



TENNESSEE HIGHER EDUCATION COMMISSION

REGULAR CALENDAR ITEM: VI.

MEETING DATE: November 3, 2022

SUBJECT: Tennessee Colleges of Applied Technology Master Plan

ITEM TYPE: Informational

ACTION RECOMMENDATION: NA

BACKGROUND

Master plans provide an opportunity for long-range planning that incorporates the institution's needs and ambitions, while also providing the public and state government a sense for how the institution might evolve over time. Whether the acquisition of strategic property, the need for and efficient use of facilities, or an analysis of how the campus footprint meshes with the surrounding community, master plans provide a method of anticipating and preparing for the future needs of the campus and the students it serves. THEC requires institutions to produce a master plan every ten years that addresses short-, mid-, and long-term needs of the campus with respect to building and land use, open space, vehicular circulation and parking, and land acquisition opportunities.

The Tennessee Board of Regents' mission is "Student Success and Workforce Development" and the system's Tennessee Colleges of Applied Technology (TCATs) are a critical factor in that effort. An important element in fulfilling that mission is appropriate facilities to house the proper equipment and meet student demand. TCATs supply Tennessee's welders, mechanics, nurses, truck drivers and more, jobs which form the backbone of the economy across many regions of the state. Modern facilities and equipment are crucial ingredients in helping the TCATs serve their workforce development mission.

MASTER PLAN SUMMARY

A total of 30,338 students (12,551 FTE students) were enrolled in academic year 2020-21 at the Tennessee Colleges of Applied Technology (TCATs) statewide, an increase of 12 percent since academic year 2012-13 when the previous Master Plan was compared (27,392 students or 11,246 FTE students). The previous Master Plan has largely been implemented, including the following major projects totaling more than \$100 million in investment. A draft of the comprehensive TCAT Statewide Master Plan is attached.

- Athens - additions
- Chattanooga - new building and addition
- Covington - new building and addition
- Crossville - two new buildings
- Crump - new building
- Dickson - new building and additions
- Hartsville - additions
- Hohenwald - new building and related renovations
- Jacksboro - new building
- Jackson - additions

- Livingston - new building
- McKenzie - additions
- Memphis - new building
- Morristown - new building
- Nashville - new building
- Newbern - new building
- Paris - addition
- Shelbyville - new temporary building
- Smyrna - new campus

ENGAGEMENT AND INFORMATION GATHERING

The Master Plan Update included a walk-through of each of each campus to conduct an analysis, documentation of existing conditions, and a series of interviews and meetings, as shown below. Conversations with the Regional Advisory Boards provided context to supplement labor market data, and perceptions of the TCAT campus in the community.

- Comprehensive campus walk-through & space audit
- Needs and priorities discussion with each President
- One-on-one interviews with representative faculty
- Focus group with each Regional Advisory Board

RECOMMENDATIONS

The updated 2022 Master Plan focuses on recommended investments for state-owned campuses with the poorest facility conditions and those with the need for the most space based on the THEC Space Guidelines. The plan also recommends investments on campuses that did not receive any major upgrades since the last Master Plan, or which have historically not seen investment. More than half of the square footage on state-owned TCAT campuses is more than 50 years old, in building types that are not designed to last beyond this timeframe, and do not accommodate modern equipment and contemporary technical education.

A number of campuses are recommended to be demolished and replaced, either on site or at a new location. In some cases, newer buildings can be preserved on these sites, but on others, all buildings will need to be replaced. These are as follows:

Recommended Campus Replacements

- Covington (on same site, except retain health building)
- Harriman (on Roane State main campus)
- Knoxville (on same site)
- Lexington (on same site)
- McMinnville (on same site)
- Nashville Airport (on same site)
- Paris (new site, already in progress)
- Shelbyville (new site, already in progress)

Sites with Recommended New Buildings

On the following campuses, new buildings are recommended. Multiple additions are also recommended in Hohenwald.

