readiness in their accountability formulas or as bonus points. **Five of these states** factor a career readiness indicator into *both* their accountability formula and “bonus points process.”

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<sup>1</sup> In May 2014, Achieve and Advance CTE (as NASDCTEc) released *Making Career Readiness Count*, the first analysis of states’ use of career-focused indicators in their public reporting and accountability systems.

**Table 1: Use of Career-Focused Indicators in Public Reporting and Accountability Systems**

<b>Public Reporting</b>		<b>32 STATES</b> <i>AL, AR, CA, CO, CT, DE, FL, GA, HI, IL, IN, KY, LA, ME, MD, MA, MI, MO, NV, NJ, NM, NY, NC, OH, OK, PA, SC, TX, UT, VA, WA, WI</i>
<b>Accountability System</b>	<b>Formula</b>	<b>17 STATES</b> <i>AL, AK, CT, DE, FL, GA, HI, IN, KY, LA, MD, MO, NM, NC, PA, SD, TX</i>
	<b>Bonus Points</b>	<b>8 States</b> <i>GA, HI, KY, LA, NY, OK, PA, VA</i>
<b>TOTAL STATES</b>		<b>34 STATES</b>

The 18 italicized states both publicly report and include at least one career-ready measure in their accountability system in some way.

## Public Reporting of Career-Focused Indicators

School report cards are among the most powerful and transparent mechanisms to focus attention on student outcomes, particularly when they are parent and educator friendly and easy to find. Some states are now including dynamic reporting of school- and district-level outcomes through state-hosted interactive websites and data dashboards, an evolution from more traditional, standalone “report cards.” These public reporting levers, in addition to third-party reports with school-level data hosted on the state’s website, are included in the counts below.<sup>2</sup> States can strengthen reporting by disaggregating data further by student subgroups so as to shine a light on performance disparities that may be masked by “all students” reporting.

Where possible, we reviewed states’ 2014–15 school report cards; if these were not available, 2013–14 report cards were consulted. Our review found that a total of **32 states** publicly report on one or more indicator(s) of career readiness at the school or district level. **Twelve states** include three or more career-focused indicators, while **seven states** report only one indicator.

### Which Career-Ready Indicators Are Most Commonly Publicly Reported by States?

States most frequently publicly report on the dual enrollment<sup>3</sup> of their students, with **16 states** doing so in some way. However, states vary in how they both report and define dual enrollment. Some states limit their indicator to those students who have successfully completed a credit-bearing dual enrollment course; others limit the range of dual enrollment courses that qualify, such as those in core academic or technical subjects; and still other states require that students attain a certain number of credits to be counted (e.g., six or more credits or hours). **Four states** (Colorado, Hawaii, Oklahoma, and South Carolina) report both dual enrollment participation and success of their students. **Seven additional states** report the dual enrollment success of their students. And **five additional states** report the dual enrollment *participation* of their students. These discrepancies in how states define dual enrollment make comparisons of student outcomes across states challenging, if not impossible. It is also worth noting that states commonly report a measure of dual enrollment

<sup>2</sup> To be included in the analysis, the indicators need to be part of the comprehensive report card/accountability system, not a parallel set of report cards or system (e.g., report cards specifically about career and technical education). However, instances of the latter are acknowledged in Appendix A.

<sup>3</sup> Underlined terms are further defined in the glossary on page 23.

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aggregated with Advanced Placement (AP), International Baccalaureate (IB), or other advanced coursework, making it impossible to know how students perform on any one specific indicator.

A large number of states are also reporting on the **postsecondary enrollment** of their high school graduates in two-year and four-year institutions. **Sixteen states** include postsecondary enrollment data, disaggregated by two-year and four-year institutions, including **three states** that rely on students' self-reported postsecondary plans. It should be noted that 17 additional states report postsecondary enrollment data but are not included in these counts because their reported data are not disaggregated by two-year and four-year institutions, only by total enrollment in postsecondary institutions. Finally, though postsecondary enrollment reporting is fairly widespread, the transparency and ease in accessing the data varies: some states report data as part of their school report card or dashboard, while other states provide the data as a standalone linked report off their state education agency website.

Additional indicator-specific reporting frequencies:

- **Eleven states** report participation in **career technical education (CTE) courses**, while **eight states** report **CTE program concentration/completion**. **Three states** (California, Kentucky, and Nevada) report both **CTE coursetaking and program completion data** for students.
- In regard to career-ready assessments, our review found that **four states** (Georgia, Kentucky, Ohio, and Virginia) report the number/percentage of students **earning industry-recognized credentials/certificates**; **five states** (Illinois, Kentucky, North Carolina, South Carolina, and Virginia) report **WorkKeys/Armed Services Vocational Aptitude Battery (ASVAB) results**; and **two states** (Kentucky and Pennsylvania) report **technical skills assessment outcomes**.
- **Four states** (Kentucky, Maryland, New York, and Wisconsin) report a measure of students' **placement** into vocational/technical training programs, employment, and/or military enlistment upon graduation in addition to publicly reporting how many students enroll in two-year and four-year institutions.
- **Three states** (Alabama, Delaware, and Michigan) report on the **postsecondary remediation** of their high school graduates, disaggregated by two-year and four-year institutions. It should be noted that an additional 14 states report postsecondary remediation data but are not included in these counts because their reported data are not disaggregated by two-year and four-year institutions and/or the data are too old, reflecting outcomes for the class of 2013 or earlier.
- **Two states** (Alabama and Kentucky) include all required **Perkins indicators** on their comprehensive school or district report cards.
- Student involvement in **experiential learning**, including enrollment in **work-based learning**, participation in career technical student/co-curricular organizations, and completion of a capstone project, was rarely reported by states. Just **two states** (Georgia and South Carolina) report some version of this indicator for students.
- Finally, **no states** publicly report state-defined **CTE diploma/endorsement data** for all students on their school-level report cards. Indiana is the only state to report these data at the district level, and Louisiana issues a report with school-level data on the number of graduates who are TOPS Tech eligible, which requires completing a core curriculum and meeting certain career-ready benchmarks to qualify for a state scholarship.

