

Preparing the Next Generation: Workforce Development in Rural Haywood County

Chantel Rucker

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Introduction

On a typical school day in Haywood County, Tennessee (TN), a middle school student may pass by farmland, manufacturing facilities, and healthcare centers without fully understanding the careers that are available inside those buildings. Many young students remain unaware of the opportunities developing in their own community despite major industrial growth across West Tennessee. By the time career decisions become urgent in high school, many pathways have already narrowed. If workforce development begins with awareness, then it must begin earlier than high school graduation.

Haywood County faces workforce challenges common to many rural West Tennessee communities. Regional industrial expansion has increased the demand for skilled workers in manufacturing, healthcare, technical services, and environmental fields. At the same time, rural communities continue to experience youth outmigration, limited career exposure opportunities, and gaps between educational preparation and local industry needs. Businesses seeking to locate or expand require a reliable and prepared workforce, yet long-term talent development often begins too late when students are supposed to already have an idea of job or career pathways.

Sustainable workforce development requires proactive engagement long before students enter the job market. Research indicates that career interests and academic confidence in science, technology, engineering, and mathematics (STEM) subjects begin forming during the middle school years (Thomas & Larwin, 2023). Without early exposure to local industries and STEM pathways, students may overlook viable career options within their own community. This project proposes how the implementation of a Middle School STEM Day in Haywood County can serve as a practical workforce development strategy designed to build early awareness, strengthen connections between schools and industry, and support long-term economic growth.

About Haywood County

Imagine a place where the rhythm of small-town life meets something bigger on the horizon—that is Haywood County, Tennessee. Located in rural West Tennessee along Interstate 40, the county sits about 25 miles west of Jackson and about 55 miles east of Memphis, making it both connected to regional centers and distinctly its own place (Brownsville TN, n.d.). Stretching across 530 square miles of farmland, forests, and waterways, Haywood County has a population of about 17,864 people (Haywood County, 2022). Two towns give Haywood its heartbeat. Brownsville, the county seat, is the larger of the two and both the cultural and economic hub of the region. Just a short drive to the east lies Stanton, a much smaller town that is central to one of the most significant economic transformations the county has ever seen (Haywood County, 2022).

Haywood's heritage is deep and varied. Long before roads and industry, Indigenous people lived there. Later, the area became a center of agricultural production especially cotton and grains. Over time, Brownsville developed into a community rich in music and history, producing artists like Tina Turner (Anna Mae), the Queen of Rock 'n' Roll, whose early life in the nearby Nutbush community became part of the county's cultural legacy (Haywood County, 2022). Food and gathering spots in Brownsville reflect this heritage too—places like Livingston's Soda Fountain and Grill evoke nostalgia and local flavor, blending classic diner charm with creative dishes that speak to the community's personality (*About Haywood County*, 2022; Adcock, 2024).

Nature remains a defining part of the county. At the heart of it is the Hatchie River, one of the only major rivers in West Tennessee that has never been significantly altered by human activity and is designated a scenic river under state law (Tennessee Scenic Rivers Program, 2025). The river and the adjacent Hatchie National Wildlife Refuge offer miles of bottomland hardwoods,

wildlife habitat, and recreational space that draw locals and visitors alike for fishing, boating, and wildlife viewing (Tennessee Scenic Rivers Program, 2025).

Today, Haywood is experiencing economic change. In Stanton, the Ford Motor Company plant has invested millions of dollars in the community, supporting advanced manufacturing and workforce development (Haywood County, 2022). Alongside the county’s agricultural roots, musical heritage, and scenic appeal, this investment is helping shape a future where residents can see opportunity close to home.

Economic Development and Workforce Alignment

Economic development is everywhere—it impacts everything in a community. It is not a single policy or program, but a network of interconnected elements that shape long-term stability and sustainable economic growth. The International Economic Development Council (IEDC) defines economic development as “a process that improves the economic well-being and quality of life of a community by creating and retaining jobs, supporting income growth, and strengthening the tax base” (IEDC, n.d.). This definition highlights sustainability and long-term prosperity rather than short-term recruitment wins.

In rural communities like Haywood County, economic development is inseparable from workforce development because job creation without local talent leads to labor shortages, a workforce that must commute from outside the county, or stalled industrial expansion. If economic well-being depends on job creation and retention, then the preparation of future workers must begin before hiring age. Under U.S. Department of Labor standards, youth may begin limited employment at age 14 (“Age Requirements,” n.d.); therefore, training youth cannot start at grade twelve, when most students are 17 or 18 years old. All indications are that

preparation must begin earlier—it starts in middle school, when students are typically between 11 and 14 years old.

Middle school students represent the earliest opportunity to influence workforce awareness in a sustainable manner. Exposing middle school-aged students (11–14 years old) to careers aligns with the long-term focus of economic development. The International Economic Development Council highlights economic development as efforts that improve a community’s economic well-being and quality of life by creating and retaining jobs and supporting growth (IEDC, n.d.). With that future-oriented perspective, introducing youth to a variety of industries and STEM opportunities becomes an important early step in building the workforce that communities will eventually rely on.

