

Tennessee College of Applied Technology-McMinnville

2024 Governor's Investment in Vocational Education (GIVE) 3.0

Program Title: Workforce Impact and Flexible Innovation

Lead Entity & Fiscal Agent: Tennessee College of Applied Technology-McMinnville (TCAT-McMinnville)

IN PARTNERSHIP WITH:

Upper Cumberland Development District
Upper Cumberland Workforce Board
Warren County Chamber of Commerce
Warren County Industrial Development Board
Upper Cumberland Human Resource Agency
Southeast Tennessee Human Resource Agency

Higher Education Institution:

Tennessee College Applied Technology Shelbyville

LEA/School District Names:

Cannon County High School
Coffee County Central High School
DeKalb County High School
Grundy County High School
Warren County High School
Franklin County School District
Tulahoma City Schools/Tulahoma High School

Employer Partners:

Nissan Group of North America
Great Lakes Cheese
National Aerospace Solutions, LLC (AEDC)
Yorozu Automotive Tennessee
Kasai North America Inc.

Project Director:

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Funding Requested:

\$2,000,000

X 

Melody Edmonds, President,
TCAT-McMinnville
(Lead Entity & Fiscal Agent)

X 

Michele Chamberlain, Project Director
TCAT-McMinnville
(Lead Entity & Fiscal Agent)

Workforce Impact and Flexible Innovation

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Section 1: Demonstrated Need

The Tennessee College of Applied Technology (TCAT) – McMinnville, an experienced trailblazer in innovative program offerings, proposes expansions in advanced manufacturing. TCAT – McMinnville is the lead entity with TCAT – Shelbyville serving as a partner for some grant activities. This chart depicts the programs the institutions hope to start and expand, group served, counties and/or campuses served, and the TCAT responsible for serving that group.

GIVE 3.0 Program/ Certificate/Initiative	Group Served	County(s)/Campus(es) Served	TCAT
Industrial Maintenance diploma	Dual Enrollment	Coffee Co HS DeKalb Co HS Grundy Co HS Warren Co HS	McMinnville
Advanced Manufacturing Technician certificate	Dual Enrollment	Grundy Co HS Warren Co HS	McMinnville
Advanced Manufacturing Technician certificate	Dual Enrollment	Franklin Co HS Tullahoma HS	Shelbyville
Advanced Manufacturing Technician certificate	Adult	McMinnville Campus Coffee Co Campus	McMinnville
Advanced Manufacturing Technician certificate	Adult	Shelbyville Campus Franklin Campus	Shelbyville
Mobile trainers for program recruitment	Elementary, Middle, and High Schools Dual Enrollment Adult	Warren Co HS Van Buren Co HS Grundy Co HS Cannon Co HS Coffee Co HS DeKalb Co HS White Co HS	McMinnville
Industrial Maintenance diploma	Adult	McMinnville Campus Coffee Co Campus	McMinnville
Transportation for less populated and impoverished counties	Dual Enrollment	Grundy Co HS Cannon Co HS	McMinnville

These new educational training programs are essential to address workforce-defined skills gaps in the area found in TCAT – McMinnville’s extensive investigation. The institution’s

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partners identified these gaps and asked for assistance with meeting their current and future anticipated workforce needs. According to our grant partners, 773 advanced manufacturing jobs are projected over the next four years due to job additions, replacements, and expected retirements. The Warren and Coffee Industrial Workforce Board along with the Upper Cumberland Workforce Development Board's analyses of advanced manufacturing generated this same acute local need (Appendix A).

Nationwide, statewide, and regional data also demonstrate this need for an advanced manufacturing workforce. The U.S. Bureau of Labor Statistics reports that the employment of general maintenance and repair workers is projected to grow 4 percent from 2022 to 2032. The THEC Academic Supply and Occupational Demand Report shows that in the manufacturing industry, Tennessee projects 18,500 job openings annually on average during the next 10 years. Additionally, the Tennessee Department of Economic Development (TN ECD) provides data that shows advanced manufacturing job creation in Tennessee far outpaces national growth, with employment concentration 31% higher than the national average. Further data from the TN ECD shows the current number of manufacturing employment needs is large with good wages in each county identified through this grant. The chart below outlines this data for each county served:

County	# of Manufacturing Opportunities	# of Establishments	Annual Wages	Living Wage
Cannon	256	14	\$46,372/\$22.29	\$19.49
Coffee	5,321	94	\$55,240/\$26.56	\$18.71
DeKalb	2,434	33	\$54,624/\$26.26	\$18.37
Grundy	224	13	\$41,916/\$20.15	\$18.68
Warren	2,981	65	\$55,904/\$26.88	\$18.16
Franklin	2,158	53	\$52,523/\$25.25	\$18.83

Source - Tennessee Department of Economic and Community Development (TN ECD), Living Wage Calculator (mit.edu)

Jobs4TN also classifies advanced manufacturing occupations as high demand. Tennessee's location, affordable cost of doing business and competitive wages make the state an ideal place for

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manufacturing industries. Over the next 10 years in the Upper Cumberland and Southeast regions, the manufacturing sector is expected to create 875 and more than 2000 jobs annually respectively where this award will be implemented. Local employer data includes each company's retirement projections; Nissan, for example, projects 248 retirements in the next four years.

The primary goal of this project is to narrow the gap for skilled, high-wage, in-demand manufacturing jobs through TCAT – McMinnville and TCAT Shelbyville's services areas. As the lead entity, TCAT – McMinnville is looking to model Chattanooga State's partnership with Volkswagen as one of the primary ways to recruit students into advanced manufacturing career pathways. This model is a proven, 10-year partnership which has led to 130 students completing advanced manufacturing training and starting careers at Volkswagen. TCAT – McMinnville, partnership with Nissan, proposes the establishment of "Nissan Centers of Excellence" (NCOE) at several high schools to provide state-of-the-art training and equipment that prepare students for manufacturing careers. Nissan has agreed to provide instructors to teach the AMT certificate courses at the identified high schools removing a barrier of identifying a qualified instructor. All employer partners forecast employee needs and understand the long-term urgency of increasing credentials as part of the memorandum of understanding (MOU).

TCAT – McMinnville anticipates increasing the number of certificates and the number of credentials earned by 600 as well as the number of WBL experiences by 3,000 during the grant period through adding this proposed new advanced manufacturing programming training. Industry-recognized certifications, TCAT certificates, requested equipment, and the WBL concepts are detailed in Appendix B. These program offerings will strengthen advanced manufacturing pathways in several rural counties along with two at-risk counties – Grundy and Warren as designated by the Appalachia regional Commission (ARC). Grundy and one census tract in Coffee

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County are also designated as impoverished through data collected from ARC. TCAT – McMinnville partners will offer some graduates employment opportunities in high-wage, high-demand advanced manufacturing jobs upon completion of the program.

The AMT certificate earned through the NCOE articulates into the Industrial Maintenance (IM) program, so students will have the option to continue their education and earn a full technical diploma. Additionally, TCAT – McMinnville, TCAT Shelbyville, and Motlow State Community College have an existing articulation agreement for IM to the Associate of Applied Science degree in Mechatronics (Appendix C) from Motlow State. Students have multiple options for a bachelor’s degree and beyond including an articulation agreement between Motlow State and University of Tennessee Chattanooga’ B.A.S. in Mechatronics Technology. Post-secondary credentials earned will increase the higher education attainment levels of areas that are currently below the state average.

Education Attainment Rate (age 25-64)	TN	Cannon	Coffee	Dekalb	Grundy	Warren	Franklin
Adults with some College, no Degree	20.8 %	18.3%	18%	16.3%	17.3%	16.7%	19.8%
Adults with Associate or Higher	38.8 %	22.8%	30.9%	25.9%	21.5%	23.3%	29.6%

Source - <https://www.tn.gov/content/dam/tn/thec/countyprofiles/CountyProfile>

These new programming options will provide stackable credentials as identified above, increase the higher educational attainment levels in areas of Tennessee that are below the state average and address a skills gap by serving the community employers’ needs. By offering ATM, IM, and transportation dual enrollment opportunities for less populated and impoverished counties, more potential advanced manufacturing students will be in the pipeline. Any dual enrollment yield would bolster efforts and fill jobs that are now unfilled. Students will be exposed to multiple types of work-based learning opportunities (WBL) as shown in the WBL

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continuum for GIVE 3.0 (Appendix B). An important aspect of TCAT – McMinnville’s approach is that WBL experiences start at the kindergarten level. TCAT – McMinnville will use the existing mobile training trailer which is designed to accommodate different types of training equipment that can be showcased at various events. Elementary, middle, and high school students as well as adults can benefit from seeing the programmatic equipment and outcomes at spaces where they are. While TCAT – McMinnville prefers prospective students visiting the campus for tours, the mobile training trailer allows the institution to reach prospective and future students at their locations. This flexibility allows multiple WBL experiences annually. TCAT - McMinnville expects to provide up to 2,000 annual WBL opportunities in the community through this outreach tool. This outreach will start as early as Kindergarten and continue through adulthood to recruit for this long-term workforce need.

Section 2: Program Plan

Data from national, state, regional, and local sources indicate current and future advanced manufacturing workforce needs as indicated in the table below.

Area	Projected Jobs	Source(s)
National	4 percent growth from 2022 to 2032	US Department of Labor
State	18,500	THEC Academic Supply & Demand Report
Regional	2,875	Jobs4tn
Local	773	Industry partner projections MOU (App. D)

The proposed AMT pathway delivered through the NCOE and the TCAT – McMinnville and Shelbyville campuses allow dual enrollment and adult students to receive an AMT certificate that articulates into the TCAT IM program which in turn articulates to an AAS in Mechatronics Technology and to other advanced degrees like the BAS in Mechatronics Technology. Embedded into the AMT certificate are additional EPSOs such as OSHA 10, Certified Production Technician (CPT), and FANUC robot operator. The IM dual enrollment pathway has the same

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stackable credentials. Industry certifications in IM include OSHA 30 and FANUC robot operator. Employers collaborated with the institutions on curriculum development to ensure that students receiving the certificates have the necessary credentials to be an immediate asset for employers. Multiple WBL opportunities are incorporated into all proposed programs as shown in Appendix B and in the signed MOU in Appendix D. WBL opportunities are also planned for elementary through adult students through advanced manufacturing equipment demonstrations in the mobile trailer. Transportation for Cannon and Grundy County (impoverished at-risk county) allows these students access to programs that are not possible at the less populated high schools. Students will have greater access to these aforementioned pathways which should lead to higher rates of completion. One census tract in Coffee County is impoverished and will be included in the WBL.

The grant coordinator will serve as the project director with responsibilities for achieving 100% of all grant commitments. The steering committee members consist of all project partners who will be responsible for providing strategic guidance by evaluating progress toward the grant goals, proposing changes or additions to action steps to ensure progress toward the grant goals including providing appropriately credentialed job candidates, and proactively planning for the sustainability of the work once the grant ends. TCAT – McMinnville will hold responsibility for governance and accountability. Individual responsibilities are outlined in the timeline below.

The goals and timeline for this project are presented below. The number of credentials includes industry certifications, certificates, and WBL experiences.

Goal 1: Serve 160 dual enrollment students in the AMT certificate program over the next 4 years in Tullahoma, Franklin, Warren, and Grundy County High Schools.

Action Step 1:	Hire and train instructors
Action Step 2:	Purchase equipment
Action Step 3:	Enroll students
Action Step 4:	Provide work-based learning experiences

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Action Step 5:	Purchase consumables
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Goal 2: Serve 238 dual enrollment IM students in DeKalb, Coffee, Grundy, and Warren County High Schools over the next 4 years.