## SOUTH CAROLINA

**South Carolina** has long included a number of career-ready indicators on its school-level report cards. In 2015, the state went a step further when the State Board of Education adopted a new “Profile of the South Carolina Graduate.” This profile was created by TransformSC, a coalition of education and business leaders. South Carolina’s report card is approved/endorsed by a cross-section of stakeholders, including the South Carolina Chamber of Commerce and South Carolina Association of School Administrators. The profile focuses on three major areas: World Class Knowledge (achievement in math; English language arts; science, technology, engineering, and math; arts; and social sciences); World Class Skill (creativity and innovation, critical thinking and problem solving, collaboration and teamwork, communication, and media and technology); and Life and Career Characteristics (integrity, self-direction, global perspective, perseverance, work ethic, and interpersonal skills).

South Carolina reports a wide array of career-focused indicators and presents data for each indicator discretely, including:

- Percentage of students meeting the Platinum, Gold, or Silver thresholds on three WorkKeys subtests;
- Enrollment in career/technology courses;
- Number of students in dual enrollment courses;
- Success rate of students in dual enrollment courses;
- Percentage of students participating in work-based experiences; and
- Percentage of career/tech students in co-curricular organizations.

The report card also includes a range of school-level indicators, such as whether online or blended courses are offered, the percentage of classrooms with wireless access, and the number of dual enrollment courses offered.

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## Use of Career-Focused Indicators Is on the Rise Since 2014

Overall, the number of states that are publicly reporting at least one career-focused indicator, on their school- or district-level report cards or through other means, has increased from 22 states in 2014 to 32 states. Changes include both which states are reporting on career readiness and which indicators are reported. The most significant changes are in the number of states reporting dual enrollment participation and success and industry credentials as they have updated their accountability systems and revised their report cards.

### OHIO

**Ohio** has been expanding its use of career-focused indicators over the last few years. In 2013, the state released the first Career-Technical Education Report Cards. These report cards were unique in that they included indicators beyond those required by Perkins, such as dual enrollment and the percentage of students earning an honors diploma.

Since then, Ohio has been in the process of revamping its accountability system, starting with the school-level indicators that are publicly reported. The new system is focused around a number of questions, including *“Are students who graduate from your school ready for college or a career?”* Within this Prepared for Success category, Ohio reports school-level data on dual enrollment credit and industry-recognized credentials, as well as SAT, ACT, AP, and IB participation and success. This category will become part of the school-level grade starting in 2016.

Starting in 2018, schools will receive overall grades as well as individual grades for the six component areas (achievement, progress, gap closing, K-3 literacy, graduation rate, and preparation for success). Critically, the reported data are discrete and disaggregated from one another, setting Ohio apart from most states.

## Inclusion of Career-Focused Indicators in State Accountability Systems

Where possible, we reviewed states’ 2015–16 accountability manuals and/or technical documentation.<sup>4</sup> A total of **20 states** include at least one career-ready indicator in their accountability systems in some way. Of the states that include a career-ready indicator, **nine states** include at least one standalone career-ready component. **Eleven states** use a **meta-indicator** or composite measure of college and career readiness or career readiness that may include components such as AP, IB, or dual enrollment. **Five states** (Alaska, Connecticut, Georgia, Hawaii, and Pennsylvania) include both a standalone measure of career readiness and a meta-indicator of college and career readiness in their accountability system.

<sup>4</sup> If 2015–16 documentation was not available, we reviewed the most recent documentation, provided it was no older than 2013–14.

---

Of the states that include a career-ready indicator, **eight states** include two or more career-ready indicators in their accountability systems. Of the states including one indicator, the vast majority, **eleven states**, are combining multiple indicators into their meta-indicator. States may use diverse permutations of these indicators, define these indicators differently, and use different denominators. It goes without saying that the number of indicators is only as important as how those indicators are being used and defined.

## Which Career-Ready Indicators Are Found in State Accountability Systems?

States include a variety of indicators related to career readiness in their accountability systems.

- Most often, states include a measure of **dual enrollment**. **Fourteen states** include dual enrollment participation and/or success.
- **Eleven states** include **industry certification** (e.g., the percentage of students earning an industry credential/certificate).
- **Seven states** (Connecticut, Delaware, Georgia, Maryland, New Mexico, Oklahoma, and Texas) include **course pathways** (e.g., the percentage of students completing a **secondary CTE pathway** or completing a CTE **program of study**).
- **Five states** (Alabama, Alaska, Kentucky, North Carolina, and South Dakota) include the percentage of students earning an **employability or work readiness certificate**.
- **Four states** (Kentucky, Missouri, Pennsylvania, and Virginia) include **achievement on an assessment** (e.g., the percentage of students who complete a CTE pathway AND meet standards on a technical skills assessment).
- **Four states** (Connecticut, Hawaii, Maryland, and Missouri) include their graduates' **postsecondary enrollment** after graduation. Of these, Missouri alone also includes other **post-high school placement measures**, namely placement in the military or in the workforce.
- **Two states** (Connecticut and Georgia) include **experiential learning** in their accountability systems.

## How Are Career-Ready Indicators Valued in State Accountability Systems?

States have included career readiness in their accountability systems by building it into their school accountability formulas (**17 states**) or awarding bonus points or reward status to schools that meet a career readiness target (**eight states**).<sup>5</sup>

Among the states that include a measure of career readiness in their accountability systems, the weight they assign to those indicators varies. For example, **Connecticut's** accountability formula is calculated on a scale of 1,250 total points, 150 of which (12 percent) are related to career readiness. **New Mexico's** system draws a distinction between participation and success when assigning weights in its accountability formula, an

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<sup>5</sup> Five states include some measure of career readiness, both as part of their school accountability formula and for bonus points or reward status. These states are counted in both the formula and bonus point category state totals.

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approach that incentivizes schools' participation in career-ready metrics and places a premium on making sure students succeed in their career-ready endeavors. The formula allows for a suite of CCR indicators including concurrent enrollment/dual credit in an accredited New Mexico postsecondary institution and a Career Program of Studies, which is a sequence of high school courses that lead to industry-recognized certification. Participation in one of the CCR indicators is valued at five points and success at 10 points, yielding a total 15 points in the high school's overall grade out of 100 points (15 percent). In **Louisiana**, the graduation index assigns more points for students graduating with an Advanced industry credential (150 points) than for those who graduate with a Basic credential (110 points) — and the most points for students who earn both an Advanced credential and a qualifying score on AP, IB, or College Level Examination Program (CLEP) (160 points). The graduation index accounts for 25 percent of a high school's accountability score.

## CONNECTICUT

In March 2016, the **Connecticut** State Board of Education adopted a new accountability framework, expanding the range of indicators and how achievement and success are measured across the state. Within this new system, two meta-indicators focus on college and career readiness.

