



**PATHWAYS**  
TO PROSPERITY

A Jobs for the Future and  
Harvard Graduate School  
of Education Initiative

ACCELERATING STUDENT SUCCESS

# Pathways Tennessee Balances Bold State Policy and Regional Flexibility





## ACKNOWLEDGEMENTS

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## ABOUT THE AUTHOR

Richard Kazis is the board chair of The Institute for College Access and Success (TICAS) and has served as its interim president in recent months. He is also a senior consultant for MDRC and a non-resident senior fellow at the Brookings Institution Metropolitan Policy Program. Richard spent many years as senior vice president of Jobs for the Future, where he oversaw national and state policy work and also led JFF's program on community college student success. Richard is a graduate of Harvard College and the Massachusetts Institute of Technology Department of Urban Studies and Planning.



### **About Jobs for the Future**

Jobs for the Future (JFF) is a national nonprofit that builds educational and economic opportunity for underserved populations in the United States. JFF develops innovative programs and public policies that increase college readiness and career success and build a more highly skilled, competitive workforce. With 35 years of experience, JFF is a recognized national leader in bridging education and work to increase economic mobility and strengthen our economy. Learn more at [www.jff.org](http://www.jff.org).

## **PATHWAYS TO PROSPERITY**

### **About Pathways to Prosperity**

Jobs for the Future's Pathways to Prosperity initiative seeks to ensure that many more young people complete high school and attain postsecondary credentials with value in the labor market. The Pathways to Prosperity Network is a collaboration of states and regions, Jobs for the Future, and the Harvard Graduate School of Education. Each state and regional member is engaging cross-sector stakeholders in building a system of grades 9-14+ career pathways, combining high school and community college, that launches young people into initial careers while leaving open the prospect of further education. Learn more at [www.ProPNetwork.org](http://www.ProPNetwork.org).



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Cookeville, Tennessee. Photo: Brian Stansberry

# ACCELERATING STUDENT SUCCESS

**In 2008, Lillian Hartgrove began working at the Highlands Economic Partnership in Cookeville, Tennessee, charged with leading economic development in the Upper Cumberland region, halfway between Nashville and Knoxville.**

Hartgrove knew the area well: she had moved to the region in 2003 and understood its strengths and weaknesses through her work as senior vice president of a regional bank. Experience taught her that the primary barrier to regional growth was not the cost of land or buildings, but rather the challenge of finding skilled workers for new and expanding businesses, particularly in manufacturing and assembly.

The local chamber of commerce launched the Highlands Economic Partnership in 2006 and got on the map with two high-visibility studies that raised important red flags about the region's future. The first study documented low high school graduation rates among at-risk students. The second, a labor market assessment, underscored the gap between the skills and education levels of the region's workforce and the expectations and needs of its growing economy. In 2010, Hartgrove created a Highlands Workforce Development and Educational Development Committee with an influential vice president and dean at Tennessee

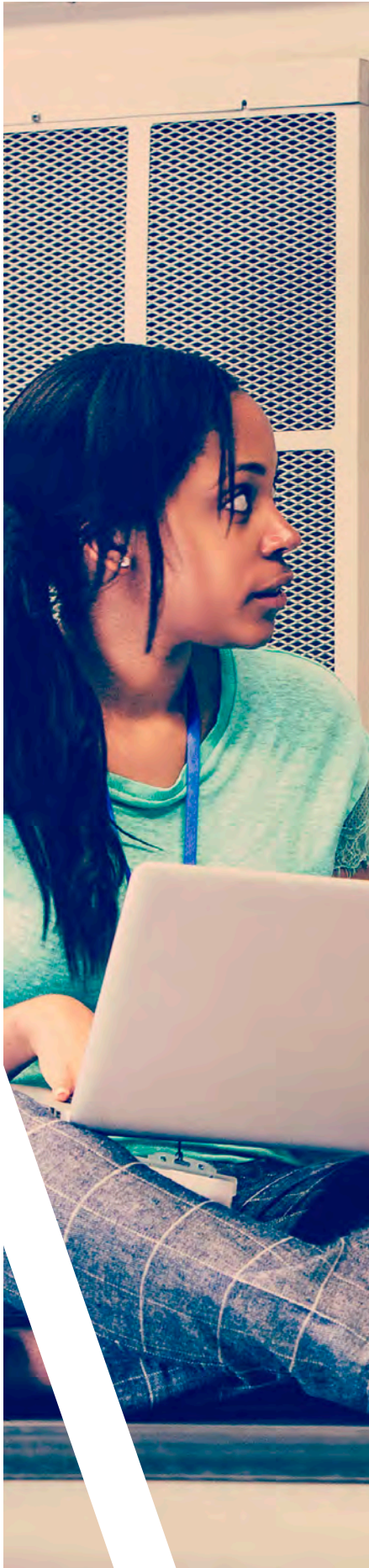
Technological University as chair. Together, they tapped their connections among educators, employers, and civic leaders to form the committee, which began trying out different ways to get parents, educators, and public officials working together to build a stronger pipeline from K-12 schools and local colleges into the regional economy. Support was immediate: "If you're in, we're in, Lillian," people told her.

A year earlier, in November 2010, Republican Bill Haslam, the very popular mayor of Knoxville, was elected governor of Tennessee, replacing term-limited Democrat Phil Bredesen. Bredesen threw himself and his administration into improving the state's educational performance—and reputation—after a 2007 U.S. Chamber of Commerce report gave Tennessee K-12 education a failing grade for "truth in advertising" of state standards, accountability, and performance. Bredesen organized the state agencies to compete for a federal Race to the Top grant. Tennessee was awarded one of the first two grants, bringing the state

a half billion dollars in exchange for a commitment to raise K-12 standards, strengthen accountability metrics, and address the problem of low-performing schools. In his final year, Bredesen turned to higher education, helping to secure passage of the Complete College Tennessee Act of 2010 that set goals for improved college completion and made changes in college funding, developmental education, and higher education transfer policies. In his last State of the State Address, Bredesen told legislators that, if he were able to serve a third term, he would have made higher education improvement a top priority.

Governor Haslam took the baton from Bredesen. Asking employers what it would take for them to relocate or expand operations in Tennessee, Haslam heard that the state needed a more qualified, well-trained workforce. In 2013, he launched Drive to 55, an initiative to increase the number of Tennesseans with postsecondary degrees or certificates to 55 percent by 2025, aligning the state's educational system with the needs of Tennessee's high-growth industries. Under Haslam's leadership, Tennessee has become a highly regarded model for other states, implementing creative strategies to significantly increase postsecondary access and success for recent high school graduates





and working adults. Haslam's legacy includes the Tennessee Promise and Tennessee Reconnect. The Tennessee Promise is a last-dollar scholarship, launched in 2014, that guarantees Tennessee high school graduates two years of technical or community college without tuition or fees—the nation's first statewide "free community college" program. The Tennessee Reconnect initiative, which in 2014 began offering adults an opportunity to attend Tennessee's Colleges of Applied Technology tuition-free, expanded in 2017 to include community colleges as well as technical training.

Late in 2011, Danielle Mezera left her job as the educational advisor to Nashville Mayor Karl Dean to see what it would be like to help drive education reform at the state level. On New Year's Day 2012, Mezera began her new position as Assistant Commissioner for College, Career and Technical Education in the Tennessee Department of Education. Although she didn't have much experience with the inner workings of career and technical education (CTE) policy or funding, she was certain that CTE in Tennessee had plenty of potential to improve. Her Nashville experience had impressed upon her the need to better connect high school students to both postsecondary learning and employer demand—and to make it easier to map efficient routes to decent careers. Mezera brought in a Nashville colleague, Casey Wrenn, to be her chief of staff. They began to plan in earnest how to use state policy and resources to drive reform across the state.

These three strands of activity—local organizing to strengthen the workforce pipeline, gubernatorial leadership to better link education programs and incentives with economic priorities, and state education policy reform to modernize CTE—took root somewhat independently in Tennessee. Over the past five to seven years, though, they have come together into a multipronged, synergistic campaign to improve the educational and economic prospects of Tennessee residents, both those coming out of K-12 schools and working adults looking to complete credentials and advance their careers.

Pathways Tennessee is a statewide effort to provide Tennessee students, starting in high school, with access to rigorous academic and career pathways aligned to local and state economic and labor market needs. Launched in 2012 by Danielle Mezera and her team at the Tennessee Department of Education, Pathways Tennessee's framework and strategy were greatly influenced by the then-new Pathways to Prosperity Network housed at the Harvard Graduate School of Education and Jobs for the Future. Lillian Hartgrove's Highlands Economic Partnership was one of the first two regional entities encouraged and supported by the state to implement Pathways Tennessee. As the effort has expanded across Tennessee's nine economic development regions, Pathways Tennessee has become increasingly integrated into Governor Haslam's Drive to 55 initiative.

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## Pathways to Prosperity: A National Network

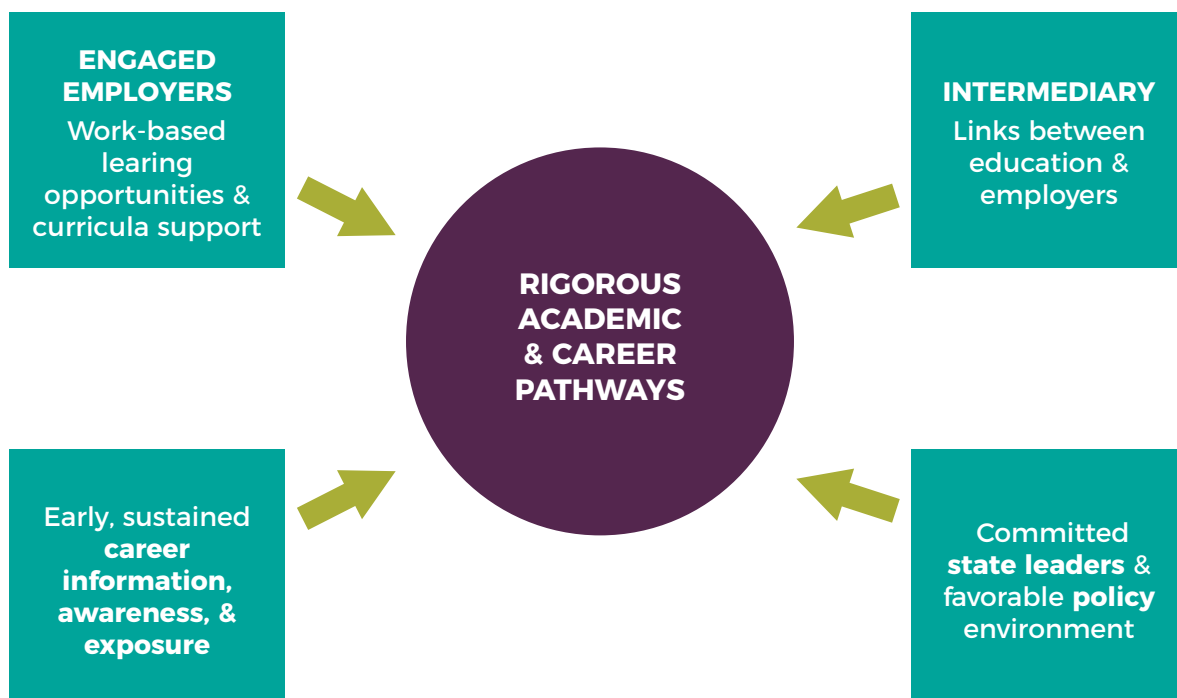
The national Pathways to Prosperity Network, an initiative of JFF and the Harvard Graduate School of Education, is a learning community of states and regions committed to developing college and career pathways, enabling students to transition smoothly through high school, into higher education, and on to family-supporting careers—particularly in high-demand sectors like information technology, health care, and advanced manufacturing.

Participating states and regions engage employers and educators in building systems of rigorous academic and career pathways designed to launch young people into initial careers, while leaving open the prospect of further education.

Efforts to build pathways are typically anchored in programs of study that span secondary and postsecondary education, with a focus on a specific high-demand industry and the courses and experiences needed to be prepared for

employment in that field. Schools offer early and sustained career information and advising systems. Employers provide a continuum of work-based learning opportunities. Intermediaries recruit business, nonprofit, and public employers as partners.

Tennessee was among six initial state members of the Network.



