

Spring 2026
Vol. 2, No. 2

THE JOURNAL OF Urban and Regional Perspectives

Business and Economic Research Center • Jennings A. Jones College of Business • Middle Tennessee State University

ECONOMIC COMPETITIVENESS

How economic factors can affect the development of a region

HOUSING AND ZONING

Industry experts share insights into how affordable housing and zoning practices influence livability

PLUS

REGIONAL
MOBILITY &
ECONOMIC
COMPETITIVENESS

ANALYZING
TENNESSEE'S
EDUCATION
REFORM

SMALL
BUSINESS &
ECONOMIC
IMPACT

TENNESSEE
INTERNATIONAL
TRADE
REPORT

**MIDDLE
TENNESSEE**
STATE UNIVERSITY.

THE JOURNAL OF
Urban and Regional
Perspectives

Spring 2026, Vol. 2, Issue 2

Published by the Business and Economic Research Center (BERC)

Jennings A. Jones College of Business
Middle Tennessee State University
(615) 898-2610
berc@mtsu.edu

Sidney A. McPhee, Ed.D.
President, MTSU

Joyce Heames, Ph.D.
Dean, Jennings A. Jones College of Business

Murat Arik, Ph.D., PDBP
Editor, BERC Director

Andrea Lawrence
Creative Director

Hannah Osborne
Semih Yucekan
Undergraduate Editors

I AM *true*BLUE®

MIDDLE TENNESSEE STATE UNIVERSITY.

0426-9352 / Middle Tennessee State University does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs, and activities sponsored by MTSU. The Assistant to the President for Civil Rights Compliance has been designated to handle inquiries regarding the non-discrimination policies and can be reached at Cope Administration Building 116, 1301 East Main Street, Murfreesboro, TN 37132; Christy.Sigler@mtsu.edu; or 615-898-2185. Also see crc.mtsu.edu.

All photos included in this publication are sourced from Adobe Stock unless otherwise specified.

Table of Contents

4	Editor’s Note
6	Tennessee International Trade Report
12	Zoning for the Current Moment
18	Assessing the Impact of Walkability & Socioeconomic Variables on Obesity in Nashville, TN
21	Weighing the Weights
24	A Conversation on Small Business & Economic Impact in Tennessee
28	The Importance of Housing Stability in Tennessee
32	Dumped on the Market
35	Urban Physical Environments in Tennessee Impact on Mental Distress and Mental Health Services
38	A Panel on Regional Mobility and Economic Competitiveness
42	Trapped in Traffic
44	BERC’s Profile of Activities
46	The Dean’s Corner



Jones College of Business
Business and Economic
Research Center

in
mtsu-berc
Jones-URP

Instagram icon
MTSU BERC

f
BERCatMTSU
JonesURP



Join BERC’s email list for updates on events, publications, and more!
Scan the QR code or go to berc.mtsu.edu/email.

Editor's Note

The Journal of Urban and Regional Perspectives

Welcome to a new issue of *The Journal of Urban and Regional Perspectives*. This edition continues our commitment to advancing thoughtful dialogue at the intersection of research, policy, and community engagement across Tennessee and beyond. As Middle Tennessee navigates rapid demographic change, evolving economic dynamics, and growing pressures on infrastructure, health, and housing, the need for evidence-based insight and collaborative leadership has never been more urgent.

The Jennings and Rebecca Jones Chair of Excellence in Urban and Regional Planning remains dedicated to connecting people, places, and policy through applied scholarship, interdisciplinary learning, and meaningful engagement with community partners. This issue reflects that mission by bringing together undergraduate researchers, practitioners, and regional leaders whose work collectively illuminates the challenges and opportunities shaping our communities.

Undergraduate Scholars Program

This issue features original research produced through the Undergraduate Scholars Program, where students investigate pressing regional questions using data-driven and interdisciplinary approaches:

[“Urban Physical Environments in Tennessee: Impact on Mental Distress and Mental Health Services”](#) – **Michael Zach Burgess** examines how built environments and access to services influence mental health outcomes across communities.

[“Weighing the Weights: Analyzing Tennessee’s Education Reform through a Multi-State Lens”](#) – **Kayla Welker** evaluates education policy reforms and their comparative outcomes across states.

[“Assessing the Impact of Walkability and Socioeconomic Variables on Obesity in Nashville, Tennessee”](#) – **Kalistah Lawrence** explores the relationship between neighborhood design, social conditions, and public health.

[“Dumped on the Market: Understanding the Impact of Landfills on Property Values and Community Well-Being”](#) – **Sydney N. Panak** analyzes environmental burdens and their implications for housing markets and quality of life.

Together, these studies demonstrate the power of undergraduate scholarship to contribute meaningfully to regional discourse - advancing not only academic inquiry but also practical insight for policy makers and community stakeholders.

[“International Trade”](#) – **Steven Livingston**, BERCAssociate Director, provides analysis of global trade dynamics and their implications for Tennessee’s economy.

[“Zoning for the Current Moment: Aligning Nashville’s Land Use Framework with Contemporary Housing and Transit Needs”](#) – **Trevor Garrett**, Treasurer of Greater Nashville REALTORS®, examines how modern zoning strategies can better support growth, mobility, and affordability.

[“A Conversation on Small Business and Economic Impact in Tennessee”](#) – Moderated by **Monique Little** of the Tennessee Small Business Development Center, with insights from **Sarah Callender**, **Greg Lowe**, and **Kayla Miller**, this discussion highlights the critical role of entrepreneurship and local business ecosystems.