Under Preparation for Postsecondary and Career Readiness — Coursework, schools can earn up to 50 points based on the percentage of students in grades 11 and 12 who participate in two AP, IB, or dual enrollment courses; two courses in one of seven CTE categories (the state's threshold for a "concentrator"); or two workplace experience "courses." This category accounts for 4 percent of high schools' total accountability score. Under Preparation for Postsecondary and Career Readiness — Exams, schools can earn up to another 50 points based solely on academic assessments, including CCR scores on Smarter Balanced, ACT, SAT, and AP and IB exams. One area noted for enhancements in the future is the inclusion of industry-recognized credentials.

Finally, high schools can also earn up to 100 points based on the percentage of their graduating class who enroll in two- and four-year postsecondary institutions within a year of graduation.

For all three of these indicators, Connecticut set a target of 75 percent, and schools will earn points based on the percentage of the ultimate target achieved. The three indicators account for 16 percent of the total accountability index for high schools. Importantly, Connecticut's school report cards will include the full range of indicators moving forward.

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## Career Readiness Meta-Indicators in State Accountability Systems

More than half of the states that include career readiness in their accountability systems do so through the use of a meta-indicator — a composite measure that can include a variety of indicators counting toward the college and career readiness score of a school. Accountability systems designed in this way reward attainment of *any* of the indicators within a meta-indicator. In **Missouri**, a meta-indicator in the accountability system includes students receiving college credit through dual enrollment and students passing the TSA, along with AP and IB exams. The state also has an independent measure for students completing career education programs and receiving job placement. In **Maryland**, a school's College and Career Preparation score is composed of three elements: students scoring 3 or more on an AP exam or 4 or better on an IB exam, CTE concentrators (students enrolled in their third CTE course), and college enrollment. Having any one of the three elements is considered a student success factor.

In states where career-ready metrics have been embedded in a meta-indicator, teasing out how career readiness is weighted in the accountability systems and how it affects schools' accountability scores is difficult. As such, when developing meta-indicators, states should include only similar components or experiences within the meta-indicator (e.g., AP, IB, dual enrollment) to ensure parity. Another key challenge of meta-indicators is that they may mask career readiness indicators and impede understanding of how students are performing on key indicators of college and career readiness by blending them into one indicator (e.g., scoring 3+ on an AP exam, 4+ on an IB exam, or earning an industry certification). States should also take steps to report data for each of the components of the meta-indicator.

Accountability systems in **nine states** (Alaska, Connecticut, Georgia, Hawaii, Kentucky, North Carolina, Oklahoma, Pennsylvania, and Virginia) include a standalone measure of students' career readiness. For example, in **Hawaii**, postsecondary enrollment accounts for 10 points (4 percent) of the 400-point scale. Hawaii also awards five bonus points to schools for students passing AP, CTE, IB, or dual credit classes, a meta-indicator.

## Denominator Choices Matter

Beyond the substance of the indicators included, states are using a variety of denominators to calculate the career readiness of their students, including using a four-year adjusted 9th grade cohort, graduates, juniors and seniors, seniors, or CTE concentrators who are seniors. The denominator a state uses can significantly affect the story and outcomes. To be sure, it makes sense for some indicators (e.g., technical skills assessment) to use a denominator of all CTE students, but our review sometimes found a range of denominators across states for the same indicator.

## Changes Since 2014

Since 2014, **five states** (Connecticut, Delaware, Hawaii, South Dakota, and Texas) have added a career-ready indicator into their accountability systems. **One state**, Indiana, has instituted a new accountability formula that includes a meta-indicator with a revised weighting of the career-ready component. And while states are holding steady on which indicators are being reported, there is a slight increase in the states' use of meta-indicators.



## LOUISIANA

In 2014, **Louisiana** adopted Jump Start as a statewide program to improve career-focused education and better align it with regional economic demand. Students can earn a Jump Start Diploma by completing course pathways designed by regional teams of K-12 and postsecondary educators, employers, and economic and workforce development leaders and approved by a statewide cross-agency commission. Each pathway includes regionally-identified and state-approved industry credentials, which the state has broken up into two categories: Advanced and Basic. Most credentials are Basic, and the Advanced credentials typically are attainable only after earning a Basic credential.

The approved list of Jump Start credentials is highly valued in the state accountability system. The graduation index, worth 25 percent of a high school's accountability score, attributes:

- 160 points for graduates who earn an AP score of 3 or higher, IB score of 4 or higher, or CLEP score of 50 or higher *AND* an Advanced state-approved industry credential.
- 150 points for graduates who earn an AP score of 3 or higher, IB score of 4 or higher, or CLEP score of 50 or higher *OR* an Advanced state-approved industry credential.
- 115 points for graduates who earn college credit through AP, IB, or dual enrollment *AND* earn a Basic industry credential.
- 110 points for graduates who earn college credit through AP, IB, or dual enrollment *OR* earn a Basic industry credential.
- 100 points for graduates with a regular diploma.
- 0 points for nongraduates.

The index also values five- and six-year graduation rates.

## Intersection between State Accountability Systems and Public Reporting

Not all indicators that states publicly report are appropriate to include in an accountability system. However, any indicator a state includes in an accountability formula *should* be publicly reported by school and district. Discretely reporting on the indicators included in an accountability formula allows stakeholders to better understand both the indicators being collected and students' performance on them.

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In reviewing the public reporting for the 20 states that include a career-ready indicator in their accountability systems, our analysis found that **18 of these states** publicly report some of the indicators in their accountability formulas. However, in nearly all cases, the states report indicators as part of a broader meta-indicator rather than in a discrete way; report only some of the indicators included in the accountability formulas; and/or states report all of the indicators, but not through the school report cards.

## Considerations for Using Indicators

Regardless of the indicators states use, a number of factors are worth considering, including setting priorities around what to include and how to collect, validate, and compare data.

### Setting Priorities

Accountability systems with too many indicators can overwhelm schools and be confusing to stakeholders. States first need to prioritize the indicators used to measure and value students' career readiness by determining which credentials and experiences they most want to encourage and affect through their accountability systems.