Action Step 1:	Hire and train instructors
Action Step 2:	Purchase equipment
Action Step 3:	Enroll students
Action Step 4:	Purchase consumables

Goal 3: Serve 55 AMT adult students at the McMinnville, Coffee, Shelbyville, and Franklin County campuses starting Fall 2025.

Action Step 1:	Purchase equipment
Action Step 2:	Train instructors
Action Step 3:	Purchase consumables

Goal 4: Expose 1,600 individuals from elementary through adulthood to the AMT and IM programs using the mobile trailer and taking demo equipment to prospective students over the next 4 years.

Action Step 1:	Purchase trainers for mobile trailer
Action Step 2:	Set up event days and times with a variety of locations
Action Step 3:	Hire someone to take the trailer to the locations
Action Step 4:	Train individuals who will work the events
Action Step 5:	Take the mobile trailer to events
Action Step 6:	Offer 1,600 new work-based learning opportunities in AY 24/25, AY 25/26, AY 26/27, and AY 27/28
Action Step 7:	Purchase consumables

Goal 5: Enhance the IM program experience of 200 adult students through modernization of IM equipment at the McMinnville and Coffee locations over the next 4 years.

Action Step 1:	Purchase equipment
Action Step 2:	Receive and install equipment
Action Step 3:	Train instructors on the use and maintenance of equipment

Goal 6: Collaborate with 20 business, education, and industry partners to ensure the success of the GIVE 3.0 grant initiatives by Spring '28.

Action Step 1:	Nissan and TCAT will meet weekly due to instructor sharing agreement until the group is comfortable with the processes; the meetings will continue a minimum of once each year
Action Step 2:	WIFI group meetings (all partners) will be held each quarter. When the grant period ends, this will be held annually

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Goal 7: Achieve 100% completion of grant commitments throughout the grant period ending Spring 2028.

Action Step 1:	Submit all quarterly reports
Action Step 2:	Evaluate the grant progress quarterly
Action Step 3:	Submit final report
Action Step 4:	Purchase promotional materials
Action Step 5:	Set up Amatrol software for students
Action Step 6:	Set up transportation for Grundy and Cannon County students
Action Step 7:	Produce 600 credentials during the grant period

Timeline:

Task	Responsible Person(s)	Budget	Goal/Action Step
Fall 2024 Quarter			
Weekly meetings with Nissan and TCAT	Grant Coor	\$0	6/1
Purchase AMT dual enrollment equipment	Grant Coor	\$388,740	1/2
Purchase IM dual enrollment equipment	Grant Coor	\$200,100	2/2
Students enroll in classes	Grant Coor	\$0	1/3 and 2/3
Hire AMT/IM dual enrollment instructors	Vice President/ President	\$133,414	1/1, 2/1 and 3/2
WIFI group quarterly meeting	Grant Coor	\$0	6/2
Purchase mobile trainer units	Grant Coor	\$89,978	4/1
Students participate in min of 1 WBL experience	Faculty	\$5,000	1/4
Set up event days and times at a variety of locations to take the mobile trailer	Grant Coor	\$0	4/2
Hire someone to take the mobile trailer to locations	Vice President/ President	\$13,989	4/3
Set up transportation for Cannon & Grundy	Grant Coor	\$11,400	7/6
Set up Amatrol & OSHA 30 training	Grant Coor	\$19,708	7/5
Set up AMT instructor training	Grant Coor	\$56,000	1/1 and 2/1
Purchase IM upgraded equipment	Grant Coor	\$440,000	5/1
Evaluate the grant progress	Grant Coor	\$0	7/2
Winter 2025 Quarter			
Weekly meetings with Nissan and TCAT	Grant Coor	\$0	6/1
Purchase equipment for the full-time AMT campus programs	Grant Coor	\$240,807	3/1
Train personnel to work the mobile trailer events	Vendor	\$0 (include in bid)	4/4

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Set up transportation for Cannon & Grundy	Grant Coor	\$11,400	7/6
WIFI group quarterly meeting	Grant Coor	\$0	6/2
Order promotional materials	Grant Coor	\$8,000	7/4
Submit all grant reports	Grant Coor	\$0	7/1
Evaluate the grant progress	Grant Coor	\$0	7/2
Purchase consumables	Grant Coor	\$28,940	1/5, 2/4, 3/3, and 4/7
Spring 2025 Quarter			
Weekly meetings with Nissan and TCAT	Grant Coor	\$0	6/1
Receive and install IM upgraded equipment	Grant Coor; Vendor	\$0 (included in bid)	5/2
Train IM instructors on use of upgraded equipment	Vendor	\$0 (included in bid)	5/3
Mobile trailer visits 1 location offering 200 WBL experiences	Grant Coor	\$400	4/5 & 4/6
Students participate in 1 WBL experience	Faculty	\$5,000	1/4
WIFI group quarterly meeting	Grant Coor	\$0	6/2
Submit all grant reports	Grant Coor	\$0	7/1
Evaluate the grant progress	Grant Coor	\$0	7/2
Summer 2025 Quarter			
Regular meetings as needed with Nissan and TCAT	Grant Coor	\$0	6/1
Mobile trailer visits 2 locations offering 200 WBL experiences	Grant Coor	\$800	4/5
WIFI group quarterly meeting	Grant Coor	\$0	6/2
Submit all grant reports	Grant Coor	\$0	7/1
Evaluate the grant progress	Grant Coor	\$0	7/1
Fall 2025 – Spring 2028 Quarter			
Regular meetings as needed with Nissan and TCAT	Grant Coor	\$0	6/1
Mobile trailer visits 2 locations offering 200 WBL experiences	Grant Coor	\$6,400	4/5 & 4/6
Students participate in 1 WBL experience (except in summer)	Faculty	\$30,000	1/4
Set up transportation for Cannon & Grundy	Grant Coor	\$68,400	7/6
Set up Amatrol & OSHA 30	Grant Coor	\$59,124	7/5
Order promotional materials	Grant Coor	\$24,000	7/4
WIFI group quarterly meeting	Grant Coor	\$0	6/2
Submit all grant reports	Grant Coor	\$0	7/1
Evaluate the grant progress	Grant Coor	\$160,000	7/2
Summer 2028 Quarter			
Regular meetings as needed with Nissan and TCAT	Grant Coor	\$0	6/1
Mobile trainer visits 2 locations	Grant Coor	\$400	4/5
Students participate in 1 WBL experience	Faculty	\$0	1/4
Students earn 600 credentials	Faculty	\$0	7/7

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WIFI group quarterly meeting	Grant Coor	\$0	6/2
Closing budget for grant and submit final report	Grant Coor	\$0	7/3

Section 3: Strength of Partnership

TCAT – McMinnville will act as the Lead Entity for this project, with Michele Chamberlain serving as the Project Director. Michele will have the responsibility of managing grant administration, conducting required reporting, and facilitating communication between the partners. Michele will guarantee that the grant timeline and activities are adhered to as included in the application. Michele has effectively secured and managed several grant projects in her role as the grant writer/coordinator for TCAT – McMinnville.

TCAT – McMinnville has successful and comprehensive full and part-time day and evening IM programs at two campuses. The programs are supported by an Advisory Committee that convenes annually to assess the curriculum, industry standards, job market requirements, and other relevant factors. The Advanced Manufacturing Technician (AMT) program will operate in tandem with the IM program at the campuses. To ensure participation from all partners on the curriculum, TCAT - McMinnville will extend invitations to secondary partners to attend these sessions as well.

The CTE professionals possess extensive experience in effectively developing and executing high-quality CTE programs that effectively address industry's demanding requirements. The current faculty members involved in the programs under this initiative are highly knowledgeable professionals in their respective fields, having extensive experience in both teaching and working in advanced manufacturing.

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Becky Hull, a member of the Upper Cumberland Workforce Board, possesses a wealth of expertise and experience in the fields of education and workforce development. The primary objective of the Upper Cumberland Workforce Board is to facilitate job seekers' access to employment, education, training, and support services, enabling them to thrive in the labor market. The local Chamber of Commerce and Industrial Development Boards give a broad overview of community needs in multiple industries. The Upper Cumberland Development District and the Southeast Human Resource Agency offer a variety of resources for the local community along with critical access to transportation.

The industry partners play a crucial role in this endeavor. TCAT – McMinnville is partnering with five local industries – Great Lakes Cheese, Kasai North America Inc, National Aerospace Solutions, LLC (AEDC), Nissan North America, and Yorozu Automotive Tennessee. Understanding the job outlook for the area is crucial, and employers must also dedicate their time and resources to addressing the shortage of skilled workers and narrowing those gaps. These industry leaders possess the knowledge and understanding of the industry's requirements and the most effective ways to fulfill them. Hence, the dedication of these collaborators is crucial for the project's triumph. Each partner has willingly committed to participating in the joint effort in a manner that will contribute to the effective execution of these dual enrollment programs, ensuring that students achieve industry-recognized certifications along with a TCAT certificate and/or diploma. A Memorandum of Understanding (MOU - Appendix D) was prepared and signed by all parties and is included in this application which delineates the specific obligations of each partner with regards to the grant, as well as their respective roles in ensuring the effective execution and long-term viability of the program.

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Further strength of this partnership comes from the sheer need in the area. The Appalachian Regional Commission has identified Grundy County and Warren County as at-risk counties. The U.S. Census Bureau has classified Grundy County High School and Coffee County's East Lincoln Elementary School as located in a census tract experiencing persistent poverty. Both schools will be served through this grant. For these reasons, this project is essential to supporting rural communities. This collaborative program was conceived out of the growing workforce demand in the Upper Cumberland and the Southeast regions, specifically as it relates to the Advanced manufacturing industries. Nissan has already been working with the TCATs and secondary partners to develop the curriculum and recruit students as shown in Appendix E. Other industry partners have identified the same needs and pledged continued support. This project is crucial to support rural communities because it will narrow skills gaps identified by the workforce, boost post-secondary credentials and industry certifications, provide WBL opportunities, serve dual enrollment, traditional, and non-traditional students, and provide skills for high-paying, in-demand occupations where there will likely be a labor shortage in the coming years. Without efforts like this, the economy of the region is at risk. TCAT – McMinnville and TCAT Shelbyville's mission, experience, and partnerships are perfectly aligned to yield the required outcomes.

Section 4: Budget Plan

The budget plan is shown in Appendix F. Detailed information is provided to show how each expenditure ties to the goals of the grant proposal in the Section 2: Program Plan timeline.

Section 5: Sustainability

Dual Enrollment – TCAT – McMinnville and TCAT Shelbyville will accomplish several long-term goals with this grant. Dual enrollment growth is part of the strategic plan. Increased

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enrollment indicates the work supported by this grant will extend beyond the grant period. In the 2021/22 academic year TCAT – McMinnville had 89 dual enrollment students. Enrollments increased to 548 students in 22/23 and 636 in 23/24. Data reveal that the institution delivers on promises.

TCAT – McMinnville’s relationships with the local school systems are firmly established. The institution has strong dual enrollment populations at each partnering school. Regular meetings are held several times a year to ensure successful partnerships. Tuition is covered with the TSAC dual enrollment grant and textbooks provided by each respective high school. Adjunct dual enrollment instructor salaries will be covered after the grant ends. The grant budget was built with a sliding scale to start incorporating the salaries into the institutional budget incrementally over the four years of the grant. The high schools will house the equipment and TCAT – McMinnville will redistribute the equipment to another high school or use in the campus’ full-time program if needs arise.