[“The Importance of Housing Stability in Tennessee: Challenges, Policy Responses, and Opportunities for Progress”](#) – **Ralph Perrey**, Executive Director of the Tennessee Housing Development Agency, outlines pathways toward more stable and equitable housing outcomes.

[“A Panel on Regional Mobility and Economic Competitiveness”](#) – Moderated by **Jessica Dauphin** of the Transit Alliance of Middle Tennessee, featuring **Mayor Ken Moore**, **Steve Bland**, and **Michael Skipper**, this dialogue explores transportation, accessibility, and long-term regional competitiveness.

Invited Articles and Expert Conversations

Complementing the student research, this issue presents perspectives from practitioners and regional leaders whose work shapes Tennessee’s economic and community landscape:

Across every article and conversation in this issue runs a shared commitment—to healthier communities, stronger economies, and more resilient regions. By elevating student voices, practitioner expertise, and policy-relevant research, this journal seeks to foster informed decision-making and meaningful civic dialogue.

Our hope is that the ideas presented here will inspire continued collaboration and innovation throughout Tennessee and beyond.

Sincerely,



A handwritten signature in blue ink that reads "Murat Arik".

Murat Arik, Ph.D., PDBP

Editor, *The Journal of Urban and Regional Perspectives (JURP)*



Tennessee International Trade Report

4th Quarter 2025

Steven Livingston, Ph.D.

Tennessee exports rose to \$9.7 billion in the fourth quarter of 2025, a gain of over \$400 million from the fourth quarter of a year earlier. But this 4.7% increase still lagged America's overall export gain of 9.3%. Tennessee ranked number 22 among all states in its quarterly percentage gain. The quarter caps a rather disappointing year for exporters. State exports for the entire year were down nearly \$2 billion from 2024.

It was not a good quarter for the Tennessee Auto Industry

One of 2025's most unfortunate trends continued in the 4th quarter: a major decline in automotive sector exports. The state's shipments of SUVs declined by more than half, to only \$65 million. We might remember that a mere four years ago, Tennessee was shipping some \$400 million in SUVs a quarter. Car exports (sedans) did gain \$30 million, a partial recompense. But automotive engine exports were down \$100 million, while a wide vari-

ety of automotive-related exports such as tires, auto bodies, drive axles, and steering wheels also suffered a bad quarter. These losses, bad as they were, were dwarfed by collapses in the exports of lithium-ion batteries and parts for electric storage batteries. Exports of these were just \$7 million for the quarter, as opposed to \$217 million a year ago. Not all of these go into automobiles, but an estimated ninety percent do. In total, automobiles and products that go into them account for a loss of about \$400 million this past quarter.

Figure 1: Tennessee Monthly Exports

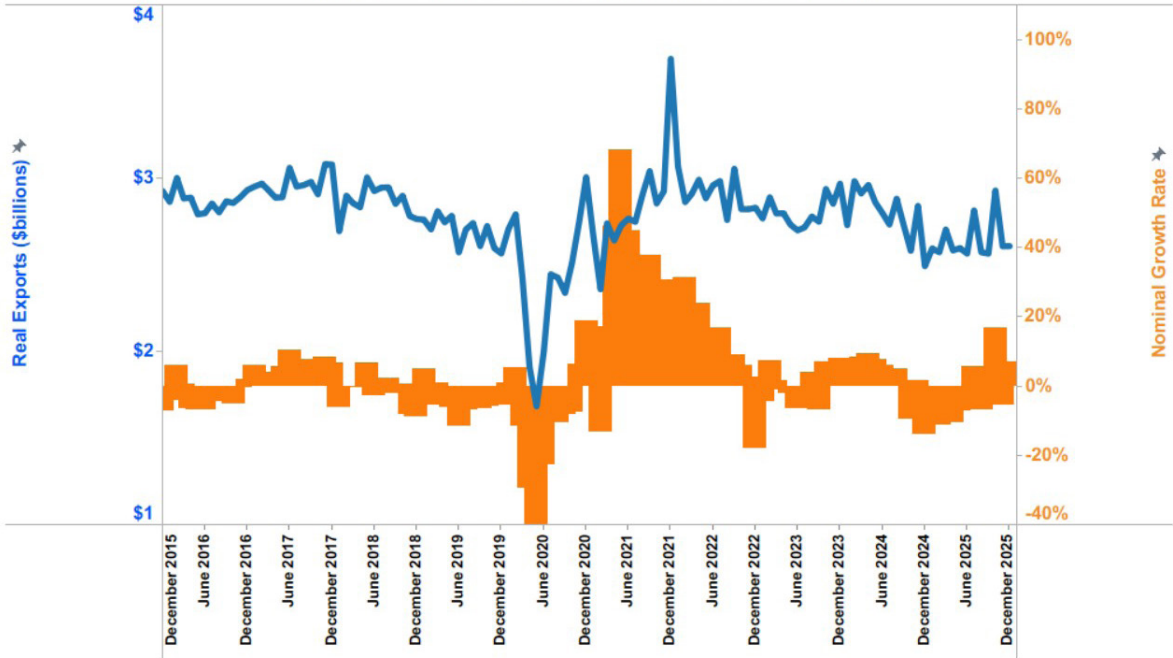