**“**

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The evolution of Pathways Tennessee offers lessons for innovators in other cities, regions, and states who want to build better aligned and more transparent pathways to college and careers for high school students. As one of the states that has gone furthest in implementing this high school-through-postsecondary career pathways model, Tennessee has learned through experience and trial and error about strategies for tackling important—and inevitable—design choices, resource challenges, and implementation dilemmas. These include lessons on:

- Balancing bold leadership and distributed authority
- The importance of both people and policy in making change
- How top-down and bottom-up strategies can be linked
- What it takes to break down policy and practice silos to create effective, sustainable regional partnerships

Pathways Tennessee leaders have also learned a great deal about how long regional or state-level change takes, how uneven this change often is, and the calibration of expectations for implementing a model relatively untested in the United States and built on the fly.

This case study is written to draw out lessons for Tennesseans invested in the different components of the statewide reform effort of which Pathways Tennessee is a part. It is also written for those in other states and regions working toward similar goals, so that the accomplishments and challenges of this state’s ambitious efforts are broadly disseminated and discussed.

## **Data on Pathways Tennessee at State and Regional Levels**

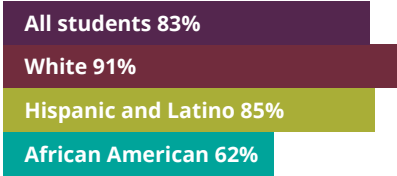
Pathways Tennessee has been built out at three levels: 1) state activity guided by the Tennessee Department of Education and a cross-agency state planning team; 2) regional infrastructure and partnerships; and 3) activities and pathways programs that change the student experience. Data on progress is incomplete and difficult to compile. A grant from JPMorgan Chase & Co.’s New Skills for Youth initiative is helping the state and regions collect more useful and integrated data on Pathways. For now, here are some markers that provide a provisional picture of state, regional, and student-level activities related to Pathways Tennessee.

### **State-level snapshot**

- 16 employer-led industry councils established
- New CTE programs established, including human resource management and cybersecurity in 2017
- New occupational certification approved in animal science; additional certifications planned in horticulture science, dietetics, and nutrition; and social health services



- Percentage of students who have access to high-quality learning pathways in high school (i.e., high school offers at least one of the priority career clusters of advanced manufacturing, health care, and information science):



- Percentage of high schools offering dual enrollment courses: 77%
- Percentage of students who are CTE concentrators (take three or more courses in a career cluster): Close to 40,000/year—nearly half the students in the 2016 graduating class

### Regional infrastructure progress

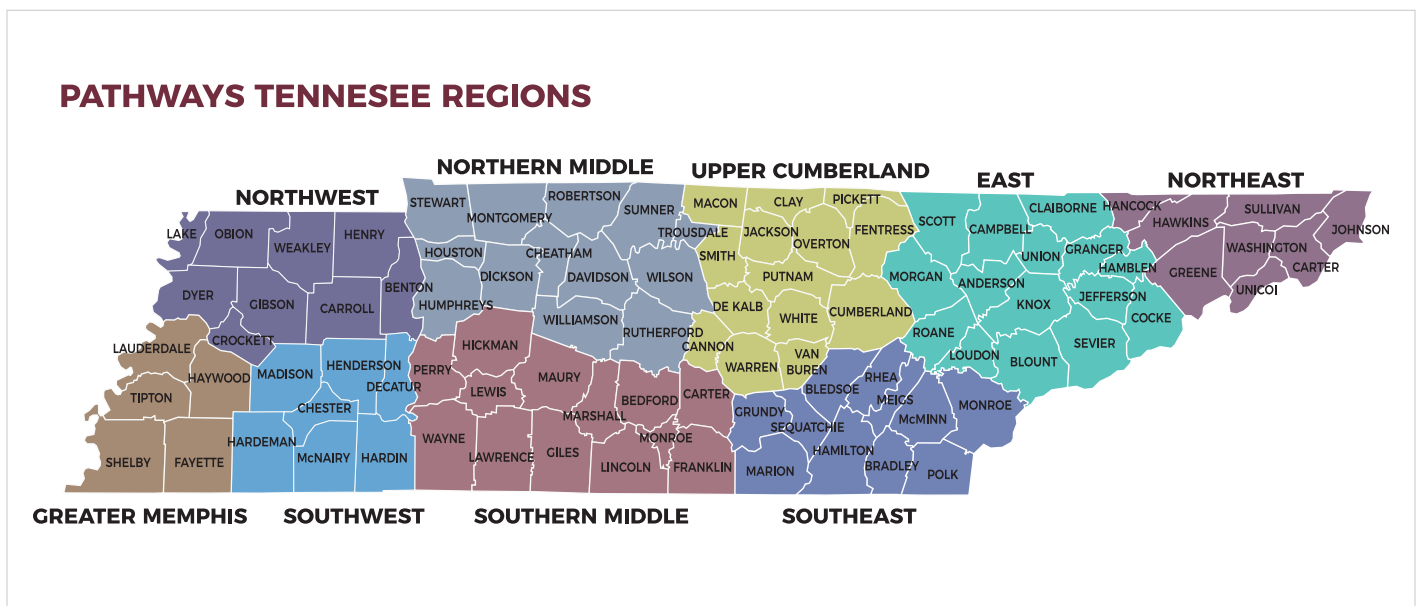
- All nine regions have been “mapped” for education and economic assets and needs
- Intermediaries have been selected in eight of nine regions and in one additional county (Rutherford)

- Three industry councils established in Upper Cumberland; five in Rutherford County

### Pathways-related activities enrolling students

- Career exploration activities: In Upper Cumberland, 3,400 seventh and eighth graders participated (unfortunately, data is unavailable on other regions or statewide)
- “Dual enrollment and other early postsecondary opportunities (ESPOs): More than 40% of 2015 Tennessee graduates had enrolled in at least one of eight EPSOs (including AP and dual enrollment); 19% of these had enrolled in a dual enrollment course
- Tennessee students enrolled in work-based learning capstone course: 7,219 from 2012 freshman cohort (75% of these were CTE concentrators)
- Tennessee students participating in the pilot work-based learning portal in 2016: 3,480 students, looking for matches with 1,600 participating employers

- Tennessee students earning an industry certification in 2015-16, as reported by CTE teachers: 2,160 (7% of CTE concentrators)
- Tennessee students who concentrated in a high-priority career cluster in 2016 (advanced manufacturing, health care, information technology) and completed a work-based learning capstone:
  - Advanced manufacturing: 153 (White: 137; African American: 16)
  - Health Sciences: 353 (White: 300; African American: 45)
  - Information technology: 285 (White: 218; African American: 62)





# ECONOMIC AND EDUCATIONAL PERFORMANCE IN TENNESSEE



**Tennessee's population of 6.6 million places it 17th among U.S. states, even though it is only 36th in size. With a population density twice the national average, Tennessee is characterized by great regional and metropolitan diversity.**

Four cities anchor large metro regions: Knoxville, Chattanooga, Nashville, and Memphis. Much of the state, though, is rural, with some of it quite mountainous and isolated. Settled by English and Scotch-Irish pioneers, Tennessee is 75 percent white, but Memphis, the state's largest city, is majority African American. The Hispanic population, though small, is the state's fastest-growing demographic group.

After the Second World War, Tennessee made huge strides in shifting from an agrarian and natural resource-based economy to one based on high value-added manufacturing. Pursuing a New South strategy of low taxes, wages, and cost of living, accompanied by active recruitment of large firms, by 1975 Tennessee boasted a manufacturing industry that employed a higher proportion of the state workforce than the national average. In the 1980s, Tennessee attracted huge new Nissan and Saturn car assembly plants. Related parts and equipment manufacturers followed. Transportation equipment and industrial and commercial

machinery became the state's second- and third-largest industries, respectively.

In the 1990s, Tennessee enjoyed stronger economic growth than the rest of the United States, building from its position as the third-largest manufacturing state. However, the momentum of the postwar period began to stall. Firms relying on low-skilled labor started to move overseas while more profitable firms invested in productivity-enhancing automation, raising the demand for higher-skilled workers in the modernizing manufacturing sector. Between 2000 and 2010, these broad trends combined with the Great Recession to reduce manufacturing employment by 36 percent.

Today, Tennessee's economy presents a mixed picture. The state is home to 23 of the Fortune 1000 firms, including FedEx, Dollar General, Eastman Chemical, and AutoZone.<sup>1</sup> The state's population and economy have both been growing faster than the national average. Labor force participation

is up; unemployment dropped to a record low of 3.4 percent in July 2017. In one study of the fastest-growing cities in 2016, five Tennessee cities landed in the top 25. In the past two years, Tennessee was recognized as first in the nation for advanced-industry job growth, first in direct foreign investment, and second in the growth of household median income.<sup>2</sup> Employment in education and health services and leisure and hospitality has jumped since 2000, though wages in these sectors are significantly below those in manufacturing.

Despite the state's growth, personal and family income levels are still relatively low: the 2015 median household income of \$47,275 was \$8,500 lower than the national average and put Tennessee in the bottom quintile of states.<sup>3</sup> In 2014, Tennessee was 45<sup>th</sup> in the nation in terms of the percentage of residents living below the federal poverty level (18 percent). Wealth and poverty are unevenly distributed. While some regions are booming, many Appalachian counties are depopulating and exhibit little economic vitality. Other communities, like Shelby County, which includes Memphis, are characterized by stark extremes of poverty and affluence.

While some sources argue Tennessee is one of the healthiest state economies, others argue



it is one of the weakest. The conservative American Legislative Exchange Council rated Tennessee the fifth-strongest in the nation in 2017, up from seventh the prior year, based on its assessment of 15 policy variables emphasizing low tax burdens, competitive wages, and a pro-business regulatory climate.<sup>4</sup> The State New Economy Index of the Information Technology and Innovation Foundation—based on 25 indicators of the extent to which state economies are “knowledge-based, globalized, entrepreneurial, IT-driven, and innovation oriented”—ranked Tennessee 32<sup>nd</sup> in the nation in 2017.<sup>5</sup> The difference between these two positions hinges on what the source argues makes a state competitive in today’s global environment.

In anticipation of a more skill-driven economic environment, Tennessee has worked to improve educational outcomes significantly and leapfrog other states that tend to accompany it near the bottom of state performance rankings. Progress has been impressive.

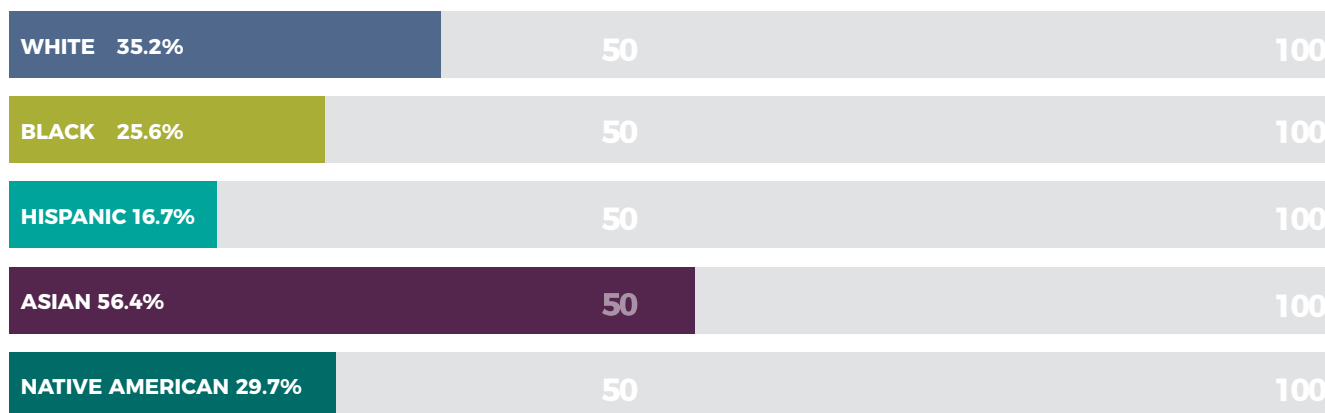
Tennessee’s high school cohort graduation rate was 89 percent in 2017, placing it 11<sup>th</sup> highest in the nation and second among the Southern Regional Education Board’s (SREB) 16 member states.<sup>6</sup> The graduation rate has risen 3.6 percentage points since the 2010-11 school year.<sup>7</sup> Since 2011, Tennessee’s fourth- and eighth-grade National Assessment of Educational Progress (NAEP) scores in math and reading have risen faster than those of any other state.<sup>8</sup> Eighth-grade reading scores have climbed above the national average; math scores are only three points below the national average.