Industrial Maintenance – TCAT – McMinnville and TCAT Shelbyville IM programs will include the new AMT certificate. The institutions can support day and evening programs on four campuses, including two in Shelbyville. This project upgrades IM program equipment. All equipment will be maintained by in-house repair or with institutional repair funds. The current TCAT - McMinnville completion rate is 68% and placement rate is 100%.

Work-Based Learning - The WBL components of this grant will continue when the grant ends. Employers are committed as shown in the attached MOU and will maintain the activities for students to help narrow the skills gap in the future. The institutions have a contact list of several people at each company to ensure perpetual communication.

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Recruitment - The workforce needed is great, and the needs cannot be met with small short-term gains over the long term. Recruitment will be planned at elementary, middle, and high schools as well as within the community. This practice will be built into the institutional budget and become normal practice from this point forward. For the driver salary, a sliding scale was used for payment (Year 1 – 100%, Year 2 – 75%, Year 3 – 50%, Year 4 – 25%) to ensure that the institution could manage the additional budget load when the grant ended. The institution is committed to this work.

Partnerships - TCAT – McMinnville and the community need these programs to thrive and support local workforce partners. All the partners have signified their current and long-term commitments in the MOU (Appendix D). This workforce need will not be fulfilled when the grant ends. In fact, data show that the need will still be acute for many years.

Transportation - Smaller counties need ways to level their opportunities for advancement. TCAT – McMinnville is trying to remedy this issue by providing transportation to one of the campuses. Cannon and Grundy County will have these options. Grundy County is an at-risk and impoverished county. Without additional support, many of the students would not be able to further their education. TCAT – McMinnville is also budgeting for the transportation cost when the grant ends to continue providing access for students.

Grant history for TCAT – McMinnville - TCAT – McMinnville has a strong track record with grants in recent years. TCAT - McMinnville successfully fulfilled all obligations for GIVE 2.0. The awarded Perkins grants have been monitored, and TCAT – McMinnville has been successfully meeting all requirements. The ELC grant items were all successfully completed on time; however, a digital sign ordered as part of the grant was damaged during installation. TCAT

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– McMinnville is waiting for the replacement, so the grant had to be extended due to this unforeseeable circumstance.

Section 6: Optional Criteria

High Demand Programs - This proposal seeks to implement a dual enrollment and adult AMT certificate and a dual enrollment IM (CIP: 09.15.0613.02/29.47.0303.05) program. The certificate and IM program are aligned with the Maintenance Repair Workers, General (SOC: 49-9071) and Helpers - Installation, Maintenance & Repair Workers, All (SOC:49-9098), which are in high demand in the Upper Cumberland and the Southeast Regions according to the THEC Academic Supply and Occupational Demand Report. It is also aligned with the Installation, Maintenance & Repair Workers, All Other (SOC:49-9099), which are in high demand in Tennessee and the Upper Cumberland region. (Appendix G)

County Economic Status Acknowledgment - This proposal seeks to add new advanced manufacturing programming with WBL opportunities for dual enrollment students at Warren County High School and Grundy County High School. Warren and Grundy counties are categorized as at-risk counties as measured by the Appalachian Regional Commission (ARC). (Appendix H)

Census Tracts in Persistent Poverty - This proposal seeks to add advanced manufacturing WBL opportunities for students at East Lincoln Elementary School through taking the mobile trailer to our local schools. East Lincoln Elementary School is located at 700 E Lincoln Street, Tullahoma, TN 37388 within census tract 47031970900. Based on the U.S. Census Bureau's report, this tract is designated as being in persistent poverty (Appendix I).

Appendix A – Local Workforce Letters



Becky Hull, Executive Director
Upper Cumberland Local Workforce Development Board
& Workforce Connections
345 S. Jefferson Avenue, Suite 208
Cookeville, TN 38501

April 12, 2034

Dr. Melody Edmonds, President
McMinnville TCAT
242 Vo-Tech Drive
McMinnville, TN 37110

Dear Dr. Edmonds:

The Upper Cumberland Local Workforce Development Board (UCLWDB) in partnership with the TN Department of Labor & Workforce Development provides Workforce Innovation and Opportunity services to the fourteen counties that make up the Upper Cumberland workforce area which includes the counties identified in your grant application : Cannon, Dekalb, and Warren. The UCLWDB is proud to partner with you on the GIVE 3.0 grant focusing on Advanced Manufacturing in these rural counties.

Based upon data provided by the TN Department of Labor and Workforce Development, Manufacturing continues to remain in the top 5 in-demand industries in the Middle Region of TN and is projected to remain there until at least 2030. The UCLWDB is committed to supporting the industry through our American Job Center (AJC) sites which are strategically located throughout the Upper Cumberland. AJCs are staffed with trained career advisors who are prepared to assist qualified participants take advantage of career & technical training, supportive services, apprenticeships, internships, work-based learning, resume writing, job interview skills and on-the-job training.

UCLWDB is especially pleased to note the alignment between your grant funding application and Governor Bill Lee's workforce plan, particularly in prioritizing advanced manufacturing training to meet employer needs in Tennessee. We enthusiastically pledge our support to this collaboration to ensure the middle region and the State of TN's workforce remains competitive, skilled and adaptable the evolving demands of industry.

Sincerely,

A handwritten signature in black ink that reads "Becky Hull". The signature is written in a cursive, flowing style.

Becky Hull, Executive Director



April 12, 2024

Dr. Melody Edmonds
TCAT McMinnville
241 Vo Tech Drive
McMinnville, TN 37110

Subject: Letter of Support – GIVE 3.0

Dear Dr. Edmonds,

I am writing this letter on behalf of the McMinnville-Warren Industrial Development Board offering our support and partnership for the TCAT-McMinnville GIVE 3.0 application request.

One portion of your request I am extremely interested in relates to mobile trainers for the portable trailer to be able to expand opportunities especially for our elementary and middle school students. We have such great programming options within the Warren County High School CTE, and by continuing to grow options for younger students it will increase the value and knowledge base by the time they reach CTE.

The other area I am excited about is offering the availability to become certified as an Advanced Manufacturing Technician (AMT) to high school students in the region. This gives those students not only a skill, but a certified skill to take with them as they continue after high school. We are proud to employ citizens from neighboring counties that do not have the same employment opportunities. This makes TCAT-McMinnville's high school interactions even more important.

Warren County is blessed to have the level of collaboration between educational and industrial partners that we do, and I look forward to the future and how we can continue to strengthen our workforce pipeline.

Respectively submitted,

A handwritten signature in black ink that reads "Wendy L. Sneed".

Wendy L. Sneed
Executive Director



April 8, 2024

RE: GIVE 3.0

I am writing to report on the Industrial Board of Coffee County's support for the implementation of the Industrial Maintenance Program to be added at our local high school. As the Director of Operations at the IBCC, I am in constant contact with our local industries and work with all industries looking to locate in Coffee County. The main topic on everyone's list is the workforce, as it should be, and the IDB couldn't be more excited and supportive of this initiative. The added benefit of this program being dual enrolled with TCAT McMinnville is an exceptional opportunity for Coffee County.

Coffee County is home to 57 industries. The majority of those industries are in a continuous search for trained and qualified Industrial Maintenance Technicians. In recent research for a project, I found that Coffee County now has over 10,000 outbound commuters to 18 surrounding counties traveling to work every day. While we strive to keep our workforce local, it is inspiring that we, as a community, can help our surrounding counties with the skill sets they need. It also lets us know that with so many industries hiring, we need to focus on the skill sets we need here. In addition to the industries, we already have, Coffee County also has 350 developable acres in 3 industrial parks. We are also home to the State-owned I-24 Industrial Site which has approximately 1848 acres to be developed in the near future. This number of industries, with the further developments that are to come, speaks volumes to the industrial climate of Coffee County and how quickly it will continue to grow.

In conclusion, I sincerely support Coffee County Central High School's efforts to seek funding through the GIVE 3.0 Grant so that it can continue to provide quality education and skilled trades in our rural communities.

Sincerely,

A handwritten signature in blue ink that reads "Anne Hosea-Majors". The signature is written in a cursive, flowing style.

Anne Hosea-Majors
Director of Operations
Industrial Board of Coffee County

Appendix B – Work-Based Learning Continuum

TCAT-McMinnville Work-Based Learning Continuum

Industrial Maintenance (IM)

Students will participate in at least one work-based learning opportunity each semester while in the program. Partners have agreed to continue this after the grant ends. Work-based learning commitments are shown in the MOU. The following items on the WBL continuum will be introduced during the grant period.

Career Awareness Opportunities – Career speakers/industry-in-the-classroom, field trips and tours, career fairs

Career Exploration Opportunities – Career mentoring, informational interviewing, job shadowing

Career Preparation – Career-related student competitions, dual enrollment, industry-driven project based learning, technical mentoring
Training Activities – Dual enrollment, cooperative education, service learning

Course Code	Description	Hours	Industry-Recognized Credential	Equipment/Software	TCAT Credential
IMG 0001	Worker Characteristic	6			
IMG 1011	Safety and Orientation	48	OSHA 30	OSHA 30	
IMG 1020	Technology Foundations	18		WinLearning	
IMG 1030	Hand and Power Tools	6		Variety of tools	
IMG 1040	Industrial Print Reading	12			
IMG 1050	Measurement Tapes Mics Caliper	6		Amatrol 96MES1	
IMG 1060	Mechanical Power Transmission	30		FESTO Mech Trainer	
IMG 1070	Ohms Law	6		Amatrol 990 AC/DC	
IMG 1080	Electrical Circuits & Components	20		Amatrol 990 AC/DC	
IMG 1090	Electrical Test Equipment	18		Amatrol 990 AC/DC	
IMG 1100	Electrical Circuit Analysis				
IMG 1110	Transformers	30		Amatrol 990 AC/DC	
IMG 1120	Electrical Machinery	18		Amatrol 990 AC/DC	
IMG 1130	NIDA Computer Base Training	154		Amatrol	
IMG 1090	Rigging	36		Amatrol	

IMG 0002	Worker Characteristic	6
IMG 2010	Fluid Power	118
IMG 2020	Motors & Motor Control Systems	200
IMG 2031	Welding Safety & Virtual Welding	6
IMG 2040	Arc Welding	24
IMG 2050	T-Joint Welding	24
IMG 2060	Mig Welding	30
IMG 2071	Tig Welding	24

Amatrol

Amatrol

Welding equip at school

Welding equip at school

Welding equip at school

Welding equip at school

Welding equip at school

school

IM Apprentice

The Industrial Maintenance Program (IMG) is designed and managed to produce highly skilled individuals in the areas of mechanical and electrical industrial machinery repair.

TCAT-McMinnville Work-Based Learning Continuum

Advanced Manufacturing Technician Certificate (AMT)

Students will participate in at least one work-based learning opportunity each semester while in the program. Partners have agreed to continue this after the grant ends. Work-based learning commitments are shown in the MOU. The following items on the WBL continuum will be introduced during the grant period.