One question states need to answer early on is whether the indicators they choose focus on **all students or exclusively CTE students**. Does the state want to strengthen the experiences for students in CTE programs, incentivize more participation in CTE programs, and/or determine some level of career preparation or readiness for all students? While each of these goals has merit — and they are not necessarily in conflict with one another — focusing on all of them simultaneously may be difficult. Each outcome will require different indicators and even different denominators. For example, if a state is focused on improving participation by all students in career-focused experiences, the accountability system might prioritize CTE course participation and work-based learning opportunities. Conversely, if a state wants to strengthen its CTE programs, the accountability system may put the greatest weight on students completing a state-approved CTE program of study and earning an industry-recognized credential.

Once the outcomes and related indicators are identified, states will need to address how much **weight** such indicators will have within their formula. As noted, career-focused indicators currently range from being insignificant to very significant within a state's accountability formula. And given that the majority of states are using meta-indicators, a school may be able to gain full points in the accountability formula without having any student demonstrate career readiness, thereby making the weight of career-ready indicators zero. This question will be central to the broader discussion under way around the balance between "academic" and "student success" measures under ESSA.

Relatedly, states will need to consider the benefits and limitations of using **meta-indicators** of career readiness, or college and career readiness, to ensure that the right signals are being sent and that the information is transparent. If a state considers the subindicators to truly be equivalent and interchangeable, a meta-indicator may make sense in an accountability formula. However, if states want to incent career-ready outcomes for all students, meta-indicators will likely be insufficient. In any case, even if states choose to use meta-indicators, they should publicly report the subindicators at the school level to provide the most useful data to practitioners.

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## Collecting, Validating, and Comparing Data

One of the biggest challenges in using career-focused indicators is around data collection and validation. While this challenge is common for any indicators that do not depend on large-scale assessments, many of the career-focused indicators present specific challenges based on the types of experiences being measured and where the data are coming from.

Simply put, there are limits to what is currently collected around career readiness, and expanding the use of career readiness indicators will likely require better coordination across data systems (and state offices), as well as state-level processes for validating self-reported and third-party data.

States already are collecting CTE participation, completion, and other indicators focused on students enrolled in federally supported programs as a requirement for Perkins funding. However, how states collect — and verify — such data differs. Some states have centralized data systems, while others rely primarily on **self-reported data**.

There is growing interest in incorporating experiential learning — and work-based learning in particular — into accountability systems, but there are very few proven strategies for collecting and measuring participation or completion beyond surveys or other self-reported means, requiring a robust **data validation process** and protocol from the state level.

Another related data collection challenge is that many of the indicators are based on assessments given by **third-party entities**, which only provide scores directly to students rather than the schools, let alone a state data system. Reporting industry-recognized credential and academic career-ready assessment results to anyone other than students can often trigger privacy and legal challenges. Additionally, most of these assessments and credentials are scored based on a pass/fail basis, limiting states' ability to measure students' growth and progress along a continuum of readiness.

Finally, given the increased focus on supporting regionally developed and validated programs and pathways, programs are more diverse, further complicating **comparable student-level data**. For example, a state may have six different precision manufacturing pathways in six regions. While they are each called a "Precision Manufacturing Pathway" (and need to be coded as such), it is possible that only two of each pathway's four courses are the same, and the pathways culminate in three different industry-recognized credentials based on the regional employers' preferences. State data and accountability systems are not currently built for this level of differentiation at the local level. Strategies like common course coding can help mitigate the challenge, but as more regional pathways are built — and potentially linked to postsecondary and workforce development pathways — making sense of these data will become even more difficult. This can all be further exacerbated by the range of disciplines and credentials offered under the CTE umbrella.

## Conclusion

In recent years, states have increasingly built indicators of college and career readiness into their public reporting and accountability systems. And in just the last two years, since the release of Advance CTE and Achieve's report, *Making Career Readiness Count*, states have moved the needle further. Career readiness remains undervalued in many states' accountability and public reporting systems, partly due to measurement and data collection challenges and a continued focus on college *or* career readiness rather than college *and* career readiness. The implementation of ESSA, coupled with the commitment of many state leaders to strengthen career readiness as an outcome for all students, offers an opportunity for career readiness to truly matter for all students in a meaningful way.

## Appendix A: States that Publicly Report Career-Focused Indicator(s)

STATE	SCHOOL-LEVEL REPORTING (e.g., report cards, data dashboards, accountability reports, P-20 reports)	OTHER (e.g., CTE report cards, third-party reports with school-level data hosted on state education agency website)	WHAT CAREER INDICATOR(S) DOES THE STATE REPORT?
AL	Y	Y	Perkins indicators are reported at the county level on the state report card. Postsecondary enrollment and remediation of graduates are reported through Post-Graduation Reports linked from the Alabama Department of Education site to the state higher education site.
AR	Y		Arkansas school report cards include the number of students participating in the state's College and Career Readiness Planning Program. The percentage of students who enrolled in a postsecondary institution after high school graduation and who require remediation is also included, though not disaggregated by two- and four-year institutions.
CA	Y		School accountability report cards include the number of pupils participating in CTE, the percentage of pupils completing a CTE program and earning a high school diploma, and the percentage of CTE courses sequenced or articulated between the school and institutions of postsecondary education.
CO		Y	The Colorado Annual Report on Concurrent Enrollment includes measures of participation and success, CTE concurrent enrollment participation, and the numbers of concurrent enrollment and ASCENT students seeking postsecondary credentials and completing credentials. Postsecondary enrollment is reported through a linked report off the Colorado Department of Education site.
CT	Y	Y	Connecticut's Next Generation Accountability Reports include the percentage of students in grades 11 and 12 participating in at least one of the following during high school: two courses in AP/IB/dual enrollment, two courses in one of seven CTE categories, or two workplace experience "courses" in any area. The percentage of the graduating class who enrolled in a two- or four-year postsecondary institution any time during the first year after high school graduation is also included, though not disaggregated by two- and four-year institutions; these data are available in disaggregated format through the National Student Clearinghouse reports hosted on the Connecticut Department of Education site.
DE	Y	Y	The Delaware School Success Framework school-level reports include the percentage of students who have demonstrated preparation for education and career training after high school through 3+ in both content areas on Smarter Balanced, 1550+ on SAT, 3+ on AP, 4+ on IB, B or higher in a dual enrollment course, technical skills attainment with a combined 6+ on Smarter Balanced, and/or technical skills attainment with completion of a co-op job training opportunity. In addition, the Delaware 2016 College Success Reports include postsecondary enrollment and remediation data disaggregated by two- and four-year institutions.
FL	Y		The Florida School Accountability Reports include Acceleration Performance, a component based on the percentage of graduates who earned a passing score on an acceleration examination (AP, IB, or Advanced International Certificate of Education (AICE)), a C- or better in an approved dual enrollment course, or a Career and Professional Education Act (CAPE) industry certification/acceleration industry certification.

