



Fall 2017

EDUCATING THE WORKFORCE OF TOMORROW

Postsecondary And Career Readiness In Tennessee

INTRODUCTION

Tennessee's economy is growing, with the lowest unemployment rate in recorded state history and rising wages.^[1,2] Across Tennessee's public high schools, students are achieving at higher levels on end of course exams and graduating at historic levels.^[3,4] Tennessee Promise has lowered financial barriers to postsecondary education for tens of thousands of students.^[5] It seems there is no better time to be a Tennessee student transitioning from high school to postsecondary and career than now.

Local and regional leaders are coming together to discuss what it will take to secure tomorrow's ready workforce. This brief provides a common foundation for these conversations.

Yet a number of obstacles stand in the way of Tennessee's economic and educational progress. Although nearly nine in ten students graduate from high school, only two in ten students meet college readiness benchmarks in all four subject areas measured by the ACT.^[6] Furthermore, stark achievement gaps persist among students. For example, four times the percentage of white students meet three or more college-ready benchmarks in English, math, reading, and science than their black peers. While the percentage of Tennessee students who need remediation in the first year of college has dropped 14.4 points since 2011, 62 percent of students still require some kind of remediation before taking on postsecondary coursework.^[7]

Tennessee's leaders have responded to these challenges with a number of policies, programs, and resources. This brief provides an overview of postsecondary and career readiness efforts at the state, regional, and local levels, with the goal of better equipping leaders in education, business, and government to take advantage of opportunities and identify areas of improvement. There is perhaps no more pressing issue for Tennessee's communities in the coming years than advancing student readiness for postsecondary education and career.

STATE-LEVEL INITIATIVES

In 2014, Governor Bill Haslam challenged Tennessee with a new goal – equip 55 percent of Tennesseans with a postsecondary degree or credential by 2025. By that time, more than half the jobs in the state will require a degree or certification beyond a high school diploma.^[8] Currently, only 39 percent of Tennesseans hold a postsecondary degree or credential. If 55 percent of Tennesseans were to obtain a college credential by 2025, new degree holders would stand to gain over \$9.3 billion in additional annual income.^[9] These earnings would generate approximately \$434 million more in state tax revenues and \$312 million in local revenues.^[10]



REGIONAL INITIATIVES

Growing employer need for a highly educated workforce makes the college readiness problem a workforce development problem. Technological innovations that swept the manufacturing sector are spreading to transportation, sales, and office administration. According to the Tennessee Department of Economic and Community Development, an estimated 1.4 million jobs, representing 37 percent of workers' wages in Tennessee, are vulnerable to automation, with rural counties having the most to lose.^[11] Many new jobs that will replace existing occupations require a higher education level. To secure tomorrow's workforce, regional and community leaders are better coordinating education and workforce development, with a clear focus on student postsecondary and career readiness.

What Does Postsecondary And Career Readiness Mean?

In Tennessee, a postsecondary and career-ready student is able to graduate K-12 education with the knowledge, abilities, and habits to enter and complete postsecondary education without remediation and seamlessly move into the military or a career that affords them the opportunity to live, work, and sustain a living wage. Postsecondary education can include career school, technical school, community college, college, or university.

Pathways Tennessee – A Framework For Community Action

As the United States climbed out of the Great Recession, a coalition of states and regions launched the Pathways to Prosperity Network to re-envision how K-12 and higher education partners and employers can collaborate to secure a ready workforce. In 2012, Tennessee became one of the first six states to join the Pathways network.

Pathways Tennessee (Pathways TN) brings together Tennessee's state departments of Education, Economic and Community Development, Labor and Workforce Development, the Tennessee Board of Regents, the Tennessee Higher Education Commission, and the Governor's office to build pathways for student transitions from high school to postsecondary and career.

In 2016, Pathways TN equipped leaders across the state's 95 counties with education and workforce reports organized by Tennessee's nine economic development regions to spur conversation and problem solving at the community level. Each regional report identified industries and occupations with high and low projected growth, and evaluated the strength of career pathways from K-12 to postsecondary courses, including career exploration, counseling, work-based learning programs, and student access to early postsecondary opportunities.



Through the Pathways TN framework, chambers of commerce, industry partners, middle and high schools, and postsecondary institutions work together to promote active business and industry involvement in student exploration and on-the-job learning, enhance career guidance, and improve the transfer of postsecondary credits earned in high school to postsecondary institutions upon enrollment.