- Athens
- Chattanooga
- Clarksville
- Crossville
- Crump (an addition is also recommended)
- Dickson (two buildings)
- Hartsville (two buildings, an addition is also recommended)
- Jacksboro (two buildings)
- Jackson
- Livingston (two buildings)
- McKenzie
- Memphis (two buildings)
- Nashville (three buildings)
- Newbern (two additions are also recommended)
- Oneida
- Pulaski (two buildings, two additions are also recommended)
- Ripley

Recommended New Campuses

- Bledsoe County, Crossville (TCAT Crossville)
- Blue Oval City (TCAT Jackson)
- Brownsville (TCAT Jackson - already in progress)
- Elizabethton (Boones Creek - already in progress, Carter County)
- Fentress County (TCAT Oneida/Huntsville)
- Knoxville (West Knoxville - Roane State, Union County)
- Polk County (TCAT Athens)
- Rhea County (TCAT Chattanooga)
- Union County (TCAT Knoxville)

Space Guidelines

In coordination with THEC staff, the Master Plan Update also modifies the THEC Space Guidelines to accommodate contemporary needs for flexible industry training space and student commons space and removes the standard for food service space. A minimum space threshold was established based on base enrollments for each program.

Academic Programs

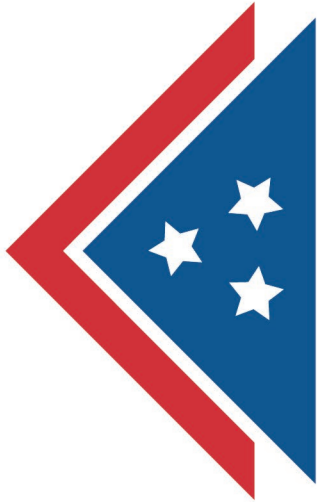
Many programs are taught within the TCAT system, and nomenclature and curricula vary from campus to campus. For the purposes of this Plan, programs were grouped under 45 headings. Programs taught on the most state-owned campuses include the following:

- Administrative Office Technology (26 campuses)
- Automotive Technology (24 campuses)
- Computer Information Technology (26 campuses)
- HVAC (20 campuses)
- Licensed Practical Nursing (28 campuses)

- Machine Tool Technology (25 campuses)
- Welding Technology (28 campuses)

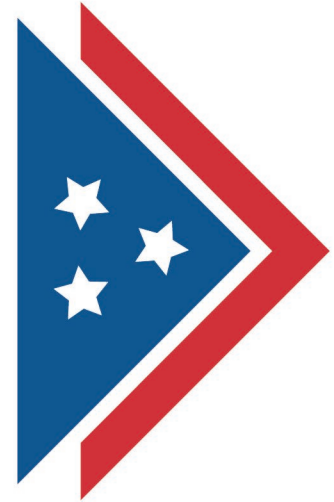
Each program was evaluated based on the job outlook by industry cluster and region to determine the potential demand for graduates of each program in each region. Conversations with local employers and TCAT instructors also informed the understanding of local job outlook.

The Master Plan Update also includes a list for each campus of potential new academic programs to be offered. Many of these are long-term goals based on workforce development potential, and flexible space is often recommended to accommodate future workforce needs.



TCAT

Statewide Master Plan



TENNESSEE COLLEGES OF
APPLIED TECHNOLOGY
MASTER PLAN UPDATE

SBC Project No. 166/000-04-2011
DRAFT October 18, 2022

ACKNOWLEDGMENTS

The master planning team would like to thank TBR staff, the members of campus Advisory Boards, TCAT instructors, and the following TCAT Presidents for their generous participation in the planning process:

TCAT Athens	Stewart Smith	TCAT McKenzie	Willie Huffman
TCAT Chattanooga	Jim Barrott	TCAT McMinnville	Dr. Melody Edmonds*
TCAT Crossville	Clifford Wightman	TCAT Memphis	Dr. Roland Rayner
TCAT Crump	Stephen Milligan	TCAT Morristown	Jerry Young*
TCAT Dickson	Arrita Summers	TCAT Murfreesboro	Dr. Carol Puryear
TCAT Elizabethton	Dean Blevins*	TCAT Nashville	Nathan Garrett*
TCAT Harriman	Danice Turpin	TCAT Northwest	Dr. Youlanda Jones
TCAT Hartsville	Mae Wright	TCAT Oneida/Huntsville	Dwight Murphy
TCAT Hohenwald	Kelli Kea-Carroll	TCAT Paris	Willie Huffman
TCAT Jacksboro	Debbie Petree	TCAT Pulaski	Mike Whitehead
TCAT Jackson	Jeff Sisk	TCAT Shelbyville	Laura Monks
TCAT Knoxville	Kelli Chaney	TCAT Whiteville	Jeff Sisk
TCAT Livingston	Myra West		