Students in middle school have untapped potential, and without realizing it, a field trip to see the Ford Plant—a major electric vehicle and battery manufacturing campus in rural West Tennessee—or a tour of the Tennessee Colleges of Applied Technology (TCAT) in Jackson could spark an idea that resonates throughout their school years. When students are introduced to STEM careers and local industry leaders during these formative academic years, they begin to see the direct connection between their education and tangible economic opportunity. That connection strengthens academic motivation, increases long-term workforce alignment, and builds a locally rooted talent pipeline. Therefore, activities like a college visit, a STEM lab experience, or a Middle School STEM Day should not be viewed as simple educational initiatives, but rather as early workforce development strategies designed to encourage awareness, aspiration, and a sustainable local workforce—fully aligned with the modern understanding of how communities create economic growth.

Research Evidence Supporting Early STEM Engagement

Research was selected to show how early STEM exposure can be leveraged in Haywood County to support practical workforce development through a Middle School STEM Day. Research shows that middle school is a pivotal period for shaping academic identity and career interest. Thomas and Larwin (2023), in a meta-analytic study of middle school STEM education, found that engagement during these years significantly influences long-term confidence and persistence in STEM pathways. Career interests do not suddenly emerge in high school but are cultivated gradually through exposure, reinforcement, and perceived relevance. For Haywood County, this research carries direct economic implications.

Early STEM engagement increases not only academic confidence but also the likelihood that students will pursue technical education, healthcare pathways, advanced manufacturing, and environmental careers aligned with regional industry needs. With the arrival and expansion of Ford Motor Company, a multi-billion-dollar electric vehicle and battery manufacturing campus located in Haywood County, students now have a visible example of the kinds of careers that are possible within their own community. Instead of viewing advanced manufacturing as something abstract or out of reach, young people can see that opportunity unfolding close to home.

Research indicates that this type of visibility matters to middle school students. When students see real places where people work and build careers, they begin to imagine themselves in those roles, helping bridge the gap between classroom learning and tangible economic opportunity.

Rural communities offer unique advantages for STEM learning, yet they often lack structured access to career exploration. Fuller (2024) emphasized that rural areas offer distinctive opportunities for applied STEM education such as proximity to agriculture, advanced manufacturing facilities, and healthcare providers that create natural learning laboratories.

However, many rural communities lack targeted resources and intentional coordination. Students may never translate geographic proximity into genuine career awareness.

Similarly, State Collaborative on Reforming Education (SCORE, 2023)—a Tennessee-based education policy organization that studies statewide education and workforce trends—reports that rural students frequently have fewer workforce readiness pathways than their urban peers. Their research highlights how limited exposure to career pathways can widen the gap between classroom learning and regional industry demand. For communities like Haywood County, where new industrial growth is occurring alongside longstanding agricultural and healthcare sectors, this gap becomes particularly significant.

Taken together, these findings help explain why initiatives such as a Middle School STEM Day could serve as a practical workforce development strategy. By intentionally bringing together schools, industry partners, and community institutions, a STEM-focused event can help students connect what they are learning in the classroom with the careers and economic opportunities developing in their own community. In doing so, programs like this support the long-term goal outlined in this project—strengthening early career awareness while building the locally rooted workforce needed to sustain future economic growth in Haywood County.

Innovation in Career Exposure: Tennessee-Based Models

Several successful workforce development models already exist within Tennessee, providing insight into what is possible for Haywood County and illustrating strategies that could be adapted through a Middle School STEM Day. The University of Tennessee Institute of Agriculture (2025) highlights the expansion of virtual reality (VR) career exploration programs, allowing students to experience careers they may never otherwise encounter. Participants use VR headsets to engage in hands-on simulations, such as solar panel installation, medical procedures, and auto body

repair. These immersive experiences help students visualize themselves in technical careers and understand the training pathways required to succeed. Programs like this were selected as examples because they demonstrate how innovative technology can make abstract or unfamiliar careers tangible for students—a core goal of the Middle School STEM Day in Haywood County.

Similarly, the Tennessee STEM Innovation Network’s Tennessee Rural STEM Collaborative (TRSC) provides a year-long cohort for educators focused on enhancing student exposure to STEM pathways in rural areas. During this year, teachers focus on professional development by engaging with local STEM experts and learning about resources that help students connect classroom learning to real-world applications. As the TRSC indicates, participants work in focus areas including career awareness, family engagement, and STEM-integrated curriculum. This example was chosen because it demonstrates how students can experience STEM in ways that reveal the connection between their learning and local career opportunities—the type of engagement a Middle School STEM Day is designed to provide in Haywood County.

National Perspectives on Rural STEM and Workforce Development

Nationally, rural STEM initiatives reinforce the importance of early exposure and access to resources. The U.S. Government Accountability Office (GAO, 2025) notes that rural school districts often face challenges in recruiting certified STEM teachers, accessing materials, and organizing field trips. Yet, innovative partnerships with universities, research centers, and nonprofits can bridge these gaps. One GAO report (2025) highlighted a robotics lending library in Nevada that ships equipment to rural schools, enabling hands-on STEM experiences even in remote areas. Programs like this were selected as national examples because they show how resource-limited districts can still provide students direct exposure to STEM tools, sparking interest and building practical skills. For Haywood County, similar strategies could enhance

STEM-focused initiatives like the Middle School STEM Day, giving students direct experience with technology and careers.