STATE	SCHOOL-LEVEL REPORTING (e.g., report cards, data dashboards, accountability reports, P-20 reports)	OTHER (e.g., CTE report cards, third-party reports with school-level data hosted on state education agency website)	WHAT CAREER INDICATOR(S) DOES THE STATE REPORT?
GA	Y	Y	Georgia's College and Career Ready Performance Index (CCRPI) includes the percentage of Career, Technical and Adult Education (CTAE) pathway completers earning a national industry-recognized credential, an IB career-related certificate, or a passing score on a Georgia Department of Education-recognized end-of-pathway assessment and the percentage of graduates earning high school credit(s) for accelerated enrollment via ACCEL, Dual HOPE Grant, Move On When Ready, Early College, Gateway to College, AP courses, or IB courses. The state also reports the percentage of graduates completing a career-related work-based learning program or a career-related capstone project. The CCRPI includes a meta-indicator that includes the percentage of graduates entering Technical College System of Georgia (TCSG)/University System of Georgia (USG) not requiring remediation or learning support courses, but the data are not reported by subindicator and not included in this report. The Governor's Office of Student Achievement HS Graduate Outcomes Report includes postsecondary enrollment and progress after high school. The reports also include the percentage of the graduates who required remediation at Georgia public colleges and universities, but the data is not disaggregated by two- and four-year institutions.
HI	Y		Postsecondary enrollment and dual credit participants are reported as part of the College and Career Readiness Indicators reports, an annual collaboration between the Hawaii State Department of Education and the University of Hawai'i System, coordinated by Hawai'i P-20 Partnerships for Education. The percentage of students who require remediation is reported, though not disaggregated by two- and four-year institutions.
IL	Y		Report cards include the percentage of students achieving the four levels of performance for the National Career Readiness Certificate. Report cards also list the dual credit courses, CTE courses, and work study programs that each school offers.
IN	Y		Annual Performance Reports for schools include the number and percentage of students in a career and technical program. The reports also include district- and state-level data on the percentage of students earning a career and technical diploma.
KY	Y		Kentucky's school report cards include the number of graduates who met benchmarks for Career Ready Academic (ASVAB or WorkKeys) or Career Ready Technical (Kentucky Occupational Skills Standards Assessment (KOSSA) or an industry-recognized career certificate). The report cards also include disaggregated data on students' postsecondary enrollment, vocational/technical training, and military enlistment. The report cards include all Perkins indicators, as well as enrollment and industry certifications earned by career pathway area.
LA	Y	Y	Louisiana's school report cards include the percentage of graduates earning dual enrollment credit; the data do not include students already represented as earning AP credit. The percentage of students who enrolled in a two- or four-year postsecondary institution within the second fall semester after high school graduation is also included, though not disaggregated by two- and four-year institutions. The state also issues school-level data on the number of students who are eligible for and receive TOPS Tech awards, which pay for tuition for skill or occupational training at any schools within the Louisiana Community and Technical College System, Louisiana-approved Proprietary and Cosmetology Schools, or Louisiana Public Colleges and Universities that do not offer a baccalaureate degree.

STATE	SCHOOL-LEVEL REPORTING (e.g., report cards, data dashboards, accountability reports, P-20 reports)	OTHER (e.g., CTE report cards, third-party reports with school-level data hosted on state education agency website)	WHAT CAREER INDICATOR(S) DOES THE STATE REPORT?
ME		Y	Maine's Department of Education Data Warehouse includes National Student Clearinghouse reports, which include the percentage of the graduating class who enrolled by the fall in a two- or four-year postsecondary institution. Remediation rates and enrollment data are also included on school report cards, though not disaggregated by two- and four-year institutions.
MD	Y		Maryland's school report card includes the number of diploma earners who meet career and technology education program requirements as well as those who meet both university and career/technology requirements. Report cards also include grade 12 students' documented decisions within 30 days of anticipated graduation, including attending a two- or four-year college, attending a specialized school or specialized training, entering employment (related to high school program), entering employment (unrelated to high school program), entering the military, entering full-time employment and school, or entering part-time employment and/or school.
MA	Y		Massachusetts' school profiles include the percentage of graduates attending two- and four-year colleges and universities. The state's District Analysis Review Tools (DARTs) include the number of students enrolled in each Career/Vocational Technical Education (CVTE) program; data are available at the district, Workforce Investment Board (WIB) region, and state levels. Postsecondary remediation data are also available through DART but are not disaggregated by two- and four-year systems.
MI	Y		Michigan's School Data Dashboard includes postsecondary outcomes by high school, including postsecondary enrollment and remediation at two- and four-year institutions.
MO	Y		Missouri's report cards include the percentage of graduates entering a two-year, four-year, or postsecondary (technical) institution and the percentage of graduates who complete a CTE program and are placed in a related occupation or training program within 180 days of graduation. The percentage of students who require remediation is reported, though not disaggregated by two- and four-year institutions.
NV	Y		Nevada's school report cards include the number of CTE students who earn an Advanced diploma and a series of completion indicators, including CTE enrollment (concentrators), course completers, and program completers. The Nevada School Performance framework includes the percentage of students who earn a passing score on an AP exam or have earned one college credit.
NJ	Y		New Jersey School Performance reports include both the percentage of students who participated in an approved career and technical education program and two-year or four-year postsecondary institution enrollment rates of the school's graduates, 16 months after high school graduation.
NM	Y		New Mexico's report cards include the percentage of the cohort who participate and succeed in CCR opportunities, including college entrance assessments; pass a college-level course (AP, dual credit, or IB); and are eligible for an industry-recognized certification (CTE, Supplemental Accountability Model (SAM) School Supplemental). Participation is reported by indicator; success is reported as a meta-indicator across all measures.
NY	Y		New York's report cards include the percentage of students with Regents or local diplomas who reported their plans to attend two- or four-year colleges, attend other postsecondary institutions, enter the military, or enter employment.