To build strong education to career pathways, regional Pathways TN partners take the following actions:

1. County and local leaders build interest in the Pathways model. Leaders discuss links between K-12, higher education, and local business and industry needs.
2. Leaders develop a core team, typically involving members of chambers of commerce, school district leaders, and two- and four-year postsecondary education leaders.
3. Consulting Pathways TN resources, core teams consider local economic and education data, and if needed, conduct further study of education and the workforce.
4. Core teams develop a three-year plan to guide collective action. The plan encourages alignment of middle, high school, and postsecondary courses with economic demands, keeping quality of programming and equitable student access as primary considerations.

As of 2017, seven regional Pathways partnerships have formed, with four active regions and three regions getting started. Tennessee continues to expand work to remaining regions and promote innovation across the state. Through Pathways TN, communities are bridging the gap between education and career.

Pathways TN - Starting The Conversation

“Based on employer feedback, we knew we needed to address pressing education and workforce opportunities. The Highlands Economic Partnership commissioned a study on student dropout from high school. We also conducted a labor study to understand the skills gap between the workforce and employer needs. These two studies were foundational to creating a Workforce Development and Education Committee. Educators and area business leaders serve on the committee.

Through a collaborative process, we developed goals based on the education and workforce data. By having the right people in the room at the same time, we discovered how much we could get done. Ideas fly when people get outside of their silos and come together to solve challenges! That’s when the magic happens. Directors of schools get in friendly competition – they don’t want to miss a Workforce Development and Education Committee meeting, because there’s such rich conversation.”

Lillian Hartgrove, Director of Workforce Development, Upper Cumberland Highlands Economic Partnership, and Tennessee State Board of Education

Tennessee LEAP – Using Collaboration To Eliminate Skill Gaps

Developed by the Tennessee General Assembly in 2013, the Labor and Education Alignment Program (LEAP) offers competitive grant funds to eliminate skill gaps between the workforce and employer needs across the state.^[12] LEAP funds collaborative projects headed by local and regional business and education leaders to identify the most pressing skills gaps and develop strategies to fill those gaps. Governor Haslam’s Workforce Sub-Cabinet reviews grant applications and selects winners, and the Tennessee Higher Education Commission (THEC) awards grants and provides ongoing support to grant recipients.

In 2014, LEAP grants totaling over \$10 million were awarded to 12 grant recipients across the state, cultivating partnerships in 51 of Tennessee’s 95 counties and enabling Tennesseans to participate in over 19,800 training and workforce development opportunities. As a result of LEAP 1.0, more than 3,400 high school students enrolled in dual enrollment or dual credit courses for high-demand occupations, and over 14,300 middle school, high school, and college students participated in career readiness programs, including work-based learning experiences, academic clubs, and career exploration programs.

In May 2016, LEAP received an additional \$10 million appropriation from the Tennessee General Assembly. THEC implemented LEAP 2.0 to accelerate progress towards the Drive to 55, awarding 12 grants with targeted focus on work-based learning initiatives. Building on and expanding the work of Pathways Tennessee, LEAP advances Tennessee students’ postsecondary and career readiness.

Closing Skill Gaps In Southeast Tennessee

In the rural southeast Tennessee, leaders from Polk, Bradley, McMinn, and Meigs counties have come together to develop a skilled advanced manufacturing workforce through the Regional Apprenticeship Preparedness Program.

In consultation with area business leaders, including those from Gestamp and Mars Chocolate North America, educators built a clear pathway to modern manufacturing. The \$1 million LEAP grant helped leaders align high school Career and Technical Education (CTE) classes and dual enrollment college course offerings, changing how students advance from high school to career. The grant will also enable purchase of training equipment, from computer programming devices to robotics.

Source: Tennessee Higher Education Commission, LEAP Annual Report (2016)



LOCAL INITIATIVES

At the local level, educators are rethinking high school coursework to build student pathways into high-demand jobs, and are working with higher education leaders to provide students opportunities to earn college credits while enrolled in high school. These efforts are showing measurable results.

Career And Technical Education – Rigorous, Career-Aligned Learning

In 2012, Tennessee revised its Career and Technical Education (CTE) programs of study to provide students a sequenced path to careers that can sustain a family and have lasting potential in a changing economy. First, the Tennessee Department of Education (TDOE) identified and retired courses and programs of study leading to economic dead ends, and aligned state-approved courses to 16 modern career clusters. Then, Tennessee rewrote CTE course standards to focus on industry expectations, literacy, and writing, and developed course exams to equip educators with tools to understand students' progression through programs of study.