The National Environmental Education Foundation (Hubbart, 2025), a nonprofit dedicated to connecting students and communities to environmental learning, emphasizes that introducing youth to internships, apprenticeships, and applied STEM projects fosters long-term workforce alignment. For example, environmental science projects such as constructing pollinator gardens at Shenandoah National Park in Virginia provide students with hands-on experience in conservation and ecology while showcasing STEM learning in a rural setting. For Haywood County, this illustrates the potential of connecting students to local environmental, agricultural, and technical career opportunities, helping students envision real careers in their own community.

Another example of national rural STEM outreach comes from the National Aeronautics and Space Administration (NASA). Through its SciAct Rural efforts, NASA connects students and educators in rural communities to authentic Earth and space science learning experiences, professional learning, and hands-on resources designed to broaden STEM access in geographically isolated areas. This model demonstrates how bringing real science, real tools, and real professionals to students can spark curiosity and build STEM identity.

Sustainability and Long-Term Economic Growth

Sustainability in economic development encompasses environmental stewardship by creating lasting economic opportunities, keeping residents working and living in the community, and fostering workforce resilience and community vitality. For Haywood County, ensuring that students can envision viable futures within their own region is essential. Early exposure to STEM careers and industry leaders helps students link education to local economic opportunity,

which strengthens both individual ambition and collective prosperity. Programs like Middle School STEM Day do more than teach skills—they build a sustainable workforce culture, where students see themselves as part of the region’s economic future. Imagine a student meeting the plant manager at the Ford facility in Stanton, shadowing a local farmer, or exploring careers with healthcare or technical professionals in the county; research shows that experiences like these during middle school can have a lasting impact on a student’s aspirations and life trajectory.

This event aligns with the IEDC definition of economic development, which emphasizes improving the economic well-being and quality of life of a community through job creation, income growth, and talent retention (IEDC, n.d.). By creating intentional opportunities for middle school students to connect with local industries, Haywood County addresses workforce shortages while cultivating a pipeline of curious, creative, and skilled workers prepared to meet regional industry demand. Early exposure ensures students are aware of opportunities before they graduate high school, increasing the likelihood that they will pursue local career pathways and remain in the community.

Applicability to the Tennessee Certified Economic Developer Program

The Middle School STEM Day project in Haywood County aligns with concepts emphasized in the Tennessee Certified Economic Developer (TCED) program. Workforce development is a core strategy in economic development, and early engagement with youth exemplifies proactive talent cultivation. By exposing middle school students to local industries, STEM careers, and applied learning experiences, this initiative addresses a real workforce challenge—preparing students for careers that exist in their own community before pathways narrow. Programs like the Tennessee Rural STEM Collaborative (TRSC) and the University of Tennessee’s VR career experiences

show that structured exposure can spark student interest and build the skills that local employers need.

Business retention and expansion through talent development is another TCED principle illustrated by this project. Industries like Ford, healthcare providers, and local agricultural enterprises rely on a network of skilled workers to sustain growth. By connecting students to these employers early, through field trips, hands-on activities, or interactions with industry leaders, the Middle School STEM Day helps ensure that Haywood County's businesses can retain local talent, reducing the need for recruiting from outside the region and supporting long-term economic stability.

Strategic planning and implementation are embedded in the design of this event. Bringing together schools, industry leaders, and community organizations requires coordination, resource allocation, and thoughtful planning. Programs like NASA's SciAct Rural initiative and the NEEF applied STEM projects show that structured, intentional programs can succeed in geographically isolated areas. Adapting these approaches to Haywood County allows students to experience STEM in a real-world context while building the framework for a sustainable, student-centered initiative.

Theory in Practice: The Middle School STEM Day in Haywood County

This project moves beyond theory into practice. On June 15, middle school students attending summer school in Haywood County will participate in a hands-on Middle School STEM Day. During this event, students will interact directly with industry leaders from the Ford plant in Stanton, explore technical programs at Tennessee Colleges of Applied Technology (TCAT) in Jackson, and engage in STEM-focused activities designed to make abstract concepts tangible. In

connecting classroom learning to real-world careers, students will see the opportunities available in their own community, helping to build early career awareness and strengthen the local workforce pipeline. This hands-on experience demonstrates how the principles in TCED—workforce development, business retention through talent cultivation, strategic implementation, and community partnership—can be applied in a practical manner. Moreover, it gives students a chance to imagine themselves in STEM careers, supporting the long-term economic growth and sustainability of Haywood County.

Conclusion

By investing in students today, educators, community leaders, and economic developers in Haywood County are investing in the sustainability of the local economy tomorrow. Workforce development extends beyond filling jobs. Workforce development helps foster a culture of opportunity, awareness, and engagement that ensures the county's industries thrive with local talent for generations. Strategic, intentional exposure during middle school transforms education into an economic development tool, bridging the gap between youth potential and regional prosperity.

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