There is still a long way to go. Scores on the ACT exam—which is taken by all Tennessee juniors—are lower than the national average, and Tennesseans score lower on all ACT subject exams than test takers from other SREB states.<sup>9</sup> And while enrollments in public higher education rose during the recession and again in the first year of implementation of the Tennessee Promise, graduation rates have

been flat in community colleges and have edged up only slightly in four-year institutions during the past decade.<sup>10</sup>

According to the U.S. Census, Tennessee has not yet turned the corner in addressing a very significant skills gap: in 2015, only 25 percent of Tennessee residents age 25 or older held a bachelor’s degree, well short of the 58 percent of jobs projected to require a bachelor’s degree in the next few years.<sup>11</sup> As the table below indicates, associate’s and bachelor’s degree attainment rates vary greatly by race and ethnicity, perpetuating the economic and racial disparities that already exist within the state. The supply of educated and skilled workers is not sufficient to meet the needs of the evolving state economy, which could constrain growth in industries and occupations projected to grow across Tennessee in the years ahead.

### BACHELOR’S AND ASSOCIATE’S DEGREE ATTAINMENT RATES AMONG TENNESSEE RESIDENTS (AGES 25-64), BY POPULATION



Source: Lumina Foundation, [https://www.luminafoundation.org/files/publications/stronger\\_nation/2015/tennessee-brief-2015.pdf](https://www.luminafoundation.org/files/publications/stronger_nation/2015/tennessee-brief-2015.pdf)



# MODERNIZING CTE: PATHWAYS TENNESSEE AS A STATEWIDE STRATEGY \ \ \ \ \ \ \ \ \ \

**When Danielle Mezera took over the CTE division of the Tennessee Department of Education, she set out to end the marginalization of CTE and “to enable it to be what it should always have been: vertically aligned with and reflective of the expectations of both postsecondary institutions and of employers and the labor market.”**

Mezera felt repositioning CTE would enable students pursuing a career-related concentration to meet the same rigorous standards as other Tennessee high school graduates and give them a leg up on their peers in terms of college and career preparation and trajectory. But for this to happen, new relationships would need to be developed at the local level among K-12 systems, local technical schools and community colleges, and key employers and their industry-based organizations.

Mezera and her division would also have to design and implement the appropriate state roles to encourage and support this repositioning. Mezera requested that the CTE division be allowed to add an Office of Postsecondary Readiness and Early Postsecondary. State Education Commissioner Kevin Huffman approved the change,

giving Mezera oversight of the only office in the Tennessee Department of Education explicitly linked to postsecondary partners.

A few months later, Mezera and Huffman hosted a meeting at Volkswagen’s plant in Chattanooga to discuss the role of industry in education. The meeting featured Bob Schwartz, co-founder of JFF and the Harvard Graduate School of Education’s Pathways to Prosperity Network, who introduced a new national effort to encourage states to improve pathways into high-demand industries. “I left that meeting thinking: ‘This makes sense for Tennessee.’ This is what I wanted to create,” explained Mezera. She had been sharpening her ideas for a statewide CTE reform campaign: rigorous coursework; industry certifications with value in the labor market; early and effective career

exposure; and guidance to help students understand their options and choose among clear pathways into postsecondary programs and, ultimately, careers.

“There was nothing in the DNA of our division that was not in the DNA of the Pathways model—and vice versa,” explained Mezera. Commissioner Huffman and Mezera pled Tennessee’s case to join the fledgling Pathways to Prosperity Network. In their justification for Tennessee’s inclusion, they laid out a vision of a statewide system of rigorous CTE integrated with core academic standards and learning, aligned with postsecondary credentials and with robust supports for work-based learning experiences. Tennessee’s application was accepted; Mezera had the framework she was looking for.

Her first step was hiring a full-time staffer to build out Pathways Tennessee. Without a dedicated staffer working to make it happen, Mezera believed, the effort would not develop sufficient momentum and notice within state government. Nor would practitioners feel that the state was serious about doing things differently.

Nick Hansen was working for a startup distillery in Nashville when he heard about the new position. He thought his business-oriented background and startup experience would be a good fit. He liked the emphasis on counseling, employer outreach, and figuring out how to leverage state policy to support local change. Mezera hired Hansen in 2012. According to Hansen, “We had an idea more than we had a strategy. But we knew we wanted to move beyond a standalone project, beyond the stigma of CTE and even of K-12 education, to something that made sense to other agencies, to employers, and to community leaders focusing on economic growth.”

Mezera and her team launched an ambitious three-phase campaign to modernize CTE in Tennessee and integrate it with general and academic education. In Phase I, they reorganized the state’s CTE “program areas” to align with 16 nationally recognized CTE career clusters and related labor market data so that the new program areas responded to the state’s economic needs rather than the legacy and interests of CTE faculty and administrators. Phase II involved a painstaking, detailed revision of standards for each program of study, ensuring that each prepared graduates for both college and careers. Phase III, involving the development of course exams for CTE programs, is currently in development. In addition, the team dramatically redesigned the state’s work-based learning policies so that student experiences in the workplace would add value and reinforce in-demand technical and professional skills.

When Mezera’s tenure began, Tennessee’s CTE programs were organized into seven overly broad program areas, such as trade and industry, agriculture, and health sciences. Program areas didn’t line up well with regional postsecondary programs of study nor employment opportunities. Over the years, high school programs multiplied rapidly, numbering over 200. Courses were duplicated in inefficient ways: welding might be offered in architecture, but also in trade and industry. According to Heather Justice, former executive director of the Office of Career and Technical Education, “We did a full scrubbing of all the courses to identify duplications and gaps.” They retired programs (such as two- and four-cycle engines) that had no postsecondary program to link to and no demand from the field. Realizing that Tennessee had no program of study in government and public administration, they undertook a statewide analysis of need and opportunity, and then designed and created a new program. They collapsed programs that differed by one or two courses and ultimately reduced the 212 approved programs of study to fewer than 70. Most importantly, they decided to group programs under the 16 nationally recognized career clusters, a tested framework that aligns more easily with postsecondary technical programs.

The team then proceeded to establish content standards for over 300 individual CTE courses taught across Tennessee. To accomplish this, they used a backward mapping process, beginning with the skills and knowledge students were expected to learn in a four-course sequence, and then deriving

standards for each course as it aligned with the rest of the sequence. Literacy, numeracy, critical thinking, and other core academic skills were embedded in the CTE courses. The process took three years. It is now repeated annually to ensure that standards stay rigorous and relevant.

Mezera and her team saw in this painstaking process an opportunity to change the relationship between core academics and CTE. Traditionally, for example, CTE science courses did not qualify as general education science courses in Tennessee high schools: schools might offer both a CTE version of anatomy and physiology and a general education version. Heather Justice and Casey Wrenn began meeting regularly with their peers focused on general education at the Tennessee Department of Education, committed to raising CTE course rigor and eliminating disparities across courses. Today, statewide, 17 CTE courses also qualify as general education courses, meeting graduation requirements for science, social studies, and fine arts.

Not surprisingly, a number of long-time employees within the CTE division were uncomfortable with the new direction. Some were wary of any change. Others did not believe that CTE students could succeed in an environment of higher standards and argued for “protecting their students” through lower expectations. Mezera made a number of personnel decisions designed to bring new energy and flexibility to the division: “It wasn’t pleasant, but the changes had to be made. We ripped the band-aid off as quickly as we could.”



Mezera had full support from Commissioner Huffman; when the current commissioner of education, Candice McQueen, took over in 2015, Mezera made sure she was comfortable with their direction and approach. One reflection of that support was the decision to change the Division of Career and Technical Education to the Division of College, Career and Technical Education.

At the school and district levels, some faculty were afraid they would lose courses they enjoyed teaching or lose their jobs altogether. Family and consumer science instructors were particularly concerned that the changes would “take fundamental life skills away” from those who were not college bound. Mezera and her staff stood firm. According to Casey Wrenn, “We told them that all graduates will need these skills, even stay-at-home moms. Our public responsibility was not just to get students to walk across the stage but to prepare them for the postsecondary learning they would

need to have more choices and be successful.”

Another piece of the reform agenda was to redesign the delivery of work-based learning for Tennessee high school students: creating learning experiences at workplaces or using work situations to advance students’ development and mastery of in-demand workplace skills. The statewide policy in place when Danielle Mezera joined the Tennessee Department of Education was too much about the logistics of “checking students out of school for the afternoon,” according to Chelsea Parker, whom Mezera hired to be the executive director of work-based learning.

By statute, the Tennessee Department of Education oversaw the provision of work-based learning and the training of work-based learning coordinators. Mezera and Parker appreciated the challenges of scheduling work-based learning opportunities and training

coordinators, but they saw a deeper problem. No one was asking what students who engage in work-based learning should actually be expected to learn as part of their CTE programs—and how anyone would know whether they were learning or not. “We decided to flip the script,” says Parker.

They defined the transferable skills they thought should be learned through work experiences and the kinds of connections to adults that students should develop. They promoted policy changes that would encourage early industry engagement with districts in planning work-based learning activities, from industry tours to job shadows to capstone experiences such as internships, clinicals, and practicum experiences for credit.

The state Board of Education adopted a Work-Based Learning Framework in 2015 to govern all work-based learning experiences; the Tennessee Department of

**“ Enrollment in capstone courses has increased steadily since the revitalization of the state policy, climbing from under 6,000 in 2003-14 to over 8,000 two years later. ”**

Education revised its policy guide to align with the new framework, setting clear expectations for district efforts, student experiences, and learning outcomes. The framework specified state support for regional Pathways Tennessee efforts and industry engagement. It emphasized the alignment of student work-based learning experiences with programs of study so that technical and employability skills could be learned in context. Districts are free to meet the new standards as they see fit. The Tennessee Department of Education has beefed up its data collection system for tracking work-based learning availability and access across the state so that it can make good on its goal of “developing 21<sup>st</sup> century skills through work-based learning experiences.” Enrollment in capstone courses has increased steadily since the revitalization of the state policy, climbing from under 6,000 in 2003-14 to over 8,000 two years later.

Danielle Mezera wanted to position Pathways Tennessee as a cross-sector initiative: “We never wanted Pathways to be an appendage to one agency. That is how these things go away. It had to be more central.” Early on, she advocated for a state planning team outside the Tennessee Department of Education to engage other relevant state agencies. By winter 2012, that group was in place and meeting regularly. It included high-level decision makers from the Tennessee Departments of Economic and Community Development (TNECD), Labor and Workforce Development, and Education, as well as the Tennessee Higher Education Commission, the

Tennessee Independent Colleges and Universities Association, the Tennessee Board of Regents, the State Board of Education, the Governor’s Office, the Tennessee Business Roundtable, and an influential statewide education advocacy group called SCORE (State Collaborative on Reforming Education).

The planning group focused first on information sharing and on common definitions and language that would be used by all partners. They did not go immediately to questions of resources. According to Mezera, “From the beginning, we wanted to secure agreement from stakeholders that they would work together, not just get together and ask things of each other. We wanted to weave Pathways Tennessee into the day-to-day workings of the education department and its sister agencies.” The strategy was to make it hard for future policymakers to unwind Pathways because its definitions, standards, and priorities would be cooked into many agencies’ plans.