Career Awareness Opportunities – Career speakers/industry-in-the-classroom, field trips and tours, career fairs

Career Exploration Opportunities – Career mentoring, informational interviewing, job shadowing

Career Preparation – Career-related student competitions, dual enrollment, industry-driven project based learning, technical mentoring

Training Activities – Dual enrollment, cooperative education, service learning

Course Code	Description	Hours	Industry-Recognized Credential	Equipment/Software	TCAT Credential
IMG 0001	Worker Characteristic	6			
IMG 0010	Safety & Orientation	20	OSHA 10	OSHA 10	
IMG 0015	Tools & Measurement	30		Amatrol 96MS1	
IMG 0020	Digital Literacy	6		Amatrol	
IMG 0025	Intro to Manufacturing	48		Amatrol	
IMG 0030	Certified Production Tech	250	MSSC CPT	MSSC CPT	
IMG 0035	LEAN/Six Sigma	60		Amatrol	
IMG 0040	Intro to Mechatronics	120		FESTO Mech Lab	
IMG 0045	FANUC Certified Robot Operator	75	FANUC Certified Robot	FANUC Robot	
IMG 1020	Tech Foundations	25		WinLearning	
	total hours	640			

AMT Certificate

The Advanced Manufacturing Technician is a springboard to careers such as Industrial Maintenance, Quality Assurance, Production Supervisor, Process Engineer, Quality Technician, Quality Engineer, and Engineering Technician

Appendix C – TCAT Motlow Articulation Agreement



Transfer from TCAT Industrial Maintenance (IMG) to the A.A.S. in Mechatronics Technology

TCAT Program:	Industrial Maintenance
Community College Program:	A.A.S in Mechatronics Technology
Program Length:	61 credit hours
Articulation Process:	Community college faculty have assured that academic transfer credit is at the collegiate level and comparable to credit earned in the college's own programs (<u>TBR policy 2.00.01.06</u>).
Number of Transfer Credits:	This statewide agreement allows a student the possibility to earn 22 course credits. Please see the below crosswalk/equivalency table.

Community College Course Title	Credit Hours	TCAT Course Title or Certification Exam Title
MECH 1310 – Electrical Components	3	IMG 1070 – Ohms Law IMG 1080 - Electrical Circuits & Components IMG 1090- Electrical Test Equipment IMG 1100- Electrical Circuit Analysis, and IMG 1110- Transformers
MECH 1320 – Mechanical Components & Electric Motors	3	IMG 1060- Mechanical Power Transmission, and IMG 3010- Motor Control Wiring & Troubleshooting
MECH 1330 – Electro-pneumatic and Hydraulic Control Circuits	3	IMG 2010- Fluid Power
MECH 1340 – Digital Fundamentals and PLCs	3	IMG 3020- Intro to PLC Programming
MECH 1350 – Industrial Robots	3	IMG 4020- Introduction to Robotics
MECH 2320 – Motor Control	3	IMG 2020- Motors & Motor Control Systems

* MECH 2441 – Intro to Totally Integrated Automation (Students seeking credit for MECH 2441 must also pass a challenge exam.)	4	IMG 4010- PLC Programming & Troubleshoot
Total credit hours available to earn	22	

* Students seeking credit for MECH 2441 must also pass a challenge exam.

Appendix D – Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING (MOU)

Between

Workforce Impact and Flexible Innovation

Lead Entity and Fiscal Agent - Tennessee College of Applied Technology McMinnville (TCAT-MCM)

And

Workforce Impact and Flexible Innovation Partners

Tennessee College of Applied Technology Shelbyville, Upper Cumberland Development District (UCDD), Upper Cumberland Workforce Board (UCWB), Warren County Chamber of Commerce (WCCC), Warren County Industrial Development Board (WCIDB), Coffee County Industrial Board (CCIB), Upper Cumberland Human Resource Agency (UCHRA), Southeast Tennessee Human Resource Agency (SETHRA), Cannon County High School (CaCHS), Coffee County Central High School (CoCHS), DeKalb County High School (DCHS), Grundy County High School (GCHS), Warren County High School (WCHS), Franklin County School District (FCSD) and Tullahoma City Schools/Tullahoma High School (THS), Nissan Group of North America, Great Lakes Cheese, National Aerospace Solutions, LLC (AEDC), Yorozu Automotive Tennessee and Kasai North America

This is an agreement by and between the parties listed above, and the named Workforce Impact and Flexible Innovation Employer Partners, hereinafter referred to as the "partners".

I. PURPOSE

The purpose of this MOU is to clearly identify the roles and responsibilities of each party as they relate to the Governor's Investment in Vocational Education (GIVE 3.0) proposal to implement the named Workforce Impact and Flexible Innovation program in Cannon, Coffee, DeKalb, Grundy, Warren County High Schools, and Franklin County School District along with Tullahoma City Schools/Tullahoma High School. This MOU is intended to:

Establish expectations between TCAT-McMinnville and the designated named Workforce Impact and Flexible Innovation partners to provide youth and adults the opportunity to gain valuable technical skills to address the labor shortage and skill deficits in the advanced manufacturing sector.

II. TENNESSEE COLLEGE OF APPLIED TECHNOLOGY-MCMINNVILLE

TCAT-McMinnville agrees to the following responsibilities:

- Serve as grant lead entity and fiscal agent.
- Manage grant administration, grant reporting, and facilitate communication between partners.
- Coordinate dual enrollment with identified secondary schools – Cannon, Coffee, DeKalb, Grundy, and Warren County High Schools during and after grant ends.
- Deliver Industrial Maintenance and Advanced Manufacturing Technician education to youth and adults during and after grant ends.
- Coordinate transportation for Grundy and Cannon Dual Enrollment high school students to attend TCAT-McMinnville for programming when needed and as available during and after grant ends.
- Coordinate work-based learning opportunities (field trips, job shadowing, industry-driven project-based learning) for students with employers during and after grant ends.
- Coordinate work-based learning activities for elementary through adult using the mobile trailer during and after the grant.
- Repair equipment as needed during and after grant ends.
- Cover Adjunct dual enrollment instructor salaries during and after the grant.

III. TENNESSEE COLLEGE OF APPLIED TECHNOLOGY SHELBYVILLE

TCAT Shelbyville agrees to the following responsibilities:

- Coordinate dual enrollment with identified secondary schools – Franklin County School District and Tullahoma City Schools/Tullahoma High School during and after grant ends.
- Deliver Industrial Maintenance and Advanced Manufacturing Technician education to youth and adults during and after grant ends.
- Coordinate work-based learning opportunities (field trips, job shadowing, industry-driven project-based learning) for students with employers during and after grant ends.
- Repair equipment as needed during and after grant ends.
- Cover Adjunct dual enrollment instructor salaries during and after the grant.

IV. SECONDARY SCHOOLS: CANNON, COFFEE, DEKALB, GRUNDY, WARREN COUNTY HIGH SCHOOLS, FRANKLIN COUNTY SCHOOL DISTRICT AND TULLAHOMA CITY SCHOOLS/TULLAHOMA HIGH SCHOOL

Secondary Schools agree to the following responsibilities:

- Actively recruit students to enroll in technical education pathways that are applicable to each high school. (See table below.)
- Provide students with opportunities to participate in Work-Based Learning activities.

- Manage dual enrollment with the TCAT-McMinnville or the TCAT Shelbyville as applicable.
- Participate in the partnership meetings to help support the proposed programming.
- Monitor progress of Workforce Impact and Flexible Innovation program while attending quarterly partnership meetings.
- Assist in the planning and implementation of work-based learning experiences with employers, and educational institutions while at the quarterly meetings.

The table below lists the GIVE 3.0 participation activities and denotes each school's involvement: (denoted by "X")

Workforce Impact and Flexible Innovation - Participation through GIVE 3.0	Cannon County High School	Coffee County High School	DeKalb County High School	Grundy County High School	Warren County High School	Franklin County School District	Tullahoma City Schools/ Tullahoma High School
Transportation to TCAT-McMinnville	X			X			
Industrial Maintenance		X	X	X	X		
Advanced Manufacturing Technician				X	X	X	X

V. UPPER CUMBERLAND DEVELOPMENT DISTRICT, WARREN COUNTY CHAMBER OF COMMERCE, WARREN COUNTY INDUSTRIAL DEVELOPMENT BOARD AND COFFEE COUNTY INDUSTRIAL BOARD

Upper Cumberland Development District, Warren County Chamber of Commerce, Warren County Industrial Development Board and Coffee County Industrial Board agree to the following responsibilities:

- Support the mission of Workforce Impact and Flexible Innovation GIVE 3.0 program.
- Monitor progress of Workforce Impact and Flexible Innovation program while attending quarterly partnership meetings.
- Promote the Workforce Impact and Flexible Innovation program to business community and local elected officials.
- Participate in the partnership meetings to help support the proposed programming and budget.

- Monitor progress of Workforce Impact and Flexible Innovation program while attending quarterly partnership meetings.
- Assist in the planning and implementation of work-based learning experiences with employers, and educational institutions while at the quarterly meetings.
- Assist in recruitment of area and regional employers.
- Convene and leverage stakeholders as needed to garner local community support.

VI. UPPER CUMBERLAND WORKFORCE BOARD

Upper Cumberland Workforce Board agrees to the following responsibilities:

- Support the mission of Workforce Impact and Flexible Innovation GIVE 3.0 program.
- Monitor progress of Workforce Impact and Flexible Innovation program while attending quarterly partnership meetings.
- Promote the Workforce Impact and Flexible Innovation program to business community and local elected officials.
- Participate in the partnership meetings to help support the proposed programming and budget.
- Provide a direct connection to the myriad of services offered in the American Job Center system to customers, students, and employers participating in Workforce Impact and Flexible Innovation program.
- Assist in the planning and implementation of work-based learning experiences with employers, and educational institutions while at the quarterly meetings.
- Co-enroll youth and young adult participants who qualify under the Workforce Innovation and Opportunity Act (WIOA) bringing additional supports to the individual to eliminate barriers to training.
- Provide additional tailored support services for qualified WIOA customers to assist in their transition to employment.
- Assist in recruitment of area and regional employers.
- Convene and leverage stakeholders as needed to garner local community support.

VII. UPPER CUMBERLAND HUMAN RESOURCE AGENCY AND SOUTHEAST TENNESSEE HUMAN RESOURCE AGENCY

Upper Cumberland Human Resource Agency and Southeast Tennessee Human Resource Agency agree to the following responsibilities:

- Provide transportation from local high school in service area to TCAT-McMinnville and back to respective local high school as needed.
- Invoice TCAT-McMinnville monthly for transportation costs.

VIII. EMPLOYER PARTNER RESPONSIBILITIES

Employers shall undertake one or more of the following activities (denoted by "X"):

Workforce Impact and Flexible Innovation Employer Partners		Nissan Group of North America	Great Lakes Cheese	National Aerospace Solutions, LLC (AEDC)	Yorozu Automotive Tennessee	Kasai North America
Section 1 - Need	How many Advance Manufacturing job opportunities do you anticipate having in the next 4 years including new positions, turnovers and retirements	688	8	Unable to Estimate	61	16
Section 2 – Program Plan – Work Based Learning	Provide Career Awareness Activity – Speakers	X	X		X	X
	Provide Career Awareness Activity – Tours for students and or educators	X	X		X	X
	Provide Career Awareness Activity – Career Fairs	X	X		X	
	Provide Career Exploration Activity - Mentoring	X	X		X	
	Provide Career Exploration Activity – Mock or Real Interviews	X	X		X	X
	Provide Career Exploration Activity – Job Shadow or Summer Internship Opportunities	X	X		X	
	Provide Career Preparation Activity – Project Based Learning	X	X		X	
	Provide Career Preparation Activity – Technical Mentoring	X	X		X	
	Donate materials, tools or equipment to grant	X	X		X	
Section 3 – Strength of Partnership	Serve on Workforce Impact and Flexible Innovations Advisory Board	X	X	X	X	X
	Attend scheduled meetings (in-person or virtually)	X	X	X	X	X
	Provide Dual Enrollment instructor for AMT programs	X				
	Participate in the Occupational Advisory Board – during and after the grant	X	X	X	X	X
Section 4 - Budget	Review budget and provide oversight on grant	X	X	X	X	X
Section 5 - Sustain	Employer agrees to hire and interview qualified applicants if employer has openings	X	X		X	X
	Employer agrees to assist with maintenance of training and equipment	X	X		X	

IT IS MUTUALLY UNDERSTOOD AND AGREED BY AND BETWEEN THE PARTIES THAT:

1. Modification of roles/responsibilities and the sustainability and scalability of the program are collectively decided by the Core and Employer partners identified in this MOU.
2. An employer partner may terminate its relationship with the program with a 30-day written notice to the lead agency or program director. Additional employer partners may be added through signature to this agreement.
3. All partners commit to sustain the work-based learning model in the proposal and partnership beyond the GIVE 3.0 grant.