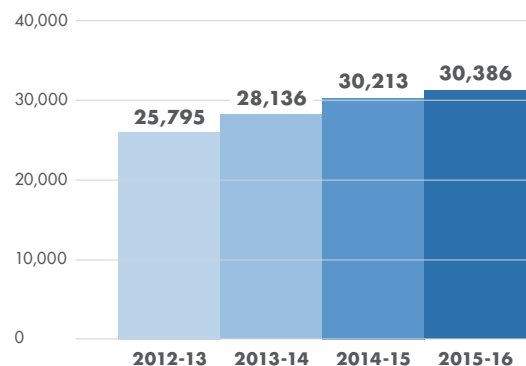
A particularly promising area of CTE coursework involves science, technology, engineering, and math (STEM). STEM is an educational approach that links classroom learning to the knowledge and skills required by careers involving applied math, creative thinking, and analysis. Through a STEM approach, teachers connect otherwise separate academic content through cross-disciplinary projects. For example, a STEM-based robotics program requires the use of math, computer coding, and engineering.

CTE Concentrators In Tennessee

High school students who take three or more CTE courses in a single area of study are known as CTE concentrators.

- By 12th grade, 46 percent of Tennessee's 2012 freshman high school student cohort concentrated in a CTE path.
- Between 2012 and 2016, the number of CTE concentrators grew by 18 percent.
- Of the 2011 freshman student cohort who became CTE concentrators, 65 percent enrolled in a community, technical, or four-year college.

Number of CTE Concentrators in Tennessee, by School Year



Source: Tennessee Department of Education, 2017

According to regional estimates, STEM is the fifth-fastest growing occupational cluster in the South and the seventh-largest employment sector, with projections of 2.6 million total workers by 2020.^[13] STEM jobs are central to Tennessee's economic growth, offering high-paying jobs that enable graduates to launch a career and a life.^[14]

Early Postsecondary Opportunities

In 2015, Congress replaced the No Child Left Behind Act with the Every Student Succeeds Act (ESSA)—a new federal law grounded in the work Tennessee has been leading—giving states more flexibility and responsibility to improve student achievement. To meet ESSA requirements, Tennessee developed a plan with input from thousands of Tennesseans that emphasizes improving student readiness for postsecondary education and careers by giving all students more challenging coursework.

As part of this plan, Tennessee created a Ready Graduate indicator for high schools and school districts to assess how many students are ready for college, the military, or the workforce. Tennessee's school and district accountability system will include a Ready Graduate indicator.^[15]

Students can achieve what Tennessee has defined as readiness in a variety of ways. A Tennessee student will be considered ready for college and career upon graduating high school within four years and achieving one of the following:

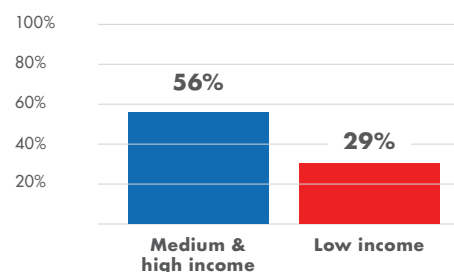
- Scoring a 21 or higher on the ACT
- Completing four early postsecondary opportunities (EPSOs), such as earning college credit in high school
- Completing two early postsecondary opportunities and earning an industry certification
- Completing two early postsecondary opportunities and meeting or exceeding the Armed Services Vocational Aptitude Battery (ASVAB) or Armed Forces Qualifying Test (AFQT)

EPSOs – A Closer Look

EPSOs provide students the opportunity to earn college credit while in high school, develop the confidence and skills necessary for success in postsecondary, and decrease the time and cost of completing a certificate or degree. EPSO options include:

- Advanced Placement
- College Level Examination Programs
- Dual Enrollment
- Industry Certification
- International Baccalaureate
- Local and Statewide Dual Credit

Percent of Students Enrolled in Early Postsecondary Opportunities, By Income Level



Source: Tennessee Department of Education, 2017



This approach allows for a variety of pathways for learners with different career interests, and gives parents, community members, and educators a way to measure progress.

Although more than 90 percent of high schools offer at least one EPSO, only 41 percent of the 2015 student cohort enrolled.^[16] Furthermore, there are wide gaps in EPSO enrollment between low-income students and their higher-income peers that perpetuate long-term economic disparities. In 2017, the Tennessee General Assembly passed and Governor Haslam signed into law a measure that requires every school district to offer at least four EPSOs to students by the 2018-19 school year, in alignment with Tennessee's ESSA plan. Tennessee schools are working to widen available choices in EPSOs to increase student enrollment so students will be afforded flexibility and choice in the EPSO that works best for them.

Work-Based Learning – Building A Ready Workforce

A study of 300 occupations identified effective communication, collaboration, and problem-solving as necessary employability skills.^[17] Work-Based Learning (WBL) is a proactive approach to bridge the gap between high school and high-demand, high-skill careers by helping students build crucial employability skills that are difficult to learn solely through classroom-based instruction.^[18]

WBL helps students develop a broad understanding of industries and careers in elementary and middle school, and with guidance from educators and counselors, students begin to narrow their career interests and pursue options that interest them. In high school, students have opportunities to engage in direct WBL, involving career exploration, preparation, and training.