Local planning and execution was organized according to TNECD’s nine economic development regions. The Tennessee Department of Labor inserted the Pathways definition into its state plan for use of federal workforce dollars. Department leaders instructed local workforce boards to participate in regional Pathways conversations and, where possible, to align funding to their efforts. The Tennessee Board of Regents moved to require that proposals for new technical associate’s degree programs demonstrate the proposed program’s workforce relevance and map out how employers would be



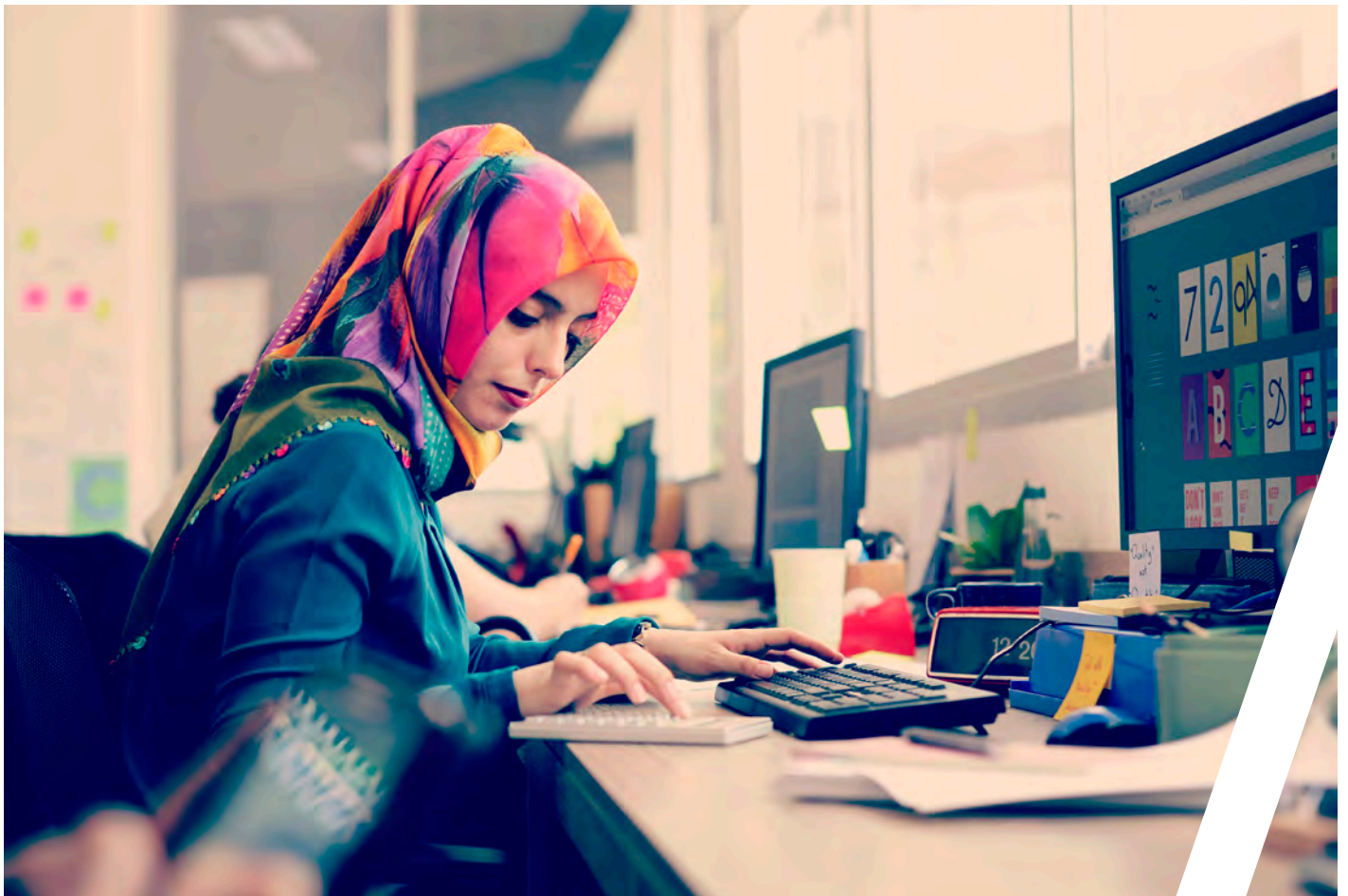
engaged in program planning and delivery. Although the planning team met quarterly, informal conversations across agencies became routine. According to Ann Thompson, director of workforce development for TNECD, “We broke down the divides and built a team mentality. We drove toward a culture change within state government. Everyone at the table signed on.”

While CTE reform was in motion and the Pathways approach to engaging employers in high-demand industries was developed at the state and regional levels, Governor Haslam used his 2013 State of the State address and budget to launch the Drive to 55, designed to increase college credential completion so that Tennessee’s economy could

continue to grow and attract good employers. His leadership—and specific policy actions by the governor and the legislature—improved the environment for Pathways implementation. “The governor moved the goalposts for us by focusing so intently on postsecondary success,” explains Casey Wrenn. “But since CTE was the only division of the Department of Education that was connected to and focused on postsecondary success, we were well positioned to take advantage.”

Commissioner McQueen recently appointed Lyle Ailshie, a long-time school superintendent in Kingsport and Greeneville in Northeast Tennessee, deputy commissioner. Ailshie is responsible for both the Division of College, Career, and

Technical Education (including Pathways) and the Teachers and Leaders Division, responsible for improving teacher preparation in the state. This position is an opportunity Ailshie is excited about. “We know that our state will succeed by getting more young people into and through pathways to good jobs in high demand in our state,” says Ailshie. “Pathways Tennessee has mobilized some of the most talented Tennessee employers, educators, and civic leaders into partnerships that can make a difference for our students and communities. We are committed to figuring out how we can continue to support this work, align it with other important initiatives, and increase access to good pathways across the state, in cities and towns, large and small.”



# ALIGNING PATHWAYS TENNESSEE WITH THE GOVERNOR'S DRIVE TO 55 \ \ \ \

**When Governor Haslam launched the Drive to 55 to increase college degree or certificate attainment to 55 percent of Tennesseans by the year 2025, he emphasized the link between postsecondary credentials and current and future workforce and economic needs: “We want Tennesseans working in Tennessee jobs. We want Tennesseans to have an opportunity to get a good job and for those in the workplace to be able to advance and get an even better job.”**

Haslam pointed to several areas of weak performance: the more than 20,000 high school graduates each year who chose not to continue on to college; the nearly 70 percent of new community college students who entered college not ready for college-level work; and the almost one million residents of the state who had some college credits, but no credential. To get from 32 percent to 55 percent of state residents having a college credential, significant progress would be needed for both recent high school graduates and working adults.

According to Richard Rhoda, then-executive director of the Tennessee Higher Education Commission, “[Governor Haslam] got buy-in early on. He named a special advisor for higher education [businessman Randy Boyd, who later became commissioner of TNECD and is now running for governor]. Boyd served for a year, crossing the state meeting with not only educators, but the business community, the nonprofit sector, to talk about the need to increase educational attainment.”

The centerpiece of the new initiative is the Tennessee Promise, the scholarship and mentoring

program created to provide all Tennessee high school graduates with a guarantee of free tuition and no mandatory fees at any of the state’s 13 community colleges or 27 Tennessee colleges of applied technology (TCATs). The Promise is a last-dollar scholarship that kicks in after Pell Grants, state HOPE Scholarships, and any other government aid. To be eligible, high school students need to meet a series of milestones in their senior year, including completing the Free Application for Federal Student Aid (FAFSA) and attending several college-going mentoring sessions. To remain eligible, students must maintain satisfactory academic progress once enrolled in a postsecondary program and perform at least eight hours of community service each term.

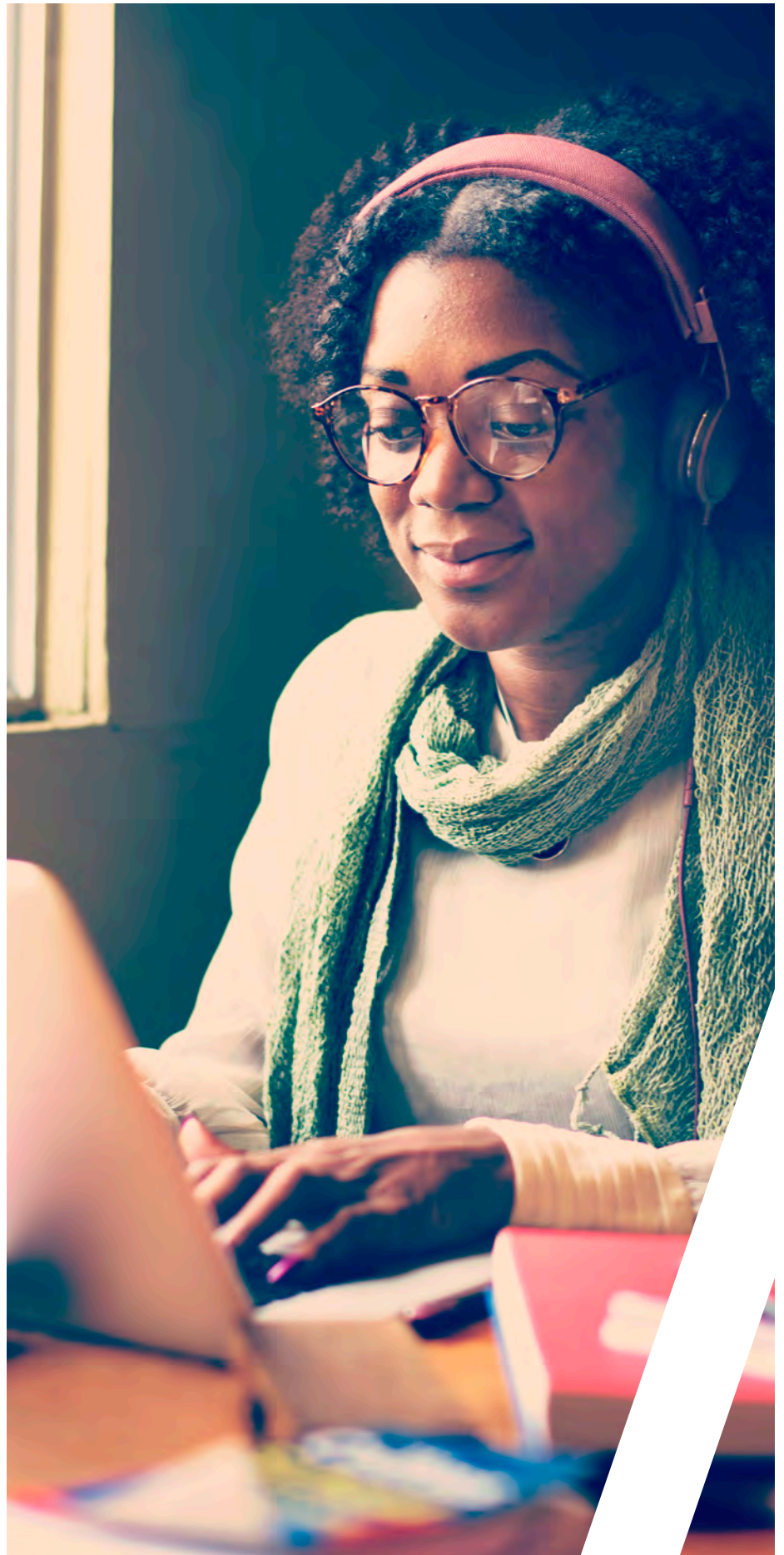
## **Tennessee’s Community Colleges and Colleges of Applied Technology**

Tennessee’s public postsecondary institutions include a flagship research institution (the University of Tennessee), a number of regional four-year state universities, two-year community colleges, and Tennessee Colleges of Applied Technology (TCAT) that specialize in technical certificates and diplomas. The

community colleges and TCATs are critically important to the Pathways effort. Pathways Tennessee was not created as a high school reform effort but as a system-bridging initiative.

Tennessee's state government is intent on improving the alignment of high school, TCATs and community colleges, and four-year public institutions. Beginning in 2010, there have been significant changes in Tennessee's education policies. The Complete College Tennessee Act of 2010 called for the transition of 13 locally governed community colleges into a statewide system of coordinated programs and services. The Act also called for mutually beneficial relations between the community colleges and TCATs so that community college courses could be offered at TCATs and TCAT certificates could be offered at the community colleges. Across the state, improved relationships between these two systems are proceeding at different paces, with cooperation and competition both in play as TCATS and community colleges reposition themselves in a changing educational market.

In general, TCATs have traditionally served adult workers looking to upgrade skills or change careers. Their credentials and credits do not transfer to four-year college programs. Community colleges have been geared more toward transfer than technical programs and partnerships with employers. Pathways Tennessee found it easier to partner with TCATs initially, given the potential for alignment between high school CTE and TCAT technical offerings. However, the new Tennessee Promise and Tennessee Reconnect programs are changing





## Tennessee Colleges of Applied Technology, Community Colleges, and Pathways

**TCAT:** There are 27 TCATs across the state that offer certificate and diploma programs in over 60 distinct occupational fields. The open entry/open exit programs typically require 2,100 hours of classes, offered in a five-day-a-week, 8:00 a.m. to 3:00 p.m., full-time program. TCATs tend to serve working adults; the average student is about 27. High-enrollment programs include: Administrative Office Technology, Machine Tool Technology, Practical Nursing, Welding, and Automotive. Because of the program length, occupational focus, and bias toward full-time enrollment, TCATs have a very high success rate: about 80 percent complete and about 86 percent of those find employment in their field of study.

However, TCAT capacity is small: only about 20,000 students enroll annually, about 5 percent of postsecondary enrollment in the state. More than 50 percent of TCAT costs are subsidized by the state. The state wants to expand TCAT enrollment and has launched new initiatives to encourage increased enrollment. Tennessee Reconnect is a last-dollar scholarship for adults over 25 with some college who want to complete credentials. The Labor Education Alignment Program (LEAP) helped deepen TCAT

collaborations with high school CTE programs in high-demand fields. And Pathways Tennessee has boosted enrollment of recent high school graduates in several TCATs.