IX. EFFECTIVE DATE AND SIGNATURE

This MOU shall be effective upon the signature of the Partners authorized officials. This MOU is active from the contract start date through the 48-month duration of the grant period.

Workforce Impact and Flexible Innovation Partners agree with this MOU by their signatures.

This MOU may be executed in any number of counterparts, each of which together shall be deemed an original, but all of which together shall constitute one and the same instrument.

The remainder of this page left blank intentionally.

Workforce Impact and Flexible Innovation

DocuSigned by:
Melody Edmonds 2024-04-25 | 7:41 AM CDT
Melody Edmonds, Ed.D. TCAT-McMinnville, President Date

DocuSigned by:
Jimmy L. Wright 2024-04-24 | 9:46 AM PDT
Jimmy L. Wright, TCAT Shelbyville, President Date

DocuSigned by:
Tommy Lee 2024-04-25 | 9:37 AM CDT
Tommy Lee, UCDD, Deputy Director Date

DocuSigned by:
Becky Hull 2024-04-24 | 7:49 AM PDT
Becky Hull, UCWB, Executive Director Date

DocuSigned by:
Melissa Mullins 2024-04-24 | 9:28 AM CDT
Melissa Mullins, WCCC, President Date

DocuSigned by:
Wendy Sneed 2024-04-25 | 9:58 AM CDT
Wendy Sneed, WCIDB, Executive Director Date

DocuSigned by:
Anne Hosea Majors 2024-04-24 | 1:46 PM CDT
Anne Hosea, CCIB, Director of Operations Date

DocuSigned by:
Bonnie Patterson 2024-04-24 | 9:54 AM CDT
Bonnie Patterson, Cannon County School District, Director Date

DocuSigned by:
Richard Skipper 2024-04-24 | 9:56 AM EDT
Richard Skipper, Coffee County Central High School, CTE Director Date

DocuSigned by:
Patrick Cripps 2024-04-25 | 9:01 AM CDT
Patrick Cripps, DeKalb County School District, Dir. of Schools Date

DocuSigned by:
Bruce Curtis 2024-04-25 | 1:24 PM CDT
Bruce Curtis, DeKalb County High School, Principal Date

DocuSigned by:
Gina Sons 2024-04-24 | 9:08 AM CDT
Gina Sons, Grundy County High School, CTE Director Date

DocuSigned by:
Tracy Risinger 2024-04-25 | 9:34 AM CDT
Tracy Risinger, Warren County High School, CTE Director Date

DocuSigned by:
Dr. Cary Holman 2024-04-24 | 9:50 AM CDT
Dr. Cary Holman, Franklin County School District, Dir. of Schools Date

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Dr. Catherine Stephens 2024-04-24 | 9:15 AM CDT
Dr. Catherine Stephens, Tullahoma City Schools, Dir. of Schools Date

DocuSigned by:
Holly Montooth 2024-04-24 | 11:49 AM EDT
Holly Montooth, UCHRA, Transportation Director Date

DocuSigned by:
Mary Cookston 2024-04-25 | 5:38 AM PDT
Mary Cookston, SETHRA, Rural Transit Director Date

DocuSigned by:
Jason Stanley 2024-04-26 | 2:27 PM CDT
Jason Stanley, Nissan of North America, Sr. Mgr. Workforce Dev. Date

DocuSigned by:
John Dillinger 2024-04-25 | 1:18 PM CDT
John Dillinger, Great Lakes Cheese, Maintenance Manager Date

DocuSigned by:
Summer Bishop 2024-04-24 | 9:02 AM CDT
Summer Bishop, AEDC Representative Date

DocuSigned by:
Phillip Williams 2024-04-25 | 11:12 AM CDT
Phillip Williams, Yorozu Automotive Tennessee, Dir. of HR Date

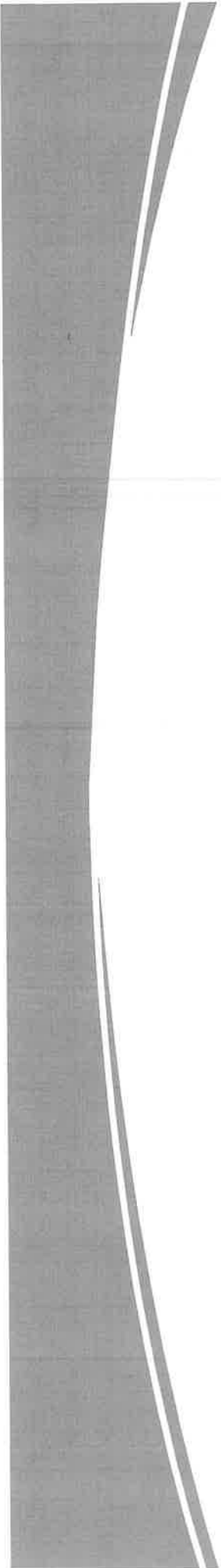
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Shane Buchanan 2024-04-24 | 9:07 AM CDT
Shane Buchanan, Kasai North America Inc., SGM of Production Engineering Date

DocuSigned by:
Flora W. Tydings  2024-04-26 | 3:03 PM CDT
Flora W. Tydings, Chancellor, Tennessee Board of Regents Date





Centers of Excellence

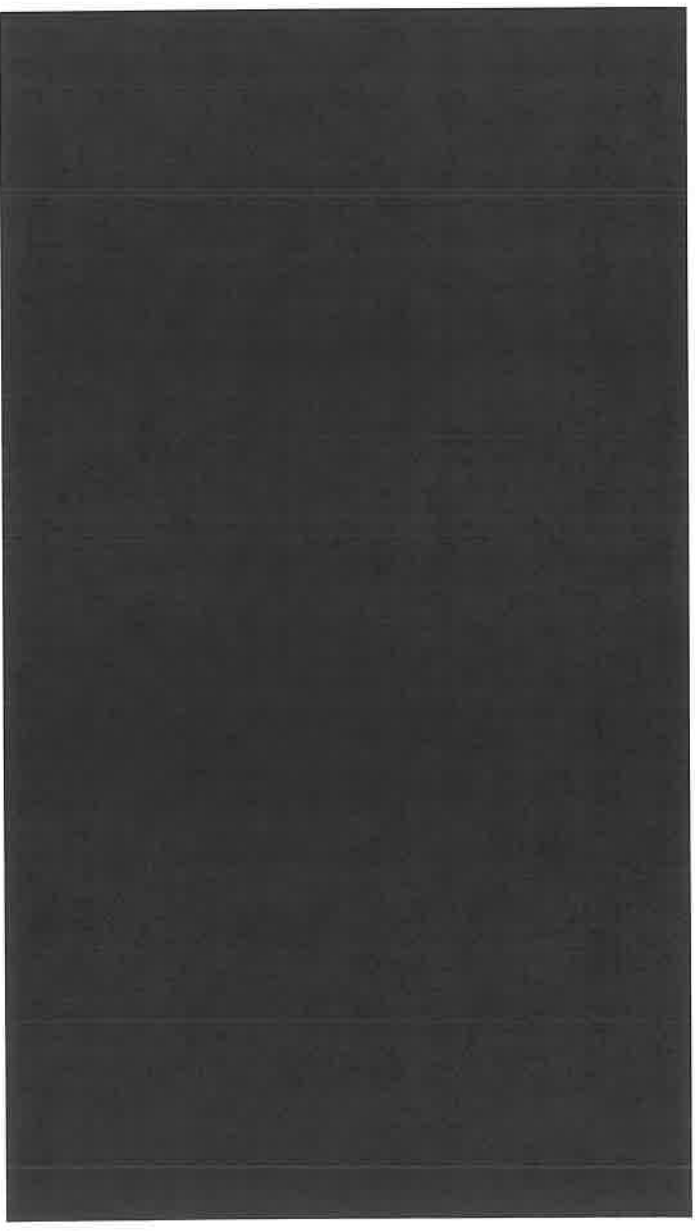


WHY?



Centers of Excellence

WHY?



YOU are an ASSET!

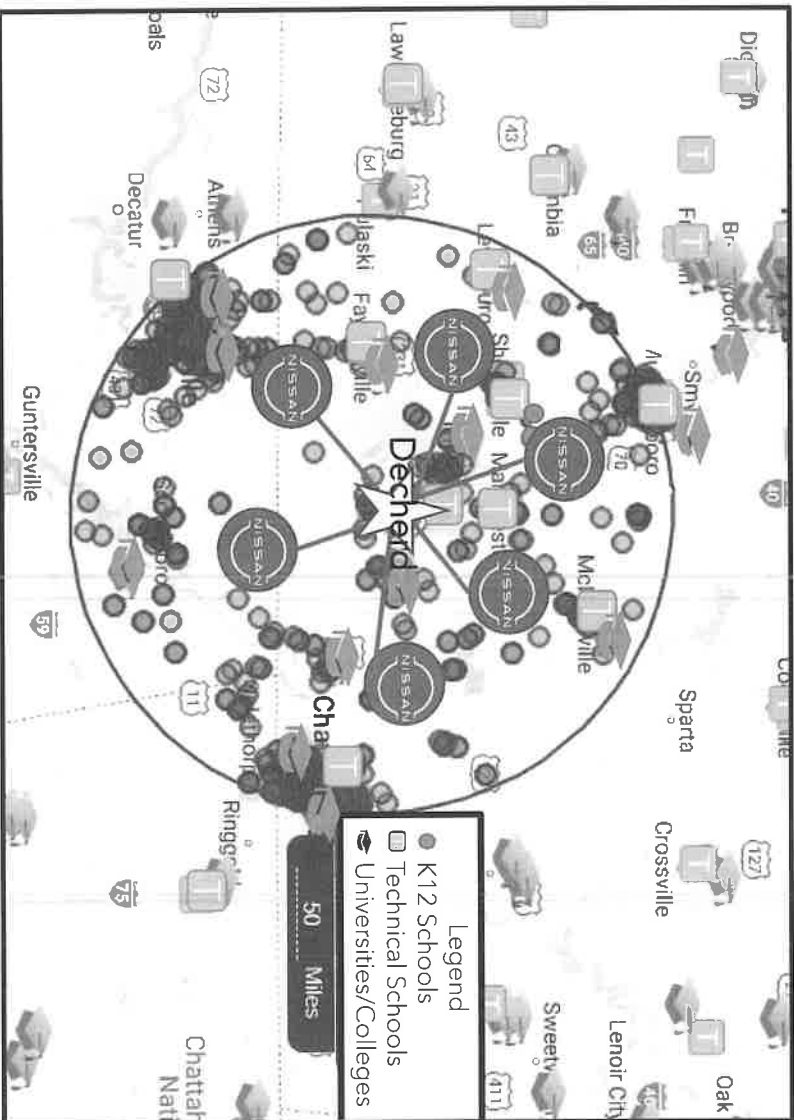
WHAT?