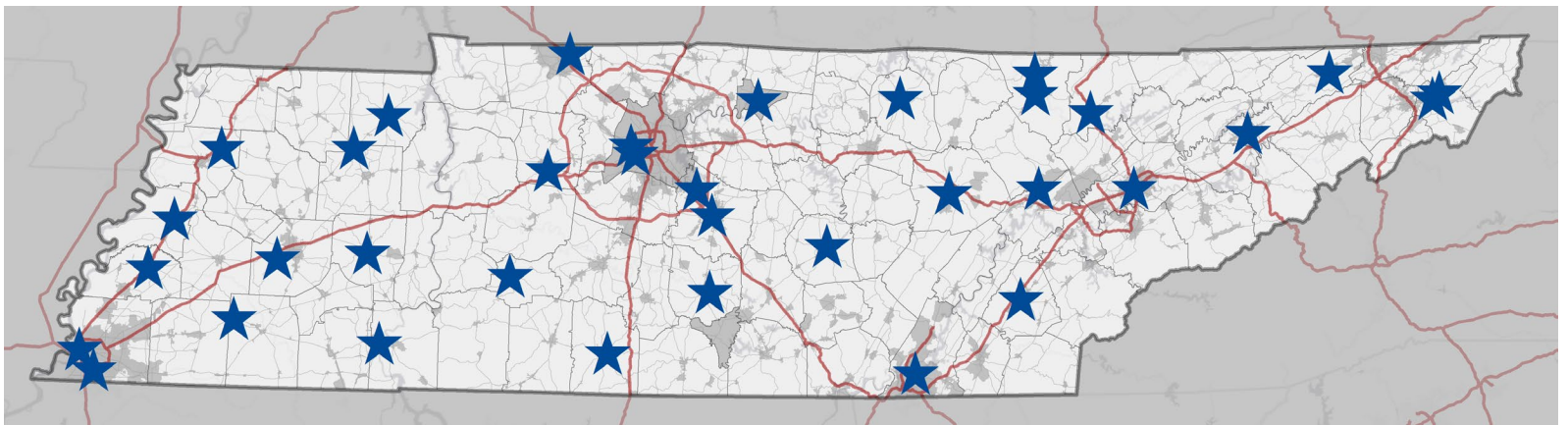
**A number of presidents transitioned during the planning process; the names listed here are those that were president for the majority of planning discussions*

The Master Plan logo shown on the cover is the result of a design competition among all TCATs with a graphic design program—the winning logo was designed by the following team of students from TCAT Crump: Crimson Barber, Collin Strong, and Casey Wilson



TABLE OF CONTENTS

Introduction	2	Livingston	231
Athens	19	McKenzie	245
Chattanooga	29	McMinnville	255
Clarksville.....	45	Memphis	265
Covington	57	Memphis Airport.....	281
Crossville	69	Morristown	289
Crump.....	85	Murfreesboro	301
Dickson	97	Nashville.....	311
Elizabethton.....	109	Nashville Airport.....	325
Harriman	125	Newbern	333
Hartsville	137	Oneida	343
Hawkins County	147	Paris	353
Hohenwald	157	Pulaski	365
Huntsville	169	Ripley	375
Jacksboro	179	Shelbyville	385
Jackson	191	Smyrna.....	397
Knoxville.....	203	Whiteville.....	407
Lexington.....	221	Appendix.....	417



INTRODUCTION

This plan provides recommendations for the 34 campuses shown on the previous page, and which includes most state-owned TCAT campuses. While a number of these campuses are under common TCAT leadership or share a name, they are not immediately adjacent to each other. For this reason, a separate chapter is devoted to their academic programs and future needs.

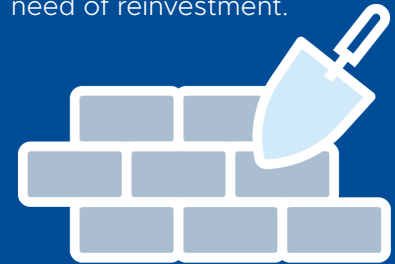
TBR's mission is "Student Success and Workforce Development" and the system's TCATs are a critical factor in that effort. An important element in fulfilling that mission is appropriate facilities to house the proper equipment and meet student demand. TCATs supply Tennessee's welders, mechanics, nurses, truck drivers and more, jobs which form the backbone of the economy across many regions of the state. Modern facilities and equipment are crucial ingredients in helping the TCATs serve their workforce development mission.