**Community College:** Tennessee's 13 community colleges serve 87,000 students annually, about one out of four postsecondary students in the state's public and private institutions. The most common majors are liberal arts, the health professions, business, and engineering. Because the state has invested less per student in these institutions than in the TCATs, tuition and fees are a comparatively high \$3,800 a year. First-time, full-time students have a six-year graduation rate from their original institution of 28 percent. However, 89 percent of students who do graduate are employed within a year.

Compared to the TCATs, community colleges in Tennessee have been more focused on transfer than on technical programs. However, community college linkages with high schools are becoming stronger as a result of the Tennessee Promise and incentives for dual enrollment and other early postsecondary opportunities (EPSOs).

some of the incentives and patterns of collaboration at the local level.

In 2016, at the governor's urging, the state legislature restructured the Tennessee Board of Regents. Four-year schools are no longer under the Board of Regents' authority and will now be independent and locally governed. The Tennessee Board of Regents will focus on TCATs and community colleges and ways to better align their programs, standards, and relationships with K-12 and four-year transfer institutions.

While the Tennessee Promise has received significant attention nationally and has been the inspiration for similar programs in a number of states, there is more to the Drive to 55. There are five pillars: get students ready; get them in; get them through; reconnect adults; and partner with industry. For young people, the state launched Advise TN to fund the provision of additional counseling and college and career advising services for students during their junior and senior years of high school. Advise TN was launched on a pilot basis and there are plans to

extend the program to additional schools and young people in the years ahead. For adults who want to return to college and earn a credential, regardless of income or past academic performance, the state offers Tennessee Reconnect, which enables adults to attend and earn a certificate free of tuition and mandatory fees at any of the state's community or technical colleges.

Another component of Drive to 55 is the Labor Education Alignment Program (LEAP). LEAP was not originally a gubernatorial initiative, but has since been folded into Drive



to 55. Its origins were in a meeting that Senate Majority Leader Mark Norris (R-Collierville) attended with representatives from TNECD, the multinational firm Unilever, and the TCAT in Tipton County, where Unilever was planning to expand operations. Unilever complained that its search for 400 new employees who could work with robotic machines netted 10,000 applications—but only 35 qualified applicants. Senator Norris convened a sidebar conversation among TNECD staff, TCAT representatives, and Unilever about whether the workforce problem could be fixed. He became convinced that the key interests—the employers, the educational institutions, and the state—were not having the right conversations at the right time. Norris and Representative Gerald McCormick of Chattanooga introduced a bill “that would make these people talk with each other,” according to his senior policy advisor.

The vehicle for those conversations was a multi-million dollar grant program that required interested communities to develop a framework for regional partnerships to address specific skills gaps experienced by local employers. Partners would need to include local TCATs, community colleges, industry, workforce development boards, and K-12 educators—particularly those associated with CTE—in the new framework. In 2014, the first round of grants, totaling \$10 million, funded 12 proposals, targeting advanced manufacturing, mechatronics, information technology, and career readiness. Two years later, a second round of \$10 million in grants focused on advanced manufacturing and health care. It also prioritized

work-based learning for students benefiting from these partnerships: funds in this round could be used to reimburse private employers for up to 50 percent of wages paid as part of a work-based learning program.

For the CTE division and the Pathways Tennessee team, LEAP was a critically important accelerant. The Governor’s Workforce Subcabinet, composed of commissioners and staff from the state agencies represented on the Pathways state leadership team (plus the Tennessee Department of Human Services), was given responsibility for reviewing LEAP proposals and making grants. More importantly, LEAP was a vehicle for convening regional partnerships so they could secure funding for expensive, sophisticated equipment for their high schools and postsecondary institutions, especially the TCATs. LEAP enabled regions to upgrade their training programs to meet industry needs and to redesign education pathways resulting in credentials and employment in high-demand occupations. Ten of the 12 first round grants went to stakeholders working directly with Pathways Tennessee.

While they were the most publicized and promoted pieces of the state strategy, the “branded” elements of Drive to 55—Tennessee Promise, Tennessee Reconnect, LEAP, and Advise TN—were augmented by additional state-level efforts designed to increase educational attainment in Tennessee. The Tennessee Board of Regents took on significant work to simplify and make more transparent transfer pathways in high-volume majors from two- to four-year public institutions.

State leaders are also tackling remediation, a common barrier to postsecondary completion. Seamless Alignment and Integrated Learning Support (SAILS) is a computer-mediated math program that offers the community college developmental math curriculum to underprepared high school seniors, so they can be ready for college-level work. Created by Chattanooga State Community College for use with its feeder high schools, SAILS is now available across all 13 community colleges. Over 17,000 high school seniors took advantage of SAILS in 2015-16, about half of those students who had not yet met the state’s college-readiness benchmarks.

Although definitive research has not yet been completed, SAILS appears to be contributing to a reduced need for remediation (in combination with the spread of co-requisite remediation strategies in the community colleges): between 2011 and 2015, the percentage of first-time freshman needing remediation in math in Tennessee dropped from 71 to 55 percent. Given statewide enthusiasm for the program, a new English skills version has been developed and is being piloted.

In addition, the Tennessee Board of Regents implemented in 2015 a statewide policy of co-requisite remediation through which students in all 13 community colleges enroll in credit-bearing required courses—as opposed to non-credit developmental education courses—and receive additional learning support. The model reduced costs while simultaneously increasing pass rates in required college courses: from 12 percent to 51 percent in college-level math courses and from

**“ Tennessee data demonstrated that adding early college credit opportunities in high school narrowed the college enrollment gaps between economically disadvantaged students and their wealthier peers... ”**

31 percent to 59 percent in college writing courses.<sup>13</sup>

The state’s commitment to promoting dual enrollment, dual credit, and other early postsecondary options (EPSOs) statewide was another key component of the overall effort to increase postsecondary enrollment and credential attainment. Tennessee data demonstrated that adding early college credit opportunities in high school narrowed the college enrollment gaps between economically disadvantaged students and their wealthier peers (holding academic performance constant): nearly 75 percent of economically disadvantaged students who took an EPSO enrolled in postsecondary education, higher than the percentage of economically disadvantaged students who did not enroll in an EPSO (42 percent) and non-economically disadvantaged students who did not take an EPSO (66 percent). Researchers also found that students who scored relatively low on the ACT test were more likely to go on to postsecondary if they had a college course in high school than their peers who did not.<sup>13</sup>

Legislation introduced in 2010 required the state to rationalize and systematize its offerings of EPSOs. In 2016-17, more than 26,000 Tennessee high school students were dually enrolled in at least one college course, a 57 percent increase from 2011-12.<sup>14</sup> The state uses lottery funds to subsidize a Dual Enrollment Grant program, which offers 11<sup>th</sup>- and 12<sup>th</sup>-graders \$500 toward the cost of each of a student’s first two community college courses and offers smaller awards for courses beyond the first two. Students who dually enroll at TCATs receive a grant of up to \$100 per clock hour.

The maximum Dual Enrollment Grant award per student per year is \$1,200, and students who dually enroll in more than four courses are subject to dollar-for-dollar reductions in subsequent HOPE Scholarship awards.

For the Pathways Tennessee team, college attainment and the Pathways initiative were part of the same overall strategy. As Casey Wrenn explains, “The Tennessee Promise, dual enrollment and EPSOs, SAILS, and a reduced need for remediation, along with our work raising CTE standards, were all going to increase the odds of students going to college. LEAP, the straightening out of CTE programs of study, and Pathways partnerships were going to make it easier for them to find their way to and through college into good careers.”

Although Pathways Tennessee fit neatly into Governor Haslam’s larger college attainment strategy, he did not brand it publicly as part of Drive to 55. The reason is unclear: perhaps it was because Pathways was initiated by the Tennessee Department of Education, rather than the Governor’s Office, or because it was part of a national initiative. Although Mezera and her team would have preferred that Governor Haslam promote Pathways more actively, she always felt that the Governor’s Office was highly supportive and a representative of the governor participated actively on the Pathways state leadership team. Mezera believed that with or without gubernatorial branding, Pathways Tennessee could be sustained if her team were dogged about staying in the conversation at the state level and maintaining strong cross-agency connections.

So far she has been proven right. In 2015, the Tennessee Department of Education issued its five-year strategic plan, titled Tennessee Succeeds. In that plan, Pathways Tennessee is not mentioned specifically. But the plan states, “Districts and schools in Tennessee will exemplify excellence and equity such that all students are equipped with the knowledge and skills to successfully embark upon their chosen path in life.” One of the five priority areas is “high school and the bridge to postsecondary.” The strategies highlighted for the next five years include two Pathways priorities: expanding the number of high school students earning early postsecondary credits and industry certifications, particularly in partnership with TCATs, and more robust and effective career and college counseling in middle and high school.

Pathways Tennessee’s growth and sustainability has also been aided by timely funding from New Skills for Youth, a national initiative funded by JPMorgan Chase & Co. and led by the Council of Chief State School Officers. In 2016, a planning grant enabled the state to complete regional asset mapping and then put together an action plan for regional expansion and equitable access to Pathways programs for underrepresented populations. In 2017, Tennessee was one of 10 states nationally to receive a two-million-dollar, three-year New Skills for Youth grant to strengthen its career-focused education programs from middle school through postsecondary credential programs in high-demand fields. This investment has enabled the state to continue to build out the Pathways infrastructure at the state

and regional levels so that Pathways becomes more fully integrated into the state’s high school learning model. The investment has also helped accelerate the collection of relevant baseline and progress measures so that Pathways Tennessee will be better positioned to make its case for sustainable support from the state over time.

In March 2016, Commissioner of Education Candice McQueen announced the formation of the Career Forward Task Force, charged with exploring ways to improve high school students’ academic and workforce readiness and identifying “actionable recommendations that reflect the strong integration of secondary, postsecondary, and workforce readiness into K-14/16 education.” Thirty-six task force members representing K-12, higher education, industry, nonprofits, state agencies, local and state elected officials, advocacy groups, parents, and students met six times. They crafted and agreed upon a definition of a “career-ready student”: “In Tennessee, career-ready students are those who graduate K-12 education with the knowledge, abilities, and habits to enter and complete postsecondary education without remediation and to seamlessly move into a career that affords them the opportunity to live, work, and sustain a living wage.”<sup>15</sup>

Many Task Force members were active on the Pathways state leadership team or with regional Pathways partnerships. The Task Force settled upon 23 specific recommendations related to incentives, resources, technical assistance, and rules.<sup>16</sup> The recommendations pinpointed



state actions that would promote academic-technical pathways for jobs in high demand in particular regions; K-12/postsecondary program alignment at the state and regional levels; work-based learning and incentives for employer participation; early career advising; dual enrollment; and the definition and measurement of employability skills.

The Career Forward Task Force advanced the agenda that the Tennessee Department of Education’s College, Career, and Technical Education Division and its Pathways Tennessee initiative had been developing since 2012. The point person, handpicked by Commissioner McQueen, was her assistant commissioner for college and CTE, Danielle Mezera.







# REGIONAL IMPLEMENTATION: LESSONS FROM PATHWAYS PIONEERS



**Legislation, agency policies, and gubernatorial support have all have been critical to the evolution of Pathways Tennessee. Other states should study Tennessee’s aggressive efforts to improve education outcomes and tie them to economic engines across the state.**

Ultimately, though, the changes in individual experiences and career trajectories that the state wants to see depend upon planning and implementation at the community and regional levels. There is no reform without changes in programs, courses, and students’ curricular and extracurricular experiences.

Pathways Tennessee was designed as a statewide effort from the outset but implementation has been rolling out a few regions at a time. This strategically staggered implementation allows regions with favorable readiness conditions to serve as pilots for the rest of the state, and lessons from their experiences can help other regions leapfrog their predecessors in design and implementation plans and activities.

The experience of the first two regions to begin implementation—Upper Cumberland and Southeast—is instructive. Their early progress underscores four important themes:

1. The importance (and difficulty) of building strong regional partnerships
2. The critical importance of organization, infrastructure, and venues for regional planning
3. The variability of regional priorities and capacity
4. The need to balance opportunism with long-term strategy in implementation, so that Pathways efforts can get traction, build momentum, and reach target populations

Important lessons can also be drawn on how to structure interactions between the state and

regions so that they are mutually strengthening.

In Tennessee’s 2012 application for acceptance into the national Pathways to Prosperity Network, Commissioner of Education Kevin Huffman identified the Southeast and Upper Cumberland regions for initial study and preliminary planning.

Both regions, blessed with strong assets in leadership, industry, and postsecondary institutions, were already engaging economic and education leaders on ways to improve career opportunities for young people in high-growth local industries. For example, Commissioner Huffman convened a CTE summit at Volkswagen’s new Chattanooga plant in the heart of the Southeast region. The Highlands initiative had also held two Economic Development Summits, bringing together key stakeholders in the Upper Cumberland region around strengthening technical education.