STATE	SCHOOL-LEVEL REPORTING (e.g., report cards, data dashboards, accountability reports, P-20 reports)	OTHER (e.g., CTE report cards, third-party reports with school-level data hosted on state education agency website)	WHAT CAREER INDICATOR(S) DOES THE STATE REPORT?
NC	Y		North Carolina's report cards include the percentage of CTE concentrators who graduate having earned a Silver or better on ACT WorkKeys. Report cards also include a Specialized Course Enrollment indicator that includes CTE courses at high schools and community colleges and regular academic courses at community colleges and universities. The percentage of the graduating class who enrolled in a two- or four-year postsecondary institutions is also included, though not disaggregated by two- and four-year institutions.
OH	Y	Y	Ohio's report cards include a Prepared for Success category, in which the state reports dual enrollment credit and industry-recognized credentials. The state's CTE Planning District Report Cards also include career-ready measures for technical skill attainment, postprogram placement, and industry-recognized credentials.
OK	Y		Oklahoma's A-F report cards include an Advanced Coursework component, which includes AP courses, IB programs, concurrent enrollment in college or university courses, AICE courses, and career/technology courses that lead to industry certification. Both a participation index and performance index are calculated for high schools.
PA	Y		Pennsylvania's school performance profiles include the percentage of students scoring Competent or Advanced on industry standards-based assessments that include the National Occupational Competency Testing Institute (NOCTI) and National Institute for Metalworking Skills (NIMS) exams. The state separately reports the percentage of students scoring Advanced on these assessments.
SC	Y		South Carolina's report cards include the percentage of students meeting the Platinum, Gold, or Silver thresholds on WorkKeys; the percentage of students participating in work-based learning experiences; enrollment in career/technology courses; and the number of students enrolled and successful in dual enrollment courses. The percentage of graduates enrolled in a two- or four-year college or technical college pursuing an associate degree, certificate, or diploma is also included on school report cards, though the data is not disaggregated by two- and four-year institutions.
TN		Y	Tennessee's CTE report cards, which are available for all high schools, include data on the number of secondary students enrolled in a CTE course, the percentage of CTE concentrators, the number and percentage of CTE students in dual credit courses, the percentage of CTE students meeting all dual credit requirements, the number and percentage of CTE students in dual enrollment courses, the percentage of CTE students enrolled and earning credit through dual enrollment courses, and the percentage of CTE concentrators in post-high school placement (a self-reported number). Tennessee was not included in the final count, however, as the CTE report cards run parallel to the state's school-level report cards.
TX	Y		The Texas Academic Performance Reports (TAPR) include the percentage of graduates who were enrolled in a CTE-coherent sequence of courses. Advanced course/dual enrollment completion for grades 11-12 and grades 9-12 is disaggregated for core subject areas and "any subject." The TAPR also include the percentage of the graduating class who enrolled in a Texas institution of higher education and completed one year without remediation, but this information is not disaggregated by two- and four-year institutions. The percentage of students who require remediation is reported, though not disaggregated by two- and four-year institutions.

STATE	SCHOOL-LEVEL REPORTING (e.g., report cards, data dashboards, accountability reports, P–20 reports)	OTHER (e.g., CTE report cards, third-party reports with school-level data hosted on state education agency website)	WHAT CAREER INDICATOR(S) DOES THE STATE REPORT?
UT	Y		Utah's Education PACE Report Cards include the percentage of students enrolled in a minimum of 1.0 credits for grades 11 or 12, which is broken out into four discrete categories: concurrent enrollment, AP, CTE courses, and IB. The reports also include an aggregate measure for the percentage of 11th and 12th grade students who earned at least three credits in the college- and career-ready courses.
VA	Y	Y	Virginia's school report cards include the percentage of students participating in dual enrollment coursework, credentials earned for passing occupational competency assessments recognized by NOCTI, state licensure examinations, industry certification examinations, workplace readiness skills assessments, total credentials earned, students earning one or more credentials, and CTE completers. Virginia also issues postsecondary enrollment reports through State Fiscal Stabilization Fund Indicator (C)(11) Report on the number and percentage of high school graduates who enrolled in a two- or four-year postsecondary institution within 16 months of their high school graduation.
WA	Y		Washington's report cards include the total number of students in dual credit courses, Tech Prep, and Running Start. The state also reports enrollment of CTE participants and concentrators and Perkins indicators, but these data were last reported in 2012–13 and fall outside the scope of this report.
WI	Y		Wisconsin's School Performance Reports include the postgraduation plans of graduates, including enrollment in a four-year college or university, enrollment in a vocational or technical college, employment, enlistment in the military, and participation in a job training program.



## Appendix B: States that Include Career-Focused Indicator(s) in Accountability Systems

STATE	FORMULA OR BONUS POINTS	WHAT CAREER INDICATOR(S) DOES THE STATE INCLUDE IN THE ACCOUNTABILITY SYSTEM?
AL	Formula	Alabama's accountability system includes an indicator that, by 2016, the state will increase number of students who are college- and career-ready as measured by receiving: (1) a benchmark score on any section of the ACT test, (2) a qualifying score on an AP or IB exam, (3) approved college or postsecondary credit while in high school, (4) a benchmark level on the ACT WorkKeys, (5) an approved industry credential OR (6) documented acceptance for enlistment into the military.
AK	Formula	Two career-ready indicators account for 10 percent of a high school accountability score: 8 percent from college- and career-ready performance on WorkKeys, ACT, or SAT and 2 percent from WorkKeys participation.
CT	Formula	Two career-ready indicators account for 12 percent (150 points) of the high school accountability score: (1) 50 points for the percentage of students in grades 11 and 12 participating in at least one of the following: two courses in AP/IB/dual enrollment, two courses in one of seven CTE categories, or two workplace experience "courses" in any area; and (2) 100 points for the percentage of graduating class who enrolled in a two- or four-year postsecondary institution any time during the first year after high school graduation.
DE	Formula	College and Career Preparation (CCP) counts for 10 percent of the high school accountability score. CCP measures the percentage of graduating seniors who met at least one of the following demonstrations of preparation at any point in their high school career: 3+ in both content areas on Smarter Balanced, 1550+ on SAT, 3+ on AP, 4+ on IB, B or higher in a dual enrollment course, technical skills attainment with a combined 6+ on Smarter Balanced, and/or technical skills attainment with completion of a co-op job training opportunity.
FL	Formula	The High School Acceleration component was one of seven components included in schools' informational baseline in 2014–15. Each component is worth 100 points or 16.7 percent of the total grade. High School Acceleration is based on the percentage of the graduation rate cohort who earned a score on an acceleration examination (AP, IB, or AICE) or a grade in a dual enrollment course that qualified students for college credit or earned an industry certification.
GA	Formula and Bonus Points	Within the CCRPI, the post-high school readiness component accounts for 30 percent of the Achievement score and includes three career-ready indicators: (1) percentage of graduates completing a CTAE pathway, an advanced academic pathway, an IB career-related program, a fine arts pathway, or a world language pathway within their program of study; (2) percentage of graduates completing a CTAE pathway and earning a national industry-recognized credential; and (3) percentage of graduates earning high school credit(s) for accelerated enrollment via ACCEL, Dual HOPE Grant, Move On When Ready, Early College, Gateway to College, AP courses, or IB courses. High schools may earn additional points for Exceeding the Bar indicators, including the percentage of graduates completing a career-related work-based learning program or a career-related capstone project.
HI	Formula and Bonus Points	The college-going rate accounts for 10 points (4 percent) of the 400-point Strive HI Index for high schools. Additionally, schools can earn five bonus points for the percentage of students passing AP, CTE, IB, or dual credit classes.
IN	Formula	The CCR indicator score is one of two metrics in the multiple measures domain of the accountability system. Schools can earn a maximum of 100 points for the CCR indicator score, which is calculated as follows: (number passed AP exams + number passed IB exams + number dual college credits + number industry certifications) / total number of cohort graduates. There are three domains: performance, growth, and multiple measures. Each domain is issued a score between 0.00 and 100.0 points, and the scores for each domain are weighted to determine a school's total score. The total score is the sum of the three scores after they have been weighted.