Significant investment has been made in new facilities since the previous Master Plan, such as this addition at TCAT Athens

PREVIOUS PLAN IMPLEMENTATION

Significant portions of the 2014 TCAT Statewide Master Plan have been implemented with more than \$97 million in investment in major state-funded projects, not including hundreds of significant but smaller renovations and facilities improvements on nearly every campus. This enormous investment has provided many new additions, renovations, and buildings, but has not reached every campus, some of which are in significant need of reinvestment.



\$97M+

INVESTMENT
IMPLEMENTING
PREVIOUS
MASTER PLAN

MANY FACILITIES IN NEED OF REPLACEMENT

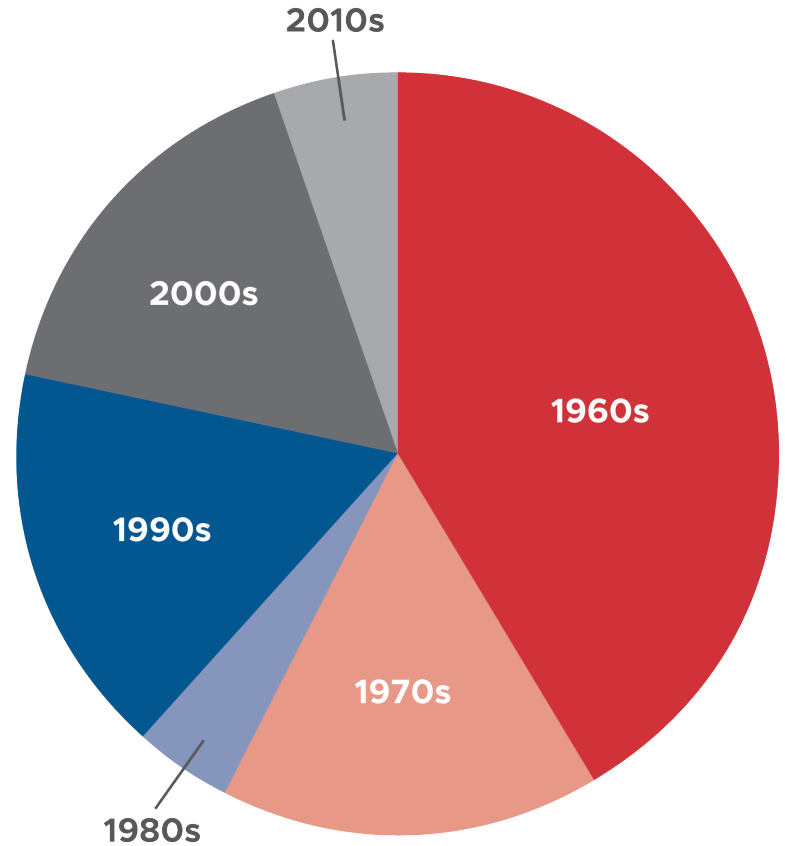
There are still many significant needs on many campuses. Some campuses have not seen any major investments since the previous Master Plan, and despite significant investment in recent decades, a majority of square footage on campuses in this plan is more than 50 years old.

- » Building construction type is not intended to last more than 50-60 years
- » Many building systems (roofs, HVAC, electrical, plumbing, etc.) are reaching the end of their useful lives
- » Spaces are not designed for modern equipment and teaching methods, and are inflexible
- » Facilities lack modern amenities in many cases, including air conditioning, accessible restrooms, and modern finishes



This historic photo shows a TCAT Machine Tool shop in 1965—many similar labs are still in the same condition today, with dated buildings and equipment that is no longer suitable

SQUARE FOOTAGE BY DECADE CONSTRUCTED



Specific renovations are only recommended in this plan in association with migrations. Major TCAT renovations are difficult, given that each space serves a specific purpose and can be hard to take offline.

Each campus has a good understanding of their facilities needs and is working through a backlog of renovations that include building components such as roofs, HVAC systems, plumbing, restroom upgrades, and similar projects. Interior improvements to lighting, floors, furniture, and paint should also continue to help modernize even those spaces proposed for future demolition.