At the same time, the two regions were very different in their histories, populations, urban/rural mix, and industrial bases. A careful mapping of the economic, educational, and collaborative assets of each region,

conducted in the summer of 2012 by Jobs for the Future, identified the strengths and the challenges facing each region. In each community, the process helped to accelerate local action and to identify innovators and institutions with capacity and credibility. The process also highlighted gaps in educational, economic, and civic infrastructure that would need to be overcome.

## **Two Lead Regions: Upper Cumberland and Southeast**

**Upper Cumberland** is a predominantly rural region of 14 counties between Nashville and Knoxville in Middle Tennessee. The largest city, Cookeville, has 31,000 residents and is the seat of Putnam County, the largest and fastest-growing community in the region. Some smaller and more rural counties are losing population. Poverty and unemployment rates are higher than the state average. Educational attainment is low: while 84.2 percent of working-age adults have a high school diploma, only 21.9 percent have an associate's degree or higher. There is only one four-year college in the region—Tennessee Technological University—but there are also four satellite community college campuses and three TCATs. Buoyed by the manufacturing sector, the economy has been picking up. The Highlands Economic Partnership is a strong convener and “home” for collaborative planning and activity. The region's employment base is primarily made up of smaller firms; there are no significant private funders, though civic leaders hope this is beginning to change. Significant geographic obstacles to regional innovation

exist in the sparsely populated and mountainous region.

**The Southeast Tennessee Development District** has a very different profile. Comprising 10 counties in Tennessee (and three in Georgia), the region has two significant concentrations of population, industry, and educational resources: the city of Chattanooga and its environs, and the Cleveland Metropolitan Statistical Area further north. The regional population is far more diverse than Upper Cumberland; about a third of Chattanooga's nearly 175,000 residents are African American. The region is in the process of an economic rebirth. Huge new facilities for European companies—Volkswagen and Wacker Polysilicon—have spurred secondary growth in industries that supply and support the automotive, chemical, and energy clusters. Foreign investment in the region is five times the state average. Except for Chattanooga and its county, Hamilton, the region's educational attainment is below the state average. But the educational capacity in the region is significant: relatively robust CTE programs across many counties and high schools; eight major two- and four-year colleges and two TCATs; a range of innovative high school models in Hamilton County; and novel partnerships between Wacker and Chattanooga State (Wacker Institute), and between Volkswagen and Hamilton County schools (Volkswagen Academy). The region is fortunate to have five functioning local chambers of commerce and several prominent private foundations with a history of working to improve local educational attainment and quality.

Pathways Tennessee staff selected these two regions as pilot sites for local activities. Using reserve funds available through the federal Carl D. Perkins Career and Technical Education Act, the state made grants to each region to enable them to plan for the launch of Pathways activities in the 2013-14 school year.

The state required each region to undertake several specific planning activities:

- Select a regional intermediary to coordinate the initiative
- Create a multisector leadership team or council to guide and prioritize collaborative activities
- Establish work groups for each target industry sector to organize stakeholders and build out programs beginning in seventh grade and continuing through the end of two- or four-year college
- Prepare regional plans with accountability measures that the intermediary would report on regularly to the state

Pathways Tennessee used Perkins Reserve funds to make grants to regions that included funding for intermediaries and salaries for a group of “career coaches” who would help sign up schools and students for the newly created pathways. The grants were structured to encourage sustainable investment in pathways efforts over time: the state paid 100 percent of career coaching and other costs in the first year. In successive years, participating districts were required to internalize an increasing percentage of costs in their operating budgets until the state share dropped to zero.

The graphic below, created by the state to explain its priorities for the regions, underscores the state planning team's commitment to encouraging local leaders to start from their strengths and to connect the dots strategically across receptive systems, sectors, and communities. Danielle Mezera and her team understood that progress had to be incremental and that, in the early going, gains would come from aligning interests and resources and demonstrating value to local leaders who are typically skeptical of "help" from the state.

The state planning team tried to strike a balance with the regions. According to Mezera, "You have to make clear the structure you want the regions to work with—the guardrails within which they will drive—and you have to give them sufficient guidance so they understand the state's goals. At the same time, though, you have to honor the different ways that regions set their priorities." Policy change and resources from the state would not be sufficient to change long-term behavior on the ground. That had to come from the local conversation and assessment

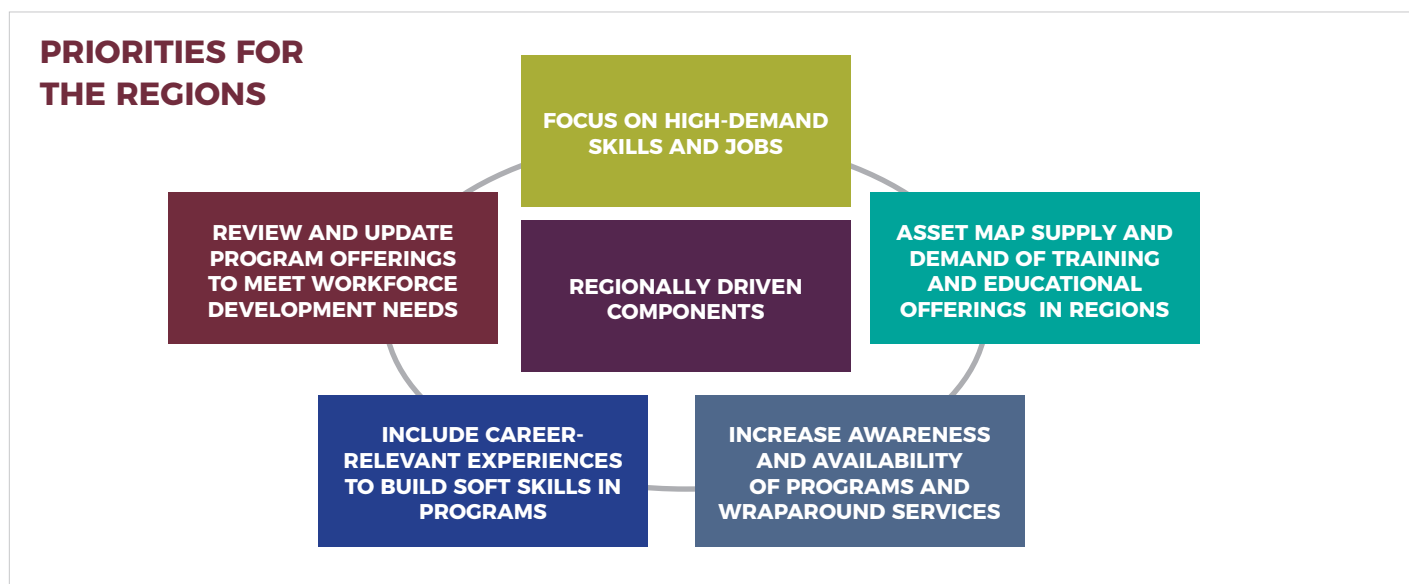
of their own needs. "Everything about Pathways is people," according to Mezera. "So I focused on working with the point people at the regional intermediaries to drive a common conversation about needs and opportunities, so they would be interested in investing in themselves. The voice from on high was not going to work."

The sensitivity to regional variation and independence was coupled with a commitment by the Pathways team to proactively reach out to regional intermediaries and help support the process of regional visioning and strategic planning. Pathways Tennessee Program Director Nick Hansen and Program Manager Ellen Bohle made it clear that they would travel to any region that invited them. Their availability and their respect for local needs made regional leaders more comfortable with top-down aspects of Pathways Tennessee. They overcame ingrained skepticism and came to see the state as committed to listening and learning from regional partners. The state planning team's availability to regional partnerships helped strengthen state-level policy and

action as much as it did regional initiatives. The state planning team supported and facilitated regional focus groups, which informed them about regional needs and approaches. Monthly calls between the Pathways state planning team and regional intermediaries have become a welcome two-way source of information sharing and strategy development.

### Upper Cumberland

In Upper Cumberland, the Highlands Economic Partnership, through its Workforce Development and Educational Development Committee, took the lead in organizing a steering committee for the Pathways work, drawing from leaders of six school districts, postsecondary institutions, employers, community organizations, and local chambers of commerce. The steering committee set its overall regional goal "to improve the education attainment level and job readiness of our future workforce by enhancing training, education, [and] skill development, and providing work-based learning opportunities to match the needs of targeted industries and existing industry."



**“The organizational chart is my favorite document. It has about 120 names on it. I’ve never seen anything like that—and I was at General Motors for years. It shows the diversity of the partnership.”**

Participation was broad and inclusive. According to Tom Brewer, an associate vice president at Tennessee Technological University and a Workforce and Education Committee leader, “The organizational chart is my favorite document. It has about 120 names on it. I’ve never seen anything like that—and I was at General Motors for years. It shows the diversity of the partnership.”

A key investment in Upper Cumberland was the funding of five academic career coaches through the state’s Perkins Reserve grant: two in Putnam County and one in each of the other three participating counties. The coaches worked with schools and industry to support school participation, starting with career awareness activities in the elementary grades, through exploration in middle school, and engagement and entry into the world of work in the high schools. A lot of the on-the-ground planning for Pathways in Upper Cumberland was the result of the coaches’ work. Funding for the positions has moved from the state grant into annual school district budgets.

Pathways in health sciences and advanced manufacturing were established, beginning in four counties in the 2013-14 school year.

In the health sciences pathways, about 1,700 seventh and eighth graders were provided career exposure to health science through new curricular modules and attendance at an annual eighth-grade career fair. The health sciences pathways program served 628 students in 2016, with the majority concentrating in nursing. The health sciences group is also

working to launch a registered nurse associate’s degree program at Volunteer State Community College so that there will be a seamless nursing pathway from TCATs to Volunteer State to Tennessee Technological University.

In the pre-engineering/advanced manufacturing pathways, 1,700 seventh graders participated, with about the same number of eighth graders. Mechatronics programs were launched in five high schools in January 2016, enrolling 112 students, with the help of state LEAP program funding for new equipment. “Before the LEAP funding,” according to White County Director of Schools, Sandra Crouch, “thinking about a mechatronics program was like looking at chocolate from behind glass. We couldn’t get there.” But LEAP enabled high schools and TCATs to purchase up-to-date equipment and engage employers in curricular development. In the fall of 2016, the pipeline of participating students more than doubled to 251.

For each, a subcommittee assessed employer needs and in-demand jobs. A postsecondary education subgroup developed plans for smooth transitions as well as transfer and articulation agreements where needed. Career exploration modules developed in collaboration with the Tennessee Department of Education are available to seventh graders in participating schools. In the eighth grade, employer-developed tasks are introduced into the curriculum through video.

In addition to the pathways outlined above, the Highlands Economic Partnership coordinates a number of programs to improve career



preparation:

- An interview boot camp for high school seniors at six area high schools, culminating in a job fair
- A teacher externship program in local industry involving 12 firms and about 100 teachers
- A speakers bureau that has brought over 130 business and industry speakers to address more than 2,400 students
- A summer bridge program for at-risk rising freshmen
- A creative parental engagement program that is delivered at the workplace rather than the school, which reached over 285 parents in 2016

The Workforce Development and Education Committee is also a regional lead for the Tennessee Reconnect program, focused on adults who are between 25 and 64 with some college but no degree. Launched in March 2016, the Upper Cumberland effort advised over 700 individuals in its first seven months and helped 95 people enroll in postsecondary programs.

## **Southeast**

In 2012, the Southeast region looked to be one of the strongest in terms of industry interest and vitality. The region had experienced a large increase in manufacturing and distribution, mainly in automotive, including new capacity in and around Chattanooga from a huge expansion at Volkswagen and Gestamp, as well as investments from other national and international companies, including Whirlpool and Amazon. Chemical

and solar energy companies, including Wacker Chemie, joined the Tennessee Valley Authority as leaders in the energy sector. Large, foreign employers, many with experience training young people in their home countries, introduced technology at a rate that increased employers' concern for the pipeline of potential employees in the region. There was a sense that leading employers could be the driver of better alignment between high school CTE and postsecondary providers—and between education and industry.