STATE	FORMULA OR BONUS POINTS	WHAT CAREER INDICATOR(S) DOES THE STATE INCLUDE IN THE ACCOUNTABILITY SYSTEM?
KY	Formula and Bonus Points	The CCR indicator accounts for 20 percent of a high school's total accountability score. Readiness is calculated by dividing the number of high school graduates who have successfully met an indicator of readiness for college OR career by the total number of graduates. Half a bonus point is awarded for students who meet both college AND career readiness. The Career Ready indicator includes graduates who met benchmarks for Career Ready Academic (ASVAB or ACT WorkKeys) and Career Ready Technical (KOSSA or an industry-recognized career certificate).
LA	Formula and Bonus Points	The graduation index accounts for 25 percent of a high school's accountability score and represents attainment of college-credit earning scores. The index allows for two accountability tiers for students who earn a diploma: (1) 150 points for students earning (a) a 3+ on an AP exam, 4+ on an IB exam, or 50+ on CLEP (b) Advanced statewide Jump Start credentials (160 points for both); and (2) 110 points for students (a) scoring below 3 on an AP test or 4 on an IB test or earning credit through TOPS-aligned dual enrollment or (b) earning a Basic statewide Jump Start credential (115 points for both).
MD	Formula	The College and Career Preparation component accounts for 8 percent of the overall high school score. It includes three elements: AP (3+) or IB (4+), CTE concentrators, and college enrollment. Having any one of the three elements is considered a student success factor. A student is counted only once in the numerator even if he or she meets two or more of the criteria. CTE concentrators are defined as students attaining advanced standing (enrolled in the third course of the program) in a state-approved CTE program of study.
MO	Formula	The career-ready components of the CCR indicator account for 14.3 percent of a high school's accountability score. The CCR indicator includes six parts, three of which are specific to career readiness: (1) the percentage of graduates who earned a qualifying score on an AP, IB, or technical skills assessments and/or receive college credit through early college, dual enrollment, or approved dual credit courses meets or exceeds the state standard or demonstrates required improvement; (2) the percentage of graduates who attend postsecondary education/training or are in the military within six months of graduating meets the state standard or demonstrates required improvement; and (3) the percentage of graduates who complete approved career education programs and are placed in occupations directly related to their training, continue their education, or are in the military within six months of graduating meets the state standard or demonstrates required improvement.
NM	Formula	CCR is composed of participation (five points) and success (10 points) yielding a total 15 points or 15 percent of the high school's overall grade. The formula allows for a suite of CCR indicators, including concurrent enrollment/dual credit in an accredited New Mexico postsecondary institution. The Career Program of Studies is a sequence of high school courses that lead to industry-recognized certification. To be considered successful, the student must complete all coursework with a C or better and graduate from high school with a regular diploma.
NY	Reward School Identification	Reward School Identification requires a secondary school to have a four-year cohort graduation rate that exceeds 80 percent, and the school must also exceed the state average for students graduating with either a Regents diploma with Advanced designation or a CTE endorsement. High Progress School Identification requires a school to have a four-year cohort graduation rate that exceeds 60 percent, and the school must also exceed the state average for students graduating with either a Regents diploma with Advanced designation or a CTE endorsement.
NC	Formula	Schools are graded using a 15-point grading scale, and grades are based on the school's achievement score (80 percent) and students' academic growth (20 percent). ACT WorkKeys is included in a high school's achievement score and reflects the percentage of concentrator graduates (students who have earned four CTE credits in a career cluster) who were awarded at least a Silver Level National Career Readiness Certificate based on ACT WorkKeys.
OK	Bonus Points	Schools can earn up to 10 bonus points through several indicators, one of which is advanced coursework. Advanced coursework for high schools includes AP courses, IB programs, concurrent enrollment in college or university courses, or AICE and career/technology courses that lead to industry certification. Both a participation index and performance index are calculated for high schools. A high school is able to earn one bonus point if it satisfies the requirement for either participation or performance.

STATE	FORMULA OR BONUS POINTS	WHAT CAREER INDICATOR(S) DOES THE STATE INCLUDE IN THE ACCOUNTABILITY SYSTEM?
PA	Formula and Bonus Points	Two career-ready indicators account for 7.5 percent of the high school accountability score: (1) 5 percent from indicators of academic achievement, including the percentage of students scoring Competent or Advanced on industry standards-based assessments that include the NOCTI/NIMS assessment; (2) 2.5 percent from AP, IB, or college credit in each of the four core academic areas. A one point (1 percent) bonus could be awarded for percentage of students scoring Advanced on industry standards-based assessments.
SD	Formula <sup>#</sup>	This accountability system is a 100-point school performance index. For schools administering the WorkKeys, 30 points (30 percent of high school weighting) come from WorkKeys/ACT/Accuplacer. One-third of the points (10) come from the results of assessments measuring college readiness in English, one-third from math (10 points), and one-third from the National Career Readiness Certificate, or NCRC (10 points). For schools opting not to administer this assessment, all points come from the college-ready measures in English and math.
TX	Formula	The CCR indicator score accounts for 25 percent of the Postsecondary component, or 6.25 percent of the overall index score. The score is calculated as the percentage of annual graduates who (1) met or exceeded the Texas Success Initiative criteria in both English language arts and mathematics on the Texas Assessment of Knowledge and Skills (exit-level test, SAT, or ACT); (2) completed and earned credit on at least two advanced/dual credit enrollment courses; or (3) enrolled in a CTE-coherent sequence of courses (including the Tech Prep program).
VA	Graduation Requirement	Effective with the entering 9th grade class of 2013–14, students who earn a Standard diploma must earn a Board-approved industry credential.