UPDATES TO THEC SPACE GUIDELINES

As part of this process, the following updates were proposed to how space needs are determined.

- » Add a minimum threshold for teaching spaces so that programs with small enrollments do not show a need for substandard size spaces
- » Add standard for industry training space based on total number of annual industry training hours provided
- » Replace standard for food service space with standard for student commons space and increase this allowance to account for the difference in space configuration
- » Slightly increased the space allowance for multipurpose spaces to better match needs

Space needs shown for each site in this report are based on the updated THEC Space Guidelines and existing space use during the campus walk-throughs in 2020 and 2021.

CAMPUS ENGAGEMENT

The planning team visited each of the TCAT campuses to conduct an analysis, document existing conditions, and hold a series of interviews and meetings, as shown below. A detailed facilities analysis or PFIS update was not included as part of this effort.

- » Comprehensive campus walk-through & space audit
- » Needs and priorities discussion with each President
- » One-on-one interviews with representative faculty
- » Focus group with each Regional Advisory Board

ADVISORY BOARD COMMENTS

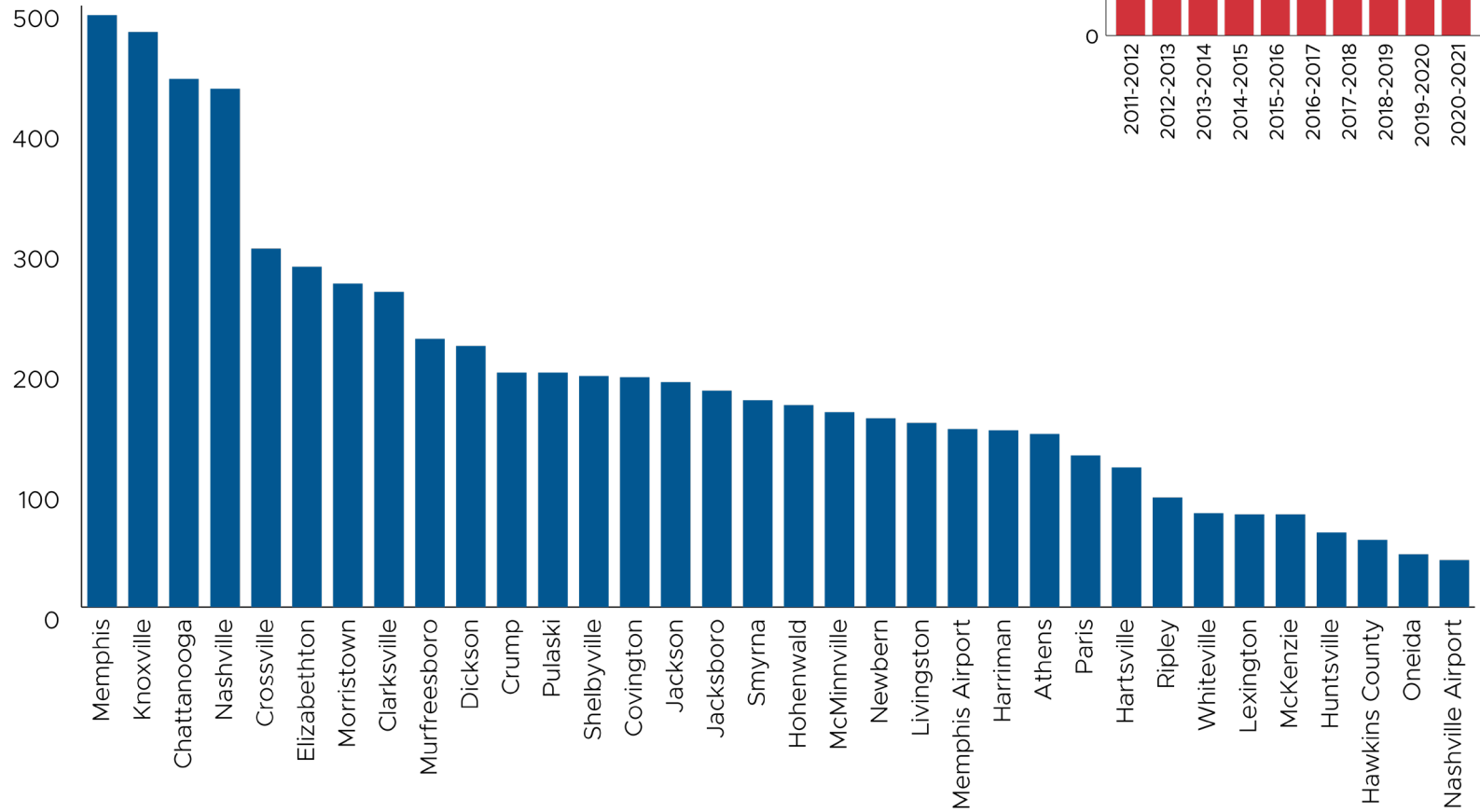
Each TCAT has a Regional Advisory Board, which often includes local politicians, major employers, school board members, and others involved in regional economic and workforce development. They provided significant regional context for each TCAT, which is summarized in each chapter. Several overarching themes emerged that apply statewide.