The Public Education Foundation of Chattanooga (PEF), launched in 1988, developed a robust STEM Innovation Hub program focusing on career options for the city's high school students. PEF sponsored several other relevant programs, including a paid internship program for low-income Chattanooga youth. The Hub's dynamic managing director, Tracey Carisch, was at the center of much of this activity. Seeing that PEF had leadership and capacity to manage new initiatives, the Tennessee Department of Education approached the organization to gauge its interest in serving in the Pathways Tennessee intermediary role in the Southeast region. An agreement was reached and PEF received a grant from the state's Perkins Reserve funds to build out its Pathways strategy and plan. The Foundation's STEM Innovation Hub became the initial home for Pathways Southeast Tennessee, focusing attention on four contiguous counties: Bradley, Hamilton, Marion, and McMinn. Initial industry targets were manufacturing and information technology. The Leadership Council was co-chaired by the charismatic



and dogged Tim Spires, president and CEO of the Chattanooga Regional Manufacturers Association, who was well-connected in industry, political, and civic circles regionally and statewide. The other co-chair was Hamilton County Mayor Jim Coppinger, a lifelong Hamilton County resident who served as county fire chief for many years and was a staunch supporter of investment in local economic development and education.

Southeast has made significant progress in the past four years, but it has encountered more obstacles and instability than Upper Cumberland. Over time, Southeast has evolved a different model of connecting the dots to advance Pathways efforts in the region. Volkswagen, Wacker Polysilicon, and Gestamp serve as examples of this model:

- In 2016, Volkswagen launched an intensive two-year apprenticeship academy model for high school youth through its Volkswagen Academy. The first cohort of 26 CTE students from Hamilton

County and other nearby communities currently attends high school on the Volkswagen campus, combining coursework, labs, and employment on the shop floor. The school system houses two instructors on-site.

- Wacker Polysilicon is bringing Polytechnic High onto its campus, serving 100 students.
- Gestamp, an assembly and stamping company, moved from purchasing a few industrial robots for CTE programs and training the instructors to designing and getting ready to launch a high school in part of their plant. When Human Resources Director Tony Cates and others from Gestamp did a site visit to the Southwire plant in Georgia to see its 12 for Life program, in which a high school is co-located with a manufacturing facility operated by high school students, Cates was determined to create something similar at Gestamp. He was amazed to see students doing things he would not trust some of his employees to do. Gestamp opened its own school in fall 2017, run by Hamilton High, an online public high school, that will combine four hours of learning with four hours of working.

Southeast manufacturers and schools have also benefited from two LEAP grants: one that enabled the creation of a new mechatronics program at TCAT-Athens in partnership with the McMinn County Schools, and the other targeting Hamilton and Bradley Counties.

TCAT leaders in the region see the Pathways collaboration as changing their relationship with high schools. According to Jim Barrott,

director of TCAT-Chattanooga, “Without Pathways, we wouldn’t have improved relations with the high schools. I have improved my communication with CTE directors. I didn’t know many of the directors in the outlying counties, but now I do.” Barrett went on to lay out his vision for the future: “I’d like to see every high school CTE program have a connection to a TCAT program, so that students could complete a third of their program while still in high school and enter the TCAT with credits in hand.”

Annie White, the regional project manager for Southeast, has traveled up and down the Pathways counties, working closely with CTE directors and TCAT and community college presidents. Some have gone all in and some have been less engaged, but progress is evident. Nine high schools have launched advanced manufacturing and/or information technology programs with TCATs in Chattanooga and Athens and with Cleveland and Chattanooga State community colleges. Every semester, Southeast’s career coaches organize plant visits for middle and high school students, industry visits to participating schools, career assessments for middle schoolers, teacher and counselor field trips to industry, and training for CTE directors on the use of the state’s Pathways Toolkit. Recently, White has been working with leading employers to develop a set of criteria for students to meet before graduation to get a Work Ethic certification on their diplomas. The Work Ethic seal will certify student mastery of foundational behaviors that employers want in new hires: attendance, appearance, attitude, ambition, acceptance, and accountability.

At the same time, Southeast has moved more slowly than initially expected in new program development and solidifying regional partnerships. After an initial period, it became clear that the fit with PEF was less than optimal, since PEF’s focus was the city of Chattanooga and Pathways’ was regional. The Chattanooga Regional Manufacturers Association became the new home for Pathways in the region, but the Association is far better connected to manufacturing than other industries, which has had the effect of narrowing the initiative’s scope. In rapid succession, CTE directors and county directors of schools in several of the target counties resigned, were fired, or retired, requiring White to rebuild relationships with key school systems. A shocking blow came to the Southeast effort when, in February 2017, Tim Spires died suddenly while hiking in the Tennessee hills he loved, leaving a huge hole in terms of community relationships and leadership.

Today, the footprint of Pathways in the region is quite visible. Important questions, however, have arisen about long-term strategy, ability to expand outside manufacturing, the capability of regional CTE programs to upgrade their standards and quality, and the specification of Pathways goals and implementation plans. Cleveland State Community College President Bill Seymour says, “We have blurred the lines as to where Pathways starts and ends as we pursue our regional interests.” Annie White puts it differently: “Pathways operates now as a critical friend. We help identify pain points and ways to deal with them and we help lock into deadlines for action.”



But she wonders who in education and industry will continue to lead the charge and whether the lead districts will commit to continued investment when state funding for six career coaches winds down this year. The Regional Manufacturers Association has been more of an operational home than a strategic hub for Pathways. Dynamics may change when Pathways' home shifts to the regional workforce board in the coming year.

In summary, influence and activity across the region seems less systemic than in Upper Cumberland; Pathways is a way to help institutions make connections that they then run themselves. The great disparities in district size and capacity in the region—from large city and county systems to very small rural districts—may contribute to the difficulty of designing and implementing a comprehensive regional approach. However, the Tennessee Department of Education's Pathways office is

supporting a three-year strategic planning process in Southeast and other regions, to be led by the Executive Committee of Southeast's Leadership Council. In Southeast, one goal is to look at strategies in addition to the career coaches for outreach and implementation support to districts and employers.







# LESSONS FROM PATHWAYS TENNESSEE



**Pathways Tennessee has pushed further than most states in developing a statewide policy framework for Pathways and promoting significant regional activity on the ground.**

Eight of the state's nine economic development regions have put in place partnerships and identified intermediary organizations to coordinate regional efforts. These regions have also launched programs that are changing the learning experience for hundreds of students. This progress is impressive and has been accelerated by the state's commitment to advancing the Pathways agenda through state policy and support for local innovation.

At the same time, progress has been uneven. Some regions have yet to establish a viable partnership led by a high-capacity intermediary. Even within more active regions, many districts are not yet engaged. Sustaining momentum in the face of changing district, regional, and state priorities and leadership is a constant challenge. The real test of Pathways Tennessee's potential will come in the next few years, with a gubernatorial change, transitions within state agencies, and ongoing economic ups and downs in the regions.

Important lessons can be drawn from Pathways Tennessee's experience to date—lessons that are relevant for continued growth and improvement within Tennessee as well as for those in other states who are eager to pursue a similar agenda on behalf of their youth. The most salient lessons fall into three categories:

1. Lessons for state leaders about policy priorities and support for local innovation
2. Lessons for local leaders and partners about infrastructure needs and program design
3. Persistent, systemic challenges that still need to be addressed if Pathways is to be institutionalized, sustained statewide, and have the desired educational and economic impacts

## **Lessons for State Leaders**

Tennessee put into place a strong, sophisticated state policy framework for its Pathways initiative. Through

its Division of College, Career and Technical Education, the Tennessee Department of Education has systematically and strategically engaged leaders and staff within key state agencies and offices. Although the team has been bolstered by gubernatorial and legislative support, Danielle Mezera and her colleagues decided early on that the launch of and support for Pathways Tennessee had to be treated as a strategic campaign that aligned state- and local-level messaging, alliance building, and resource investments.

## **Alignment across state**

**agencies:** Policy initiatives housed in the career and technical education division of a state's K-12 education department often have difficulty achieving visibility and avoiding marginalization. Recognizing this, Danielle Mezera and her team, with support from the commissioner of education, prioritized building support for the Pathways agenda across the many state agencies whose activities Pathways could support and advance, including education, labor, economic and community development, the Board of Regents, and the Higher Education Commission. A Pathways state planning team of key officials within these departments began meeting soon after the launch of

Pathways Tennessee. The group focused initially on goals, language, definitions, and standards that could be agreed upon across agencies. By not immediately approaching issues of agency resources and their alignment, the team steered around the usual defensiveness about control of funds that can plague cross-agency collaboration. This approach also facilitated the alignment of vision, language, and standards across state government, embedding Pathways definitions and priorities into state agencies beyond the Tennessee Department of Education and its CTE division. Recently, the Tennessee Board of Regents and the Tennessee Department of Education signed an MOU to align all industry certifications recognized by TDOE to articulated hours in TCAT programs, deepening the vertical alignment between K-12 and postsecondary systems.

**How a cross-agency strategy is governed can affect its implementation:** In Tennessee, the strength of the Department of Education's leadership may also have had a downside because of the imbalance in ownership of Pathways within Tennessee government. While other agencies certainly provide advice and align resources to support Pathways, the job of supporting local intermediaries and partnerships falls primarily on the education team. Tennessee's Department of Education is the only agency that funds dedicated staff to work full time on Pathways. As a result, in a number of regions, the initial center of gravity in implementation has been in the K-12 districts.

**Continuity of state leadership:** Tennessee has benefited in recent years from a remarkably stable political environment. The smooth transition from Democratic Governor Bredesen to Republican Governor Haslam set a tone of continuity and a bipartisan, depoliticized approach to economic development and educational improvement. Under Governor Haslam, many state agency leaders, particularly at the assistant commissioner level, have stayed in the same job across the governor's two terms. This stability helped Pathways steering committee members develop strong interpersonal bonds and engage in long-term planning—something that is uncommon in many state agencies and capitals.

Will this stability be maintained in the coming years? Danielle Mezera left her position in the spring of 2017. Because of term limits, Governor Haslam cannot run again. However, there are signs of continuity and commitment to the current agenda. Mezera's replacement is Casey Wrenn, whom Mezera brought with her to the Tennessee Department of Education in 2012. Dr. Lyle Ailshie, a former director of schools with deep understanding of CTE and the college readiness agenda, has been appointed deputy commissioner. At least one of the candidates for governor shares the prevailing economic and educational vision: Randy Boyd served as commissioner of economic and community development during the years of Pathways' and Drive to 55's launch and growth.

**Value of gubernatorial support:** Compared to many states, Tennessee's governor has significant authority to implement strong higher education policies and drive cross-agency priorities. In this context, Pathways Tennessee could have benefited from more public support from the outgoing governor. His office sent a representative to Pathways' regular steering committee meetings. However, unlike in Delaware, where Governor Jack Markell initiated his state's involvement in the Pathways to Prosperity Network, ran the project initially out of the Governor's Office, and used the Pathways framework and messaging as an umbrella for all of the state's college- and career-readiness and college completion efforts, Governor Haslam consistently led with the Drive to 55 branding and the marquee Tennessee Promise scholarship. Conversely, Pathways was viewed statewide as an important implementation vehicle for reaching the governor's ambitious higher education and workforce quality goals, but it was not generally included in Haslam's topline messaging. This approach was reflected in the limited state funding for Pathways, particularly in the initiative's first few years.

**Importance of state resources:** In order to drive significant and lasting local-level change, state policy needs to offer incentives (information, tools, and resources) powerful enough to change the behaviors of institutions and their personnel. Too often, states fail to provide (or underestimate the need for) additional resource investments at the local level, hoping that policy guidance alone will be sufficient to drive behavioral change. Local



Pathways efforts in Tennessee were buoyed by the allocation of federal Perkins Act Reserve grant funds directed toward regional efforts to build the infrastructure of cross-sector collaboration and planning. In addition, regional intermediaries benefited from the state planning team's advice on using the Perkins grant to hire regional career coaches to support their partnerships. Higher-capacity intermediaries in Tennessee have tapped other state and private funding streams to pay for new staff and activities. Many won LEAP grants in support of equipment purchases and further partnership development. The Highlands Partnership secured one of the first Tennessee Reconnect grants for improving career pathways for working adults, which has helped deepen the intermediary's overall capacity to maintain strong partnerships. State Department

of Education technical assistance, including a playbook for organizing and implementing high-quality, efficient Pathways programs and support, has also been an important resource for intermediaries and their partnerships.

#### **Balancing top-down and bottom-up approaches:**

Pathways strategies require a sensitive balancing of top-down state policy development with bottom-up regional design and implementation so that local needs and conditions can be incorporated in statewide frameworks and strategies. This is not easy to achieve. A state might prioritize grants to regional partnerships but do little to align state policies and guidance to help support regional activity and success. Or a state might put in place a raft of policy directives without making available significant resources,

incentives, or technical assistance to strengthen local capacity to act effectively. Tennessee's experience demonstrates the importance and value of aligning local and state action in an interactive and sophisticated way. Local mistrust of the state would have been a more serious obstacle had the state planning team not been thinking about local implementation from the outset. At the same time, too much local flexibility and autonomy can accentuate inefficient implementation strategies and reinforce unevenness and capacity constraints across regions.