# In 2015–16, schools have the option to administer the WorkKeys. For schools that do, 30 points (30 percent of high school weighting) come from WorkKeys/ACT/Accuplacer attainment. One-third of the points come from the results of assessments measuring college readiness in English, one-third from math, and one-third from WorkKeys. For schools opting not to administer this assessment, all points come from the college-ready measures in English and math.

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## Methodology

The authors identified career-focused indicators in state accountability and public reporting systems by examining states' most recent accountability documentation and technical manuals, school report cards and data dashboards hosted or commissioned by a state education agency, high school feedback reports, CTE-specific report cards, and accountability reports that differed from the state report cards.

Additional criteria/business rules for what was included:

- Wherever possible, documentation was located for the 2015–16 school year to ascertain whether and how career readiness indicators were included in school accountability systems. However, given ESEA waiver renewals and accountability systems in transition, states' accountability documentation was not always updated to reflect the current 2015–16 school year. In these cases, we used the most recent manual, as long as it was confirmed that the requirements reflected 2013–14 or 2014–15 (no older).
- Publicly reported data must reflect outcomes of the class of (or school year) 2014 or 2015. In some cases, states' most recent reporting reflected outcomes for the class of 2012 or 2013; these were not included in the state counts.
- Data included in the counts must be reported at the school or district level. In nearly all cases, the data are reported at the school level. The preferred unit of analysis was school-level reports.
- Postsecondary enrollment and remediation data were included in the counts only when the data were disaggregated by both two- and four-year institutions.
- A number of states issue CTE-specific reports; these are not included in the state counts. For indicators to be included, they must be a part of the comprehensive report card/accountability system, not parallel.

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## Glossary

**Armed Services Vocational Aptitude Battery (ASVAB):** A test that determines a recruit's eligibility to enlist in the military. The results of this test also are used to assign recruits to appropriate jobs within the military.

**Career technical student organization (CTSO):** A co-curricular organization that provides experiential learning for CTE students (often with chapters at both the secondary and postsecondary levels) through competitions and business partnerships. More than 2 million students are involved in CTSOs across the nation.

**CTE concentrator (secondary level):** A secondary student who has earned three or more credits in a single CTE program area (e.g., health care or business services) or two credits in a single CTE program area (but only in those program areas in which two-credit sequences at the secondary level are recognized by the state and/or its local eligible recipients). Many states use the term "completer" in their state reporting and accountability systems.

**CTE pathway:** A sequence of academic, career, and technical courses and training that begins as early as 9th grade and leads to progressively higher levels of education and higher-skilled positions in specific industries or occupational sectors.

**Credential:** An umbrella term used to capture the vast ecosystem of credentialing from industry recognized to postsecondary.

**Dual Enrollment:** When a student takes a course from a college and, upon successful completion, receives credit on a college transcript. Often, students can earn dual credit from both their high school and the college for the same course, as long as the content aligns with curricular requirements of the respective institutions.

**Industry-based/industry-recognized certification:** A credential awarded by a certification body, such as an industry association or company, based on an individual demonstrating through an examination process that he or she has acquired the designated knowledge, skills, and abilities to perform a specific occupation or skill. The examination can be written, oral, and/or performance based. Certification is a time-limited credential that is renewed through a recertification process.

**Meta-indicator:** A composite measure of college and career readiness or career readiness that may include components such as AP, IB, or dual enrollment.

**Perkins indicators:** The indicators that all states are required to report on for students enrolled in programs supported by Carl D. Perkins Career and Technical Education Act (Perkins) funds. At the secondary level there are eight required indicators, including technical skill attainment, graduation rate, and placement, among others.

**Program of study:** A coordinated, nonduplicative sequence of academic and technical courses from secondary to postsecondary that may include an opportunity for students to earn industry-based credentials, participate in dual enrollment courses, and/or acquire postsecondary credits while in high school.

**Stacked/stackable industry credential:** Part of a sequence of credentials that can be accumulated over time to build an individual's qualifications and help him or her to move along a career pathway or up a career ladder to different and potentially higher-paying jobs.

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**Technical skills assessment:** A test used to evaluate CTE students' attainment of technical skills that is aligned to industry standards where available and appropriate. Technical skills assessments are typically given at the end of a CTE course or pathway.

**Work readiness certificate:** A verification, typically awarded by an educational institution, that a person has achieved and demonstrated a certain level of workplace employability skills that is applicable across industries and occupations.

**Work-based learning:** A type of learning experience, such as job shadowing, internship, apprenticeship, or a service-learning project, that allows students to apply academic and technical knowledge and skills through real-world experience and engagement with adults outside of high school and gain experience working in an environment related to their CTE pathway.

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## Acknowledgments

Achieve and Advance CTE would like to thank the individuals and organizations who contributed to this report. We would like to thank Kate Blosveren Kreamer, Deputy Executive Director, Advance CTE; Marie O'Hara, Associate Director, State Policy and Implementation Support at Achieve; and Amreena Hussain, Policy Associate, State Policy and Implementation Support at Achieve, for their leadership in the research and writing of the report.

Lyndsay Pinkus, Director, Special Projects & Initiatives at Achieve, provided essential guidance and feedback on the report and Sandy Boyd, Chief Operating Officer at Achieve, provided leadership in shaping the overall vision of the report. Additional thanks to Jacob Mishook, Associate Director, Assessment & Accountability, for additional accountability research support, and to Ryan Reyna, Advisor at the Education Strategy Group, for his critical input and insights.

We also would like to thank Kathy Ames at Next Chapter Communications for her editorial contributions and Rings Leighton for their design work. Finally, we would like to express gratitude to the Bill & Melinda Gates Foundation, JPMorgan Chase & Co., and GE Foundation for providing generous funding for this report.

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