- » TCATs are doing great at technical education, preparing graduates, and regional partnerships
- » Employers are desperate for more trained graduates
- » TCAT facilities should have a more modern and technical feel to help recruitment of prospective students and employers
- » Parents have a stigma about the TCATs and can be hard to convince after their first impressions of older facilities
- » Students sometimes feel like they are going backwards when they enroll here compared to local high schools, many of which have been modernized

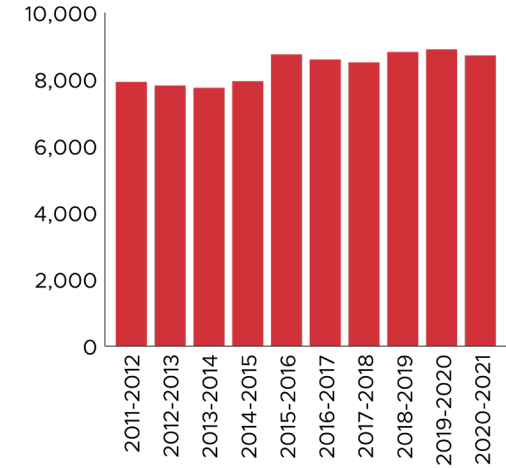
ENROLLMENT

Statewide FTE enrollment at all TCAT campuses has increased by 12% since the previous Master Plan, although some individual campuses and programs have decreased. For this plan, full-time equivalent enrollment was calculated based on 1,296 contact hours to best reflect how many students are on campus, and only includes daytime students. Dual enrollment has increased significantly and is not captured well by FTE data, given that a larger number of high school students are on campus for a shorter period of time.

ADJUSTED FTE ENROLLMENT BY SITE (2020-2021 ACADEMIC YEAR)




ADJUSTED STATEWIDE FTE ENROLLMENT



EXISTING ACADEMIC PROGRAMS OFFERED BY SITE

CAMPUS	Administrative Office Tech.	Advanced Manufacturing	Aesthetics	Animal Lab Assistant	Auto Body/Collision Repair	Automotive Technology	Aviation	Avionics	Barbering	Building Construction	CAD/Drafting	Central Sterile Processing	Certified Nursing Assistant	Computer Information Tech.	Cosmetology	Dental Assistant	Dental Lab Technician	Diesel Tech.	Dietary Manager	Early Childhood Education	EMT
Athens	★				★	★								★							
Chattanooga	★		★		★	★			★					★	★						★
Clarksville	★					★				★				★	★						★
Covington	★					★								★		★					
Crossville	★				★	★				★				★	★						★
Crump	★				★						★			★							
Dickson	★					★								★	★	★					★
Elizabethton	★	★				★								★							★
Harriman	★					★									★						★
Hartsville	★					★								★							
Hawkins County	★																				
Hohenwald	★	★	★			★					★					★					
Huntsville	★					★								★	★						
Jacksboro	★					★				★				★	★						
Jackson	★				★	★					★			★							
Knoxville	★				★	★							★	★	★	★					★
Lexington	★													★							
Livingston	★				★	★				★				★	★						★