#### **Lessons for Regional Leaders**

Regional Pathways Tennessee partnerships that have made progress since the program's 2012 launch have learned a great deal about the kind of capacity,



partnership structure, and cross-institutional communication needed to launch, sustain, and expand Pathways efforts. From the experience to date, local learning has provided rich lessons in three areas:

- The importance of a strong, professional intermediary
- The need to focus significant attention on the postsecondary component of pathways
- The power of work-based learning, along with the difficulty of implementing it at scale, particularly in rural areas

**Importance of a high-capacity intermediary:** Without a strong, strategic partnership among K-12, higher education, employers, and public officials, little progress can be made in aligning sectors and execution of the Pathways agenda. Leadership is critical: at the head of a regional partnership must stand someone (or a small leadership

group) who has the broad trust and respect of regional players—and who is not beholden to one narrow interest. Intermediary organization leaders need flexible and diverse skills: strategic, operational, motivational, and entrepreneurial abilities that can be applied as needed. Ultimately, though, heroic individuals are insufficient. A strong, stable, staffed organization is required. Often, chambers of commerce or workforce development organizations step up to take on the role, as has been the case across Tennessee. Sometimes a community college or a sector association steps up. Each possible “home” has pros and cons. In the Southeast region, for example, the centrality of the Regional Manufacturers Association has been a boon to Pathways efforts in the rapidly growing manufacturing sector, but has made outreach to employers in health care and other industries more difficult. Wherever the Pathways partnership is housed, though, attention to funding of staff and activities is important:

in Tennessee, the state helped through initial investment from Perkins Reserve funds and then through competitive LEAP grants. How stability is maintained when initial funding wanes can determine whether and how quickly Pathways programs grow, plateau, or contract over time.

**Postsecondary components and design need special attention:** Pathways initiatives are built upon the premise that secondary and postsecondary curricula, sequences, and standards are aligned and become increasingly seamless. The postsecondary component is critically important, since it is often the actual gateway to quality employment and it is where employer engagement can be most fruitful. However, since first things come first, it is common for the details of the secondary components of pathways to be worked out first, with the intention that postsecondary issues follow.



For various reasons, including the sheer complexity of introducing new pathways or revising existing high school courses into coherent pathways, pathways programs frequently leave the postsecondary components underdeveloped. Additionally, pathways that should be seamless may not even have clearly marked bridges from high school to postsecondary programs for students to cross.

In Tennessee, engagement of postsecondary institutions is uneven across regions and within regions. It is made more complex by the competition and need for better communication and alignment between the community college and TCAT sectors. In Tennessee and nearly every state pursuing Pathways strategies, engaging postsecondary partners early and continuously—and thinking hard about how to “fit” with the incentive structures facing these institutions—can help accelerate and strengthen implementation of postsecondary pathways components.

#### **Value of work-based learning:**

It is tempting to think of work-based learning as a “nice-to-have” component of a pathways program, but Tennessee’s experience argues for seeing it as a more central “need-to-have” element. Work-based learning has proven to be a powerful way to cement and deepen local partnerships between employers and educators. It often becomes the vehicle for employers and educators to sit down and talk through what they think can be learned on the job, how employers can support students at the worksite, and how learning at work should be assessed.

In Southeast, with its many large transnational employers, work-based learning at Volkswagen, Wacker, and Gestamp became a jumping-off point for ambitious apprenticeship-like programs. In Upper Cumberland, the design of different levels of work-based learning has helped middle and high school leaders set priorities and design a progressive sequence of work-based experiences.

When Tennessee revised its statewide work-based learning policy, regions had to respond and incorporate the new, higher standards into their local activities. At the same time, regional leaders have learned firsthand how difficult it is to provide quality work-based learning experiences at scale—either exploratory experiences for younger students or more ambitious capstone experiences for older ones. One explanation for this is that some regions lack a strong base of employers who can engage older students in intensive experiences. In addition, transportation can be a huge barrier to the expansion of work-based learning, particularly in sparsely populated rural areas.

#### **Challenges to Address**

Several overarching challenges face Tennessee as it continues to build and strengthen its Pathways initiative. These challenges are significant: any one of them could limit the ability of Pathways Tennessee to grow, serve students well, and sustain public and political support over time. They are:

- The need for greater clarity and transparency in how the spread and outcomes of Pathways Tennessee are measured

- Economic realities that make even development of pathways programs difficult, particularly in rural areas that have weak economies and a limited employment base
- The risk that pathways efforts will reinforce and deepen racial and gender inequities unless special efforts are made to design equity into specific pathways

#### **Metrics and outcomes**

**reporting:** Like other large-scale efforts to create new and coherent career pathways opportunities for high school youth, Pathways Tennessee is engaged in building many different local program components at the same time: the partnership and its committees; communication between secondary and postsecondary institutions and between employers in target industries and educational providers; curricular alignment across sectors; the content of the courses that together constitute the pathway; and students’ curricular and extracurricular learning in their pathways. Moreover, state policies that promote dual enrollment, free tuition, and reduced remediation in high school can all be considered part of the Pathways “model.” So how are Tennessee policymakers and the public to understand whether Pathways is successful; whether it is expanding quickly enough and at a high enough quality; or whether young people’s career and educational trajectories are changing in good ways?

Tom Brewer, associate vice president of research and education at Tennessee Technological University, puts it this way: “How do we define success? How do we know

that we are closing the gap? I came out of General Motors. At the plant, I had to make 60 cars every hour. I knew every hour if we were on target. But education is not a world that works on metrics.”

The state has been working incrementally to improve collection and reporting of Pathways-related student outcomes, including program expansion metrics, enrollment numbers, and work-based learning and dual enrollment participation across the state. That is a start, but it is insufficient. Without greater clarity on which outcomes pathways should be evaluated on—what results and for which populations—Pathways Tennessee runs the risk of not being able to make a strong case for continued state support and for scarce resources in leaner times. The funding competition for JPMorgan Chase & Co.’s New Skills for Youth initiative has helped the state identify a targeted set of accountability metrics and benchmarks for accountability purposes. The state set a baseline using 2016 data and has articulated qualitative and quantitative goals for the three years through 2019. Regions will report to the state planning team so that data is held in one place and reported with consistency. To make this system work, greater local capacity for data collection will be needed. In addition, reports must focus not just on easily available data but on useful and meaningful metrics such as educational and economic progress after high school, tracked by academic program, career pathway, EPSO and work-based learning experiences, and population subgroups.

### **The inevitability—and risks—of uneven economic vitality:**

Pathways initiatives are built upon the assumption that employers with significant bottlenecks in sub-baccalaureate “middle-skill” jobs will get involved in shaping curricula and learning goals so that they can benefit from homegrown talent. Employer engagement is central. But what if a region is just too underdeveloped to sustain a strong employer base? Or what if development in a region is uneven, with some counties or communities growing rapidly and others shrinking and depopulating? This is a significant challenge in Tennessee, but Tennessee is not unique. A statewide strategy is necessary for scale and sustainability; but state leaders need to acknowledge at the outset that that program implementation within regions is likely to be uneven. At both the state and the regional level, technical assistance to weaker districts and supports for student transportation could enable more robust economic areas to generate pathways programs that can benefit students in communities with more limited access to employers and resources. In this way, regional initiatives can be unifying and can avoid exacerbating the uneven opportunities available in different communities in the same region.

**Equity as a design and implementation priority:** In most communities, manufacturing jobs skew toward men and patient care jobs toward women. Historically, entry-level manufacturing jobs pay higher wages than most frontline health positions. Thus, if Pathways initiatives maintain traditional gender patterns in their enrollments, they are likely

to reinforce longstanding gender inequities. This can be remedied by concerted efforts by CTE instructors and school counselors to enroll more women in manufacturing pathways and more men in health programs.

In a state like Tennessee, with a long history of racial inequities in education, special efforts must be made to ensure that Pathways opportunities are broadly accessible across regions and that participation patterns reduce rather than exacerbate racial and ethnic differences. Data analysis presented in the state’s successful application for funding from JPMorgan’s New Skills for Youth reported that African American students’ access to high-quality pathways in Tennessee is more than 20 percentage points below that of other racial demographics. African American students are two times less likely to complete a high-quality pathway and four times less likely to attain early postsecondary credits. Economically disadvantaged students are also less well served: they trail their more affluent peers by 10 percentage points in terms of access to high-quality pathways. Given this dynamic, it is important that equity be a design criterion from the beginning—as outreach, enrollment, and student supports are built out and then implemented—so that Pathways Tennessee will be more likely to achieve its goal of narrowing existing outcome gaps.





# LOOKING FORWARD \ \ \ \ \ \ \ \ \ \

## Tennessee was one of the first states to go “all-in” on a statewide approach to implementing the Pathways vision.

Tennessee combined an extensive state-level modernization of CTE with support for regional partnerships that bring educators, employers, and civic leaders together to create, strengthen, and publicize clear pathways into high-demand occupations. The combination of state and regional efforts has provided Pathways Tennessee both a coherent systemic approach to change and regional flexibility to pursue economic and educational opportunities that make sense in local contexts.

Pathways Tennessee is benefiting from the state’s overall and steady commitment to improving college and career readiness and success for youth and adults. The 2017 Tennessee Promise annual report documents increases in the state’s already highest-in-the-nation rate of filling out the federal financial aid form, as well as increases in college-going among high school graduates and in first-time freshman enrollment in Tennessee community colleges and TCATs, the two higher education sectors most directly engaged in Pathways Tennessee.

It remains to be seen whether the momentum for more varied and more effective pathways to postsecondary and career success will continue across the state and its diverse regions after the next gubernatorial election. Also unanswered is whether Pathways planners and implementers will address the challenges noted

previously. But the current moment looks promising. The Tennessee Department of Education has weathered leadership changes, new regional intermediaries are finding

their way, and the vision motivating Pathways is gaining acceptance across the state.



# APPENDIX \ \ \ \ \ \ \ \ \ \ \ \ \ \

## Interviews

### State-level

Danielle Mezera, former Assistant Commissioner, Division of College, Career and Technical Education, Tennessee Department of Education

Nick Hansen, former Program Director, Pathways Tennessee, Tennessee Department of Education

Adriana Harrington, former Executive Director, Pathways Tennessee

Heather Justice, former Executive Director, Office of Career and Technical Education, Tennessee Department of Education

Ted Townsend, COO, Tennessee Department of Economic and Community Development

Victoria Harpool, Assistant Executive Director, Academic Affairs, Tennessee Higher Education Commission

Cassie Foote, Director of Policy and Research, Tennessee Business Roundtable

Casey Wrenn, Assistant Commissioner, Division of College, Career and Technical Education

Tristan Denley, Vice Chancellor for Academics, Tennessee Board of Regents

Anne Thompson, Director, Workforce Development, Tennessee Department of Economic and Community Development

Ellen Bohle, Program Manager, Pathways Tennessee

Chelsea Parker, Executive Director for Work-Based Learning and the Tennessee Council for CTE, Tennessee Department of Education

Kyle Southern, Director of Policy and Research, SCORE

Sterling van der Spuy, Director of Workforce Services, Tennessee Department of Labor

Jay Bozman, Associate Director of Stewardship, Vanderbilt University Medical Center; former Program Manager, Pathways Tennessee

### Upper Cumberland

Lillian Hartgrove, Vice President of Workforce Development and Education, Cookeville-Putnam County Chamber of Commerce

Jerry Boyd, Superintendent, Putnam County Schools

Tom Brewer, Associate Vice President of Research and Economic Development, Tennessee Technological University

Adam Bernhardt, Director of Human Resources, ATC Automation

Sandra Crouch, former Director of Schools, White County Schools

Becky Hull, Director, Cookeville Higher Education Campus

Robert Young, Vice President, Custom Tool

Stephen Crook, Vice President of Economic Development, Highlands Economic Partnership

Angela Bruce, Director of Human Resources, Tutco

Michael Torrence, Vice President of Academic Affairs, Volunteer State Community College

Deborah Whitaker, Supervisor of Instruction, Jackson County Schools

Myra West, Director, TCAT-Livingston

Sally Pardue, Director, Tennessee Technological University STEM Center Southeast Tennessee

Annie White, Project Manager, Pathways

### Southeast Tennessee

Tony Cates, Human Relations Manager, Gestamp

Sherry Crye, Director of Workforce Development, Cleveland-Bradley Chamber of Commerce

James Barrott, Director, TCAT-Chattanooga

Bill Seymour, President, Cleveland State Community College

# ENDNOTES

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