Centers of Excellence



Centers of Excellence



Strategic "Geo-Centric" partnerships with K12 and Postsecondary, to launch satellite learning **Centers of Excellence** located within 50 miles of our Decherd facility.

COMPREHENSIVE MODEL

SME Instructors

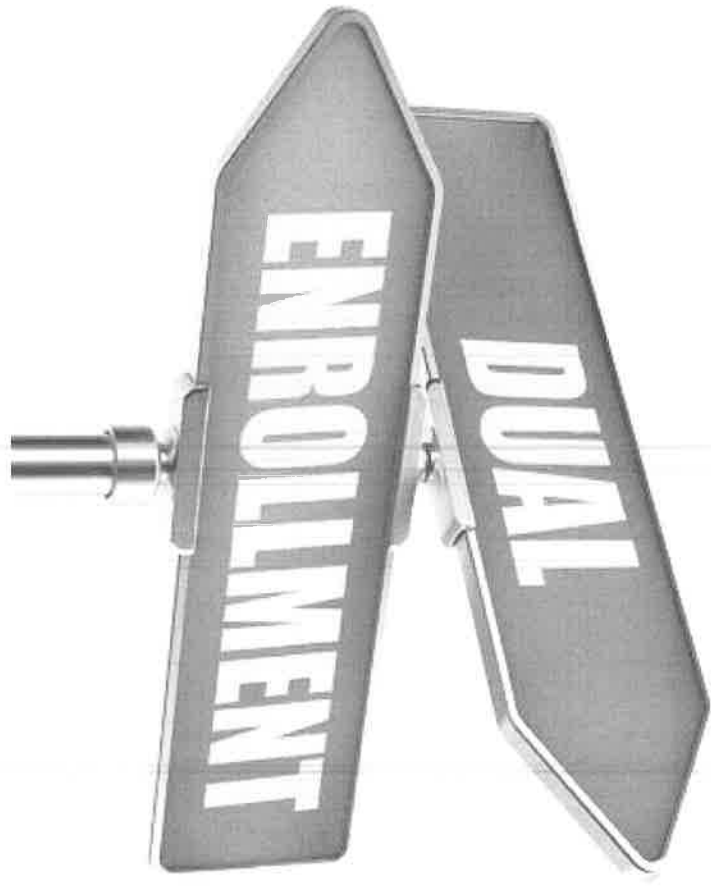
Subject Matter Experts
Employed by Nissan
Adjunct through TCAT

TCAT Enrollment

Dual Enrollment with
TCAT Shelbyville or
TCAT McMinnville
Production Technician →
Industrial Maintenance

WBL + Industry Certificates

Job Shadowing
Nissan-Based Projects
Paid Part-Time Employment
Multiple Industry
Recognized Certificates



Dual Enrollment & Workforce Development

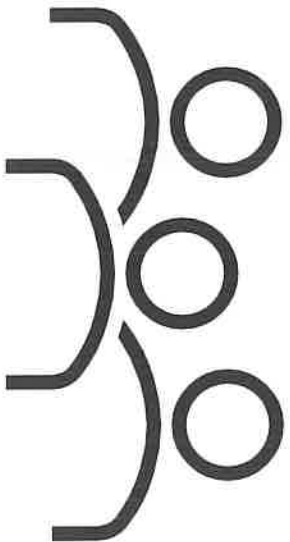
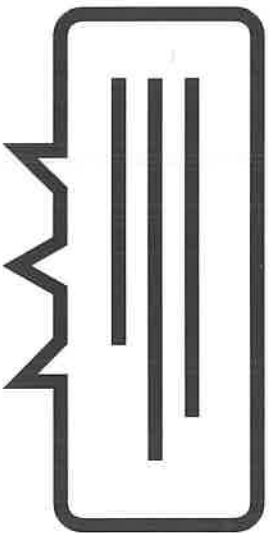


Dual Enrollment Basics



- No or low cost to students- You can take courses while in high school
- Earn high school credits while taking TCAT courses
- Learn hands-on skills that prepare you for a career before you graduate
- Talk to your high school counselor about dual enrollment with TCAT Shelbyville

Q & A



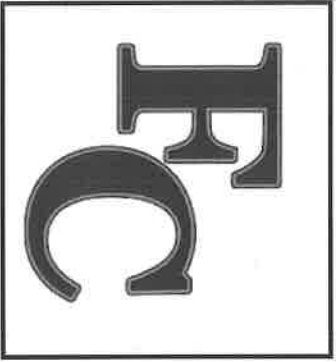
WHO?



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Centers of Excellence



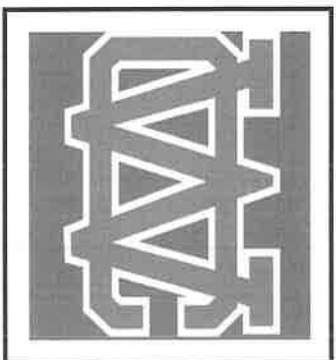
Franklin County
*Includes Huntland Students



Grundy County



Tullahoma High



Warren County

Launch Sites Fall 2024

HOW?



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ADVANCED MANUFACTURING TECHNICIAN TRAINING

Worker Traits: Develop work habits like showing up on time, working well with others, communicating clearly, and showing respect

Safety First: Focuses on the importance of safety and knowing how to stay safe at work

Tech Basics: Essential computer skills, problem-solving, basic math, prepping students for a tech-savvy workplace

Measuring Success: Learn to use tools for precise measurements, crucial for quality control in manufacturing

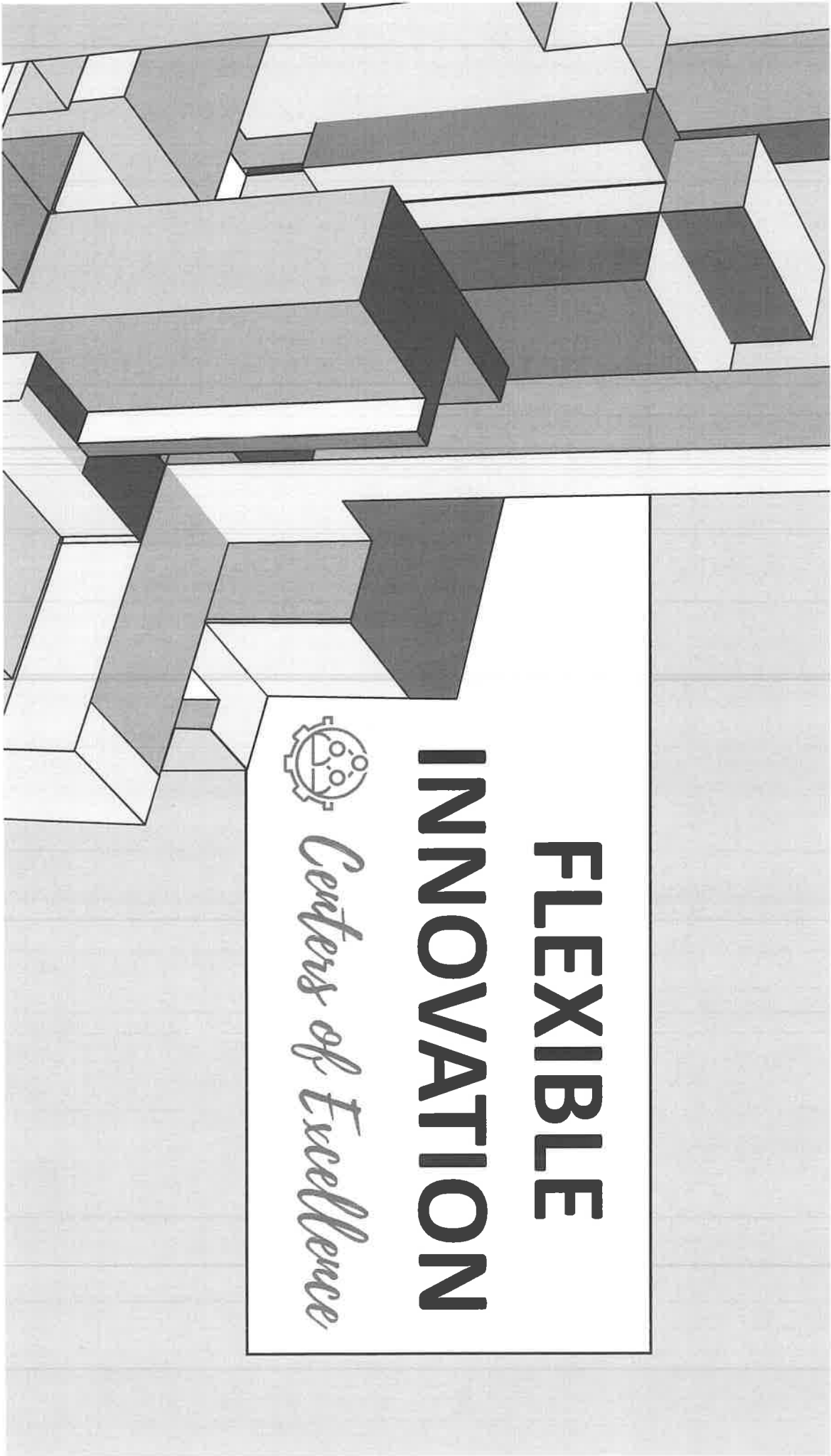
Electric Essentials: Covers the basics of electricity, including how circuits work, to build a foundation in electrical technology



COE Work-Based Learning Model

- Plant Tours/Guest Speakers
- Project-Based Learning
- Job Shadowing
- Paid Student Employment
 - Production Technicians
 - Maintenance Technicians





FLEXIBLE INNOVATION



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FLEXIBLE INNOVATION = WORKFORCE IMPACT

<p>Advanced Manufacturing Foundations</p> <p>Safety & Orientation Hand & Power Tools Precision Measurement Tech Foundations *Worker Characteristics</p>	<p>Certified Production Technician</p> <p>CPT - Safety, Practices /Measurement, Processes & Production, Maintenance Awareness *Worker Characteristics</p>	<p>Introduction to Manufacturing</p> <p>Digital Literacy Intro to Manufacturing LEAN/Six Sigma *Worker Characteristics</p>	<p>Introduction to Mechatronics</p> <p>Intro to Mechatronics FANUC Robot Operator 1 **EV Fundamentals *Worker Characteristics</p>
<p>OSHA 10 Certification</p>	<p>CPT Certificates</p>	<p>Six Sigma White Belt</p>	<p>FANUC Robot Operator</p>
<p>Work-Based Learning</p> <p>Job Shadowing Plant Tours Project-Based learning</p>	<p>Work-Based Learning</p> <p>Job Shadowing Plant Tours Project Based Learning Paid Internship Opp-Seniors</p>	<p>Work-Based Learning</p> <p>Job Shadowing Plant Tours Project Based Learning Paid Internship Opportunity</p>	<p>Work-Based Learning</p> <p>Job Shadowing Plant Tours Project Based Learning Paid Internship Opportunity</p>

*Based on 90-minute block, 36 weeks = 270 hours **EV fundamentals add on option

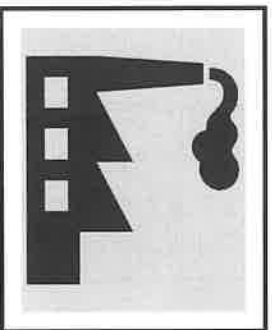
*Schedules can vary by school/student *Worker Characteristics and WBL will be woven throughout program

WORKFORCE IMPACT



Centers of Excellence

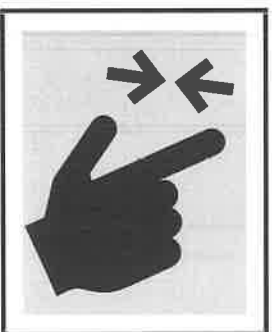
WHAT IS THE IMPACT TO STUDENTS?