Farming Operations	Graphic Design	Health Information Mgmt.	Hospitality	HVAC	Industrial Electricity	Industrial Maintenance	Landscape Management	Logistics	Machine Tool	Mechatronics	Medical Assistant	Message Therapist	Millwright	Pharmacy	Plebotomy	Pipefitting	Power Line Worker	Power Sports	Practical Nursing (LPN)	Residential Electricity	Surgical Technologist	Truck Driving	Welding	Total Count
									★										★				★	7
				★	★	★	★		★		★	★						★	★		★		★	19
	★			★		★			★	★				★					★				★	14
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			★	★		★			★									★	★		★	★	★	16
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	★			★					★										★				★	11
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			★		★				★										★				★	7
						★		★	★		★			★					★				★	15

CAMPUS																					
	Administrative Office Tech.	Advanced Manufacturing	Aesthetics	Animal Lab Assistant	Auto Body/Collision Repair	Automotive Technology	Aviation	Avionics	Barbering	Building Construction	CAD/Drafting	Central Sterile Processing	Certified Nursing Assistant	Computer Information Tech.	Cosmetology	Dental Assistant	Dental Lab Technician	Diesel Tech.	Dietary Manager	Early Childhood Education	EMT
McKenzie	★					★								★							
McMinnville						★								★	★						
Memphis	★			★	★	★			★	★	★			★	★	★	★	★			
Memphis Airport							★	★													
Morristown	★				★	★				★	★			★							
Murfreesboro	★											★		★	★	★					
Nashville	★		★		★	★				★	★			★	★	★	★	★			★
Nashville Airport							★														
Newbern						★					★			★	★						★
Oneida					★					★			★								★
Paris	★				★					★				★	★						
Pulaski	★	★								★				★							
Ripley		★												★	★						
Shelbyville	★					★					★										
Smyrna					★	★															
Whiteville						★								★							
Total Count	26	4	3	1	13	24	2	1	2	10	8	1	2	26	17	6	2	12	1	1	2
















Some programs are grouped under common names here, but have unique names or curricula on some campuses—specific program names and enrollments are shown within the following chapters



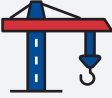











Farming Operations	Graphic Design	Health Information Mgmt.	Hospitality	HVAC	Industrial Electricity	Industrial Maintenance	Landscape Management	Logistics	Machine Tool	Mechatronics	Medical Assistant	Message Therapist	Millwright	Pharmacy	Phlebotomy	Pipefitting	Power Line Worker	Power Sports	Practical Nursing (LPN)	Residential Electricity	Surgical Technologist	Truck Driving	Welding	Total Count
				★		★			★														★	7
					★	★			★										★				★	8
	★			★		★			★	★				★					★			★	★	21
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	★			★	★	★			★							★			★				★	14
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	★					★			★									★	★				★	1
				★	★	★					★			★					★				★	11
	★				★														★					6
				★	★	★			★										★			★	★	10
						★			★														★	5
				★		★					★								★				★	7
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












SUMMARY OF RECOMMENDATIONS













The chapters in this plan detail the specific needs of and recommendations for improvements at each campus. The table below summarizes the primary recommendations for each campus. Campuses are classified as high need based on the poor condition of their facilities (based on the PFIS and site observations) and their need for additional space based on the THEC Space Guidelines. Where new buildings are recommended, they may be provided either on site or at new sites. Additional long-term recommendations beyond the 10-year time frame of this plan are shown in some chapters. As additional funding becomes available, all aging facilities should be considered for partial or total replacement.

Recommended improvements on each campus were developed based on regional economic conditions (both quantitative and qualitative), proposed in-demand programs and their space needs, and facility replacement needs. The goal of all recommendations is to increase enrollment and access, promote workforce development, and provide space for potential students currently on wait lists.

CAMPUS	DEMOLISH BUILDING	NEW BUILDING	NEW ADDITION	HIGH NEED CAMPUS	NOTES
ATHENS					TCAT Initiative Project
CHATTANOOGA					TCAT Initiative Project
CLARKSVILLE					TCAT Initiative Project
COVINGTON					TCAT Initiative Project
CROSSVILLE					TCAT Initiative Project Truck driving site only)
CRUMP					TCAT Initiative Project
DICKSON					TCAT Initiative Project