Employers play a primary role in WBL, offering internships or apprenticeships or partnering with schools to construct project-based learning opportunities. When employers exercise a role in student learning, they become a part of the educational process and build the professional skills they seek in prospective employees. When students engage in projects that matter in their community, they take greater ownership in learning.

WBL, particularly apprenticeships, show promise as a means to improve student postsecondary and career readiness and success. Students who participate in high-quality apprenticeship programs make \$300,000 more over the course of their lifetimes than their peers who do not participate in such a program.^[19] Furthermore, studies have shown that the benefits of apprenticeship programs exceed the costs to employers by \$49,000, on average.^[20]

Work-Based Learning – Empowering Low-Income Students In Hamilton County

The Chattanooga Public Education Foundation, in partnership with the Chattanooga Area Chamber of Commerce, the Benwood Foundation, and the Hamilton County school district launched a work-based learning program to address a stark disconnect between the labor supply and needs of local employers. STEP-UP Chattanooga connects low-income students with businesses, nonprofits, and government agencies that provide internship opportunities for career exploration and training. Modeled on the STEP-UP Achieve program in Minneapolis, Minnesota, STEP-UP Chattanooga helped 76 students attain internships at 43 top Chattanooga companies in 2016. Compensated for their work, these students gain on-the-job experience and professional skill building, and meet professionals who support their career and postsecondary goals.

Early Remediation – Proactive Student Supports

Through a set of key interventions, Tennessee is taking a proactive and innovative approach to ensure students are prepared for the rigors of postsecondary coursework.

Developed in 2012 through a partnership between K-12 and postsecondary educators in Chattanooga, the Seamless Alignment and Integrated Learning Support (SAILS) system reduces college-level remediation in math and English. Using a blended-learning format of both online and face-to-face instruction, SAILS helps students who have not yet reached postsecondary readiness benchmarks on the ACT by providing targeted learning supports in the high school senior year.

In 2013, the SAILS Math program launched statewide and since has shown enormous growth in both scale and impact with more than 240 schools and 13,000 students participating in 2016.^[21] Student completion rates of SAILS math are above 90 percent, and the number of first-year college students needing math remediation has shrunk by 15.6 percent over the same period of the program's growth.

In the 2015-16 school year, the SAILS English program launched as a pilot program involving 104 students at five high schools, with 98 percent of students completing the program. In 2016-17, the pilot program expanded to 424 students at nineteen high schools.



CLOSING

A rapidly changing economy requires urgent focus on student postsecondary and career readiness, with greater intensity than ever before. Tennessee's K-12 and postsecondary leaders, employers, and policymakers have formed a strong policy foundation for communities to take action.

These policies have helped spur regional partnerships focused on closing skill gaps between the current labor force and employer needs. A growing number of employers are recognizing the opportunity and need to act. Business and industry leaders are partnering with schools to provide structured programs of study focused on high demand areas like STEM, health sciences, internet technology, and advanced manufacturing. Teachers are connecting learning to real-world challenges through projects that help students explore career opportunities and hone crucial employability skills.

It will take expanded work to ensure more students are prepared for postsecondary and career. There is perhaps no more important area of focus from state and local leaders than this work. Securing Tennessee's future workforce begins today. Together, Tennessee's regional and local leaders can seize opportunities to leverage available policies and programs to innovate and help our students—and Tennessee's communities—achieve their full potential.

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ABOUT SCORE

The Tennessee State Collaborative on Reforming Education (SCORE) drives collaboration on policy and practice to ensure student success across Tennessee. We are an independent, nonprofit, and nonpartisan advocacy and research institution, founded in 2009 by Senator Bill Frist, MD, former U.S. Senate Majority Leader. SCORE works collaboratively to support K-12 education throughout Tennessee, and we measure our success by the academic growth of Tennessee's students.

ABOUT THE TENNESSEE BUSINESS ROUNDTABLE

To optimize the quality of life and well-being of all Tennesseans, the Tennessee Business Roundtable (TBR) develops and seeks to implement public policies which enhance our state's vibrant economic climate. Dedicated to the belief that an educated, healthy populace and sound state fiscal policies are the primary drivers of Tennessee's vibrant economy, TBR seeks to be the most respected and influential policy voice for Tennessee's business community. Founded by prominent Tennessee business leaders in 1983, TBR has partnered successfully with five Governors and hundreds of business, nonprofit, academic, and government stakeholders to create and promote policies that have contributed significantly to the success of the Volunteer State's economy and people, particularly in public education.

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