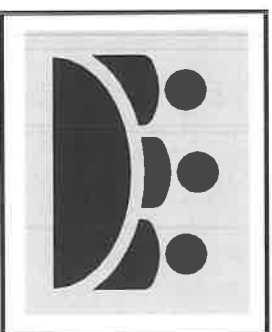
Industry
Recognition



Advanced Technical
Skills



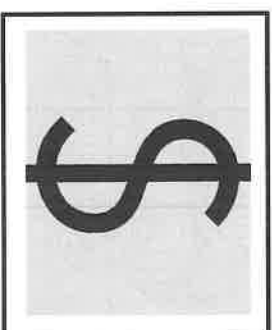
Hands-On
Experience



Soft Skills
Development



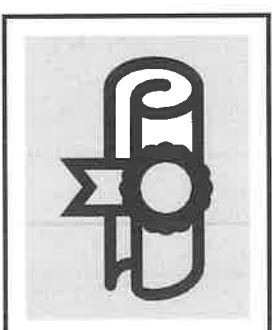
Expert Led
Instruction



Dual Enrollment
Advantage

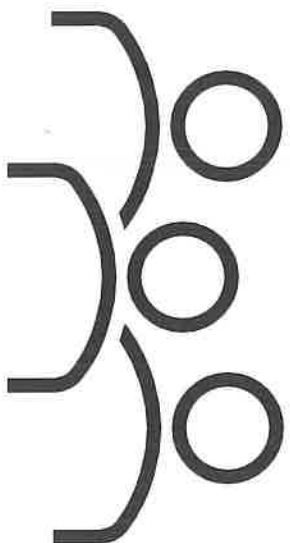
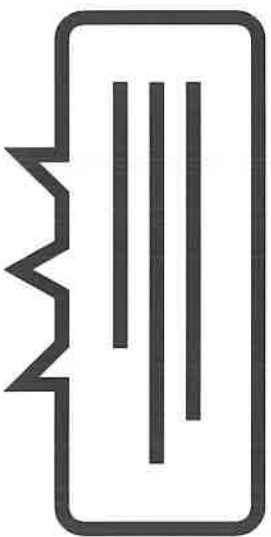


Pathway to
Employment



College & Career
Readiness

Q & A





APPENDIX F- Budget

GRANT BUDGET				
GIVE Program Competitive Grant				
The grant budget line-item amounts below shall be applicable only to expenses incurred during the following				
Applicable Period: BEGIN:		END:		
POLICY 03 Object Line-item Reference	EXPENSE OBJECT LINE-ITEM CATEGORY ¹	GRANT CONTRACT	GRANTEE PARTICIPATION	TOTAL PROJECT
1, 2	Salaries, Benefits & Taxes	\$139,953	0.00	0.00
4, 15	Professional Fee, Grant & Award ²	\$100,450	0.00	0.00
5, 6, 7, 8, 9, 10	Supplies, Telephone, Postage & Shipping, Occupancy, Equipment Rental & Maintenance, Printing & Publications	\$193,712	0.00	0.00
11, 12	Travel, Conferences & Meetings	\$139,200	0.00	0.00
13	Interest ²	0.00	0.00	0.00
14	Insurance	0.00	0.00	0.00
16	Specific Assistance to Individuals	0.00	0.00	0.00
17	Depreciation ²	0.00	0.00	0.00
18	Other Non-Personnel ²	0.00	0.00	0.00
20	Capital Purchase ²	\$1,266,685	0.00	0.00
22	Indirect Cost	\$160,000	0.00	0.00
24	In-Kind Expense	0.00	0.00	0.00
25	GRAND TOTAL	2,000,000.00	0.00	0.00

¹ Each expense object line-item shall be defined by the Department of Finance and Administration Policy 03, *Uniform Reporting Requirements and Cost Allocation Plans for Sub recipients of Federal and State Grant Monies, Appendix A.* (posted on the Internet at: www.state.tn.us/finance/act/documents/policy3.pdf).

² Applicable detail follows this page if line-item is funded.

GRANT BUDGET LINE-ITEM DETAIL

Line 1 Salaries and Wages

Adjunct faculty needed for this grant are the following – Warren County High School Advanced Manufacturing Technician Certificate/Industrial Maintenance Instructor (\$25,074), Grundy County High School Advanced Manufacturing Technician Certificate/Industrial Maintenance Instructor (\$25,074), Adjuncts for Franklin County High School (\$33,432) & Tullahoma High School (\$33,432) Advanced Manufacturing Certificate Technicians and an adjunct to transport the mobile classroom to monthly Work-Based learning activities (\$12,995). The total over the four years of the grant equals \$130,007. The first year's adjunct cost for the Advanced Manufacturing Technician Certificate Dual Enrollment is going to be provided by Nissan.

Line 2 Employee Benefits & Payroll Taxes

For the salary expenditures listed above, we are required to pay 7.65% FICA tax. Over the term of the grant \$9946 will be spent.

Line 4 Professional Fees

Two of the high schools, Coffee County Central High School (CCCHS) and DeKalb County High School (DCHS), will be providing instructors for their Industrial Maintenance (IM) Programs. These schools will be paid a percentage per student enrolled in IM programs as per the traditional Dual Enrollment MOU. The budgeted amounts over the grant period are \$3,734 for CCCHS and 3,716 for DCHS for a total of \$7,450. Training will be provided through this grant on the interchangeable trainers for the mobile unit at a cost of \$5,000, for the FANUC Robot at \$20,000 and for the CPT Equipment at \$36,000. The total of the professional fees are \$100,450.

Line 5 Supplies

We are requesting a total of \$25,860 in supplies for the interchangeable trainers, \$60,080 in supplies for the Advanced Manufacturing Technician Certificate and Industrial Maintenance program, \$28,940 for consumables to support these programs, \$38,512 for Amatrol Software and \$40,320 for the OSHA 30 course and exam. The attached supply list shows anticipated supply needs to meet grant activities. The total for supplies is \$193,712.

Line 6 Telephone

N/A

Line 7 Postage and Shipping

N/A

Line 9 Equipment Rental and Maintenance

N/A

Line 10 Printing and Publications

This grant will provide funds for promotional items and printing in the amount of \$8,000 per year for a total of \$32,000.

Line 11 Travel

Transporting students from Grundy County High School and Cannon County High Schools to TCAT-McMinnville is provided in this grant at a cost of \$91,200 over the term of this grant. The transportation for Grundy High School will be provided by Southeast Tennessee Human Resource Agency (SETHRA) and the Cannon County High School transportation will be provided by Upper Cumberland Human Resource Agency (UCHRA). Travel for WBL opportunities for each high school has been allocated at \$500 for a total of 10 opportunities per semester. This amounts to \$40,000 over the term of the grant. Also included is fuel costs of \$8,000 for travel to and from the Work-Based Learning events for the mobile classroom. The total for travel is \$139,200.

Line 12 Conferences and Meetings

N/A

Line 15 Grants and Awards

N/A

Line 18 Other Non-personnel Expenses

N/A

Line 19 Capital Purchases

The bulk of the budget for this project will be invested in the industry-approved equipment required to teach the TCAT curriculum in the Advanced Manufacturing Technician Certificate and Industrial Maintenance programs. The attached equipment list has been approved by secondary, TCAT and industry partners. This list includes the curriculums for the AMT and IM programs with the equipment that will be used to teach those sections. The total cost of the capital equipment is \$1,266,685.

Line 22 Indirect Costs

Eight percent of the total grant will be used as administrative/indirect costs to ensure the grant is managed properly and all grant commitments are achieved. This award has many facets, and the award will require a significant amount of work from multiple staff to complete all the activities. The total cost of indirect costs is \$160,000.

Line 24 In-Kind

N/A.

Line 25 Total Expenses

Total funding request: \$2,000,000

GIVE 3.0 Supplies**Cost # Needed****Total****Interchangeable Trainers**

Tig Foot Pedal Kit	\$400.00	1	\$400.00
Heavy-Duty Transportation Cases -WEL Sys.	\$3,795.00	1	\$3,795.00
MobileArc Welding Simulator	\$4,439.00	1	\$4,439.00
Principles of Electricity/Electronics w/Comprehensive Curriculum	\$2,695.00	1	\$2,695.00
Principles of Pneumatics w/Comprehensive Curriculum	\$3,695.00	1	\$3,695.00
Principles of Hydraulics w/Comprehensive Curriculum	\$3,195.00	1	\$3,195.00
Engineering Explorer Pack (incl. Tough 1500, Rigid 4000, Flexible 80A, High Temp V2)	\$870.00	1	\$870.00
Standard Explorer Pack	\$871.00	1	\$871.00
Form 3L Resin Tank V3	\$400.00	1	\$400.00
Makerbot Sketch large desktop 3D printer	\$1,500.00	1	\$1,500.00
VR Equipment/Headsets	\$400.00	10	\$4,000.00

AM/IM Program

Screwdriver set	\$10.00	80	\$800.00
Plier set	\$15.00	80	\$1,200.00
Wire strippers	\$6.00	80	\$480.00
Safety glasses	\$2.00	80	\$160.00
Ear plugs	\$1.00	80	\$80.00
Gloves	\$10.00	80	\$800.00
VR equipment/headsets	\$400.00	48	\$19,200.00
Amatrol computers to run equipment	\$2,000.00	8	\$16,000.00
Time clock	\$350.00	4	\$1,400.00
Matric AC/DC Training System	\$2,495.00	8	\$19,960.00
Consumables for Trainers/AM TCAT Program	\$28,940.00	1	\$28,940.00
Amatro Software	\$58.00	664	\$38,512.00
OSHA 30 Course & Exam	\$105.00	384	\$40,320.00

\$193,712.00

GIVE 3.0 Capital Equipment

	Cost	Number	Total
Amatrol AC/DC Electrical Learning System	\$ 8,355.00	2	\$ 16,710.00
FESTO-Fundamental of Mechanical Systems	\$ 38,195.00	3	\$ 114,585.00
Amatrol 96MS1 - 950-MES1	\$ 7,770.00	5	\$ 38,850.00
Reletech FESTO LV Series AC/DC Training Sys	\$ 9,995.00	1	\$ 9,995.00
Amatrol MSCC CPT-Skills Boss Smart Factory	\$ 23,588.00	8	\$ 188,704.00
FESTO Mech Lab	\$ 21,867.00	8	\$ 174,936.00
AMTEC Advanced Manufacturing System Simulator	\$ 220,000.00	2	\$ 440,000.00
FANUC Certified Robot Operator	\$ 42,500.00	4	\$ 170,000.00
Pump Cavitation Simulator	\$ 13,946.75	4	\$ 55,787.00
AugmentedArc® Augmented Reality Welding System	\$ 34,020.00	1	\$ 34,020.00
Form 3L Complete Wholesale Package -3D Printer	\$ 23,098.00	1	\$ 23,098.00

\$ 1,266,685.00

GIVE 3.0 Advanced Manufacturing Curriculum

Description	Hours	Equipment/Software	Total Hours
Worker Characteristic	6		
Safety & Orientation	20		
Technology Foundations	25		
Tools & Measurement	30	Amatrol 96MS1 - 950-MES1 & 3D Printer	
Digital Literacy	6		
Intro to Manufacturing	48	Amatrol Software & 3D Printer	
Certified Production Technician	250	MSSC CPT -Skills Boss Smart Factory - Amatrol	
LEAN/Six Sigma	60	Amatrol Software	
Introduction to Mechatronics	120	Festo Mech Lab - Reletech	
FANUC Certified Robot Operator 1	75	FANUC Certified Robot Operator	
Certificate Advanced Manufacturing Technician			640