CAMPUS	DEMOLISH BUILDING	NEW BUILDING	NEW ADDITION	HIGH NEED CAMPUS	NOTES
ELIZABETHTON					Proposed demolition is on Boones Creek campus TCAT Initiative Project
HARRIMAN					Relocate all facilities to new buildings by Roane State campus TCAT Initiative Project
HARTSVILLE					TCAT Initiative Project
HAWKINS COUNTY					
HOHENWALD					TCAT Initiative Project
HUNTSVILLE					
JACKSBORO					TCAT Initiative Project
JACKSON					TCAT Initiative Project
KNOXVILLE					New buildings on site, in West Knoxville (Roane State), and on Knoxville College campus TCAT Initiative Project
LEXINGTON					Replace all facilities on same site TCAT Initiative Project

CAMPUS	DEMOLISH BUILDING	NEW BUILDING	NEW ADDITION	HIGH NEED CAMPUS	NOTES
LIVINGSTON					TCAT Initiative Project
MCKENZIE				  	TCAT Initiative Project
MCMINNVILLE				  	Replace all facilities on same site TCAT Initiative Project
MEMPHIS				  	Replace Education Building Tower building and construct an additional new building TCAT Initiative Project
MEMPHIS AIRPORT					
MORRISTOWN					
MURFREESBORO					
NASHVILLE				  	TCAT Initiative Project
NASHVILLE AIRPORT				  	Replace all facilities on same site TCAT Initiative Project
NEWBERN					TCAT Initiative Project

CAMPUS	DEMOLISH BUILDING	NEW BUILDING	NEW ADDITION	HIGH NEED CAMPUS	NOTES
ONEIDA					TCAT Initiative Project
PARIS					Relocate all facilities to new site
PULASKI					TCAT Initiative Project
RIPLEY					TCAT Initiative Project
SHELBYVILLE					Relocate all facilities to new site TCAT Initiative Project
SMYRNA					
WHITEVILLE					

RECOMMENDED NEW CAMPUSES

The following sites have been identified for new state-owned TCAT sites or campuses. Many other campuses have recommendations for adjacent land acquisition, as shown in the following chapters, or for new sites at leased sites or local high schools.

These locations in particular will help provide access in underserved rural regions, allow better partnerships with community colleges, provide modern facilities where those on an existing campus are inadequate, and allow for a more permanent presence in these communities.

The locations are consistent with the TN Higher Education Demand and Need Maps. These combine data on educational attainment, population growth, access to higher education, poverty levels, K-12 graduates, and other factors to estimate the need and demand for higher education investment in each census tract.

LOCATION	INSTITUTION	NOTES
Bledsoe County	TCAT Crossville	
Blue Oval City	TCAT Jackson	TCAT Initiative Project
Brownsville	TCAT Jackson	Acquiring leased facility
Boones Creek	TCAT Elizabethton	
Carter County	TCAT Elizabethton	Adjacent to Main Campus, now leased by Northeast State
Chattanooga	TCAT Chattanooga	New Transportation Campus
Coffee County	TCAT McMinnville	TCAT Initiative Project
Fentress County	TCAT Oneida/Huntsville	
Polk County	TCAT Athens	
Rhea County	TCAT Chattanooga	
Union County	TCAT Knoxville	
West Knoxville	TCAT Knoxville	Partnership with Roane State

RECOMMENDED STATEWIDE IMPROVEMENTS

A number of improvements should be made statewide to enhance the modern appearance and curb appeal of TCAT campuses. One of these is to establish consistent statewide signage design, perhaps with elements that vary by region. Signage should present a contemporary, technical, collegiate feel and be consistent with the TCAT brand. Improvements to the courtyards that exist at many TCATs could include simple, affordable furniture, landscaping, and art that would create a gathering place for students or outdoor teaching, and provide a fresh first impression for visitors.

POTENTIAL COURTYARD IMPROVEMENTS



SIGNAGE INSPIRATION



PROPOSED ARCHITECTURAL VISION

A number of architectural improvements could help improve TCAT campuses in instances where new buildings are not provided, or before they are able to be constructed. This could include painting brick facades and planting trees, creating covered entrances, or constructing welcome centers to create an improved first impression for new students, with a front desk, info screens, and computers to complete application and financial aid paperwork. Multipurpose rooms could be constructed to provide an immediate improvement to the front facade, while also providing space for graduations, community meetings, and industry training. This same massing and architectural style could be applied to new TCAT buildings.

COVERED ENTRY, PLAZA



WELCOME CENTER, PLAZA



WELCOME CENTER, PLAZA, PAINTED FACADE



WELCOME CENTER, MULTIPURPOSE ROOM