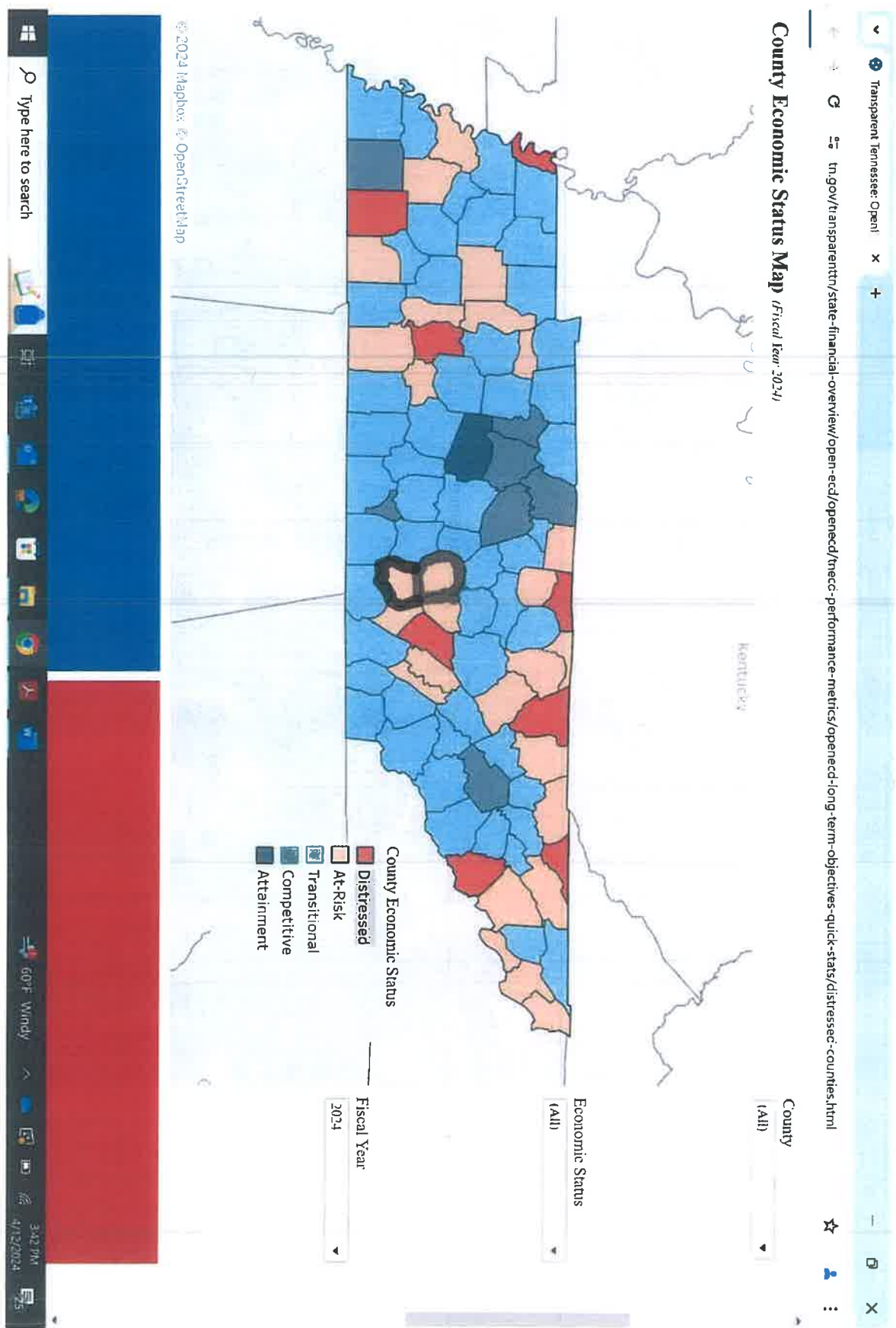
GIVE 3.0 Industrial Maintenance Curriculum

Industrial Maintenance Program		Traditional hours	Equipment /Software
IMG 0001	Worker Characteristic	6	
IMG 1011	Safety and Orientation	48	
IMG 1020	Technology Foundations	18	
IMG 1030	Hand and Power Tools	6	
IMG 1040	Industrial Print Reading	12	Amatrol 96MS1 - 950-MES1 & 3D Printer
IMG 1050	Measurement Tapes Mics Caliper	6	Amatrol 96MS1 - 950-MES1 & 3D Printer
IMG 1060	Mechanical Power Transmission	30	
IMG 1070	Ohms Law	6	Amatrol AC/DC Elec Sys & Reletch FESTO LV Series AC/DC Training Sys
IMG 1080	Electrical Circuits&Components	20	Amatrol AC/DC Elec Sys & Reletch FESTO LV Series AC/DC Training Sys
IMG 1090	Electrical Test Equipment	18	Amatrol AC/DC Elec Sys & Reletch FESTO LV Series AC/DC Training Sys
IMG 1100	Electrical Circuit Analysis	30	Amatrol AC/DC Elec Sys & Reletch FESTO LV Series AC/DC Training Sys
IMG 1110	Transformers	24	Amatrol AC/DC Elec Sys & Reletch FESTO LV Series AC/DC Training Sys
IMG 1120	Electrical Machinery	18	Amatrol AC/DC Elec Sys & Reletch FESTO LV Series AC/DC Training Sys
IMG 1130	NIDA Computer Base Training	154	
IMG 1140	Rigging	36	
	Industrial Maintenance Helper	432	
IMG 0002	Worker Characteristic	6	
IMG 2010	Fluid Power	118	Pump Cavitation Simulator
IMG 2020	Motors & Motor Control Systems	200	
IMG 2031	Welding Safety and Virtual Welding	6	Augmented Arc Augmented Reality Welding Sys
IMG 2040	Arc Welding	24	
IMG 2050	T-Joint Welding	24	
IMG 2060	Mig Welding	30	
IMG 2071	Tig Welding	24	
	Industrial Maintenance Apprentice	864	
IMG 0003	Worker Characteristic	6	
IMG 3010	Motor Ctrl Wiring & Trbleshoot	210	
IMG 3020	Intro to PLC Programming	216	
	Industrial Maintenance Apprentice II	1296	
IMG 0004	Worker Characteristic	6	
IMG 4010	PLC Programming & Troubleshoot	210	AMTEC-Advanced Manufacturing System Simulator
IMG 4020	Introduction to Robotics	216	AMTEC-Advanced Manufacturing System Simulator
	Industrial Maintenance Technician	1728	

Appendix H – County Economic Status Acknowledgment

Appalachian Regional Commission (ARC)

<https://www.tn.gov/transparenttn/state-financial-overview/open-ecd/openecd/mneed-performance-metrics/openecd-long-term-objectives-quick-stats/distressed-counties.html>



Warren and Grundy counties, marked in black on map above are at-risk counties.

Appendix I – Census Tracts in Persistent Poverty

Census Tracts in Persistent Poverty

East Lincoln Elementary School which is located at 700 E Lincoln St, Tullahoma, TN 37388 is in census tract 47031970900.

Census Tracts in Persistent Poverty: 1989 to 2015-2019

Datasets used include 1990 and 2000 Decennial Censuses, 2005-2009 and 2015-2019 American Community Survey, 5-year estimates.

For each dataset, census tract poverty rate was 20 percent or more

State	County	County ID	Tract
Tennessee	Coffee County	47031	47031970900

<https://www.census.gov/library/publications/2023/acs/acs-51.html>

Census Reporter

700 e Lincoln street tullahoma in

Census Tract 9709, Coffee, TN

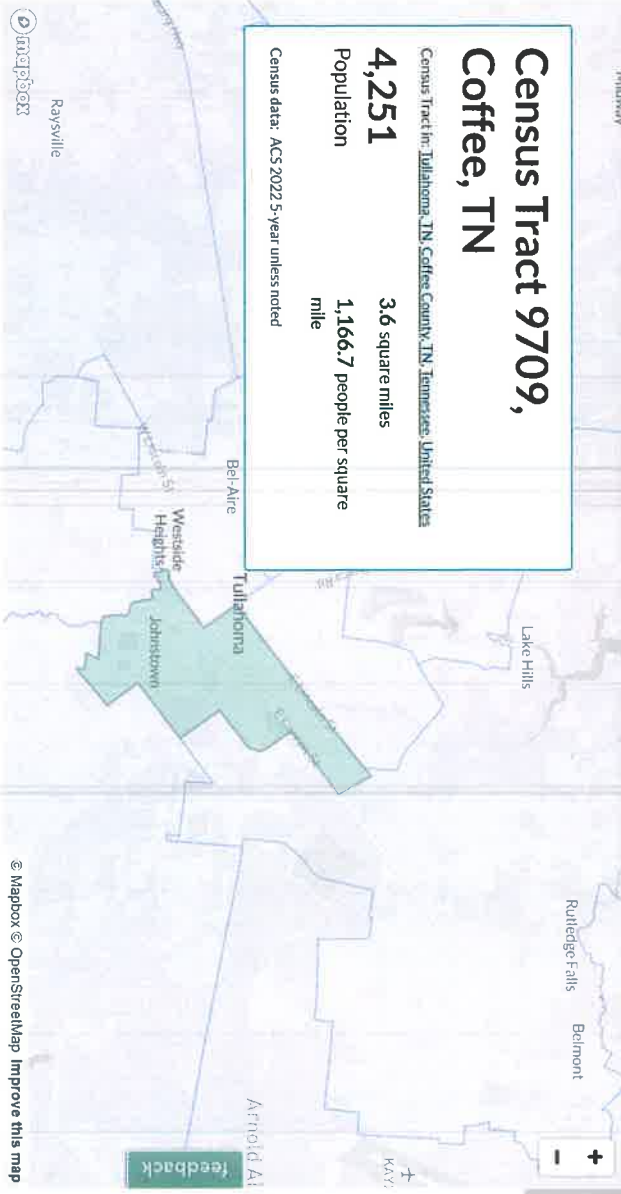
Census Tract in: [Tullahoma, TN](#), [Coffee County, TN](#), [Tennessee, United States](#)

4,251 Population

3.6 square miles

1,166.7 people per square mile

Census data: ACS 2022 5-year unless noted



Find data for this place Search by table or column name

Hover for margins of error and contextual data.

Demographics

Margin of error is at least 10 percent of the total value. Take care with this statistic.

36.9 Median age

about 90 percent of the

Population by age range



Population by age category



Type here to search

Persistent Poverty Census Tract - 470319709000

History

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census.gov/library/publications/2023/acs-51...

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[Counties in Persistent Poverty: 1989 to 20...](#)

census.gov/library/visualizations/2023/comm/co...

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[By the Numbers](#)

census.gov/library/by-the-numbers.html

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[List of counties in Tennessee with persistent poverty](#)

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POLICYMAP
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MY DATA | BOUNDARIES | Demographics | **Incomes & Spending** | Housing | Lending | Quality of Life | Economy | Education

Data | pers | Location | 700 E Lincoln Street Tullaho

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List of counties in tennessee with persistent poverty

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2:02 PM | 4/26/2024

Orange flag marks East Lincoln Elementary School which is located at 700 E Lincoln St, Tullahoma, TN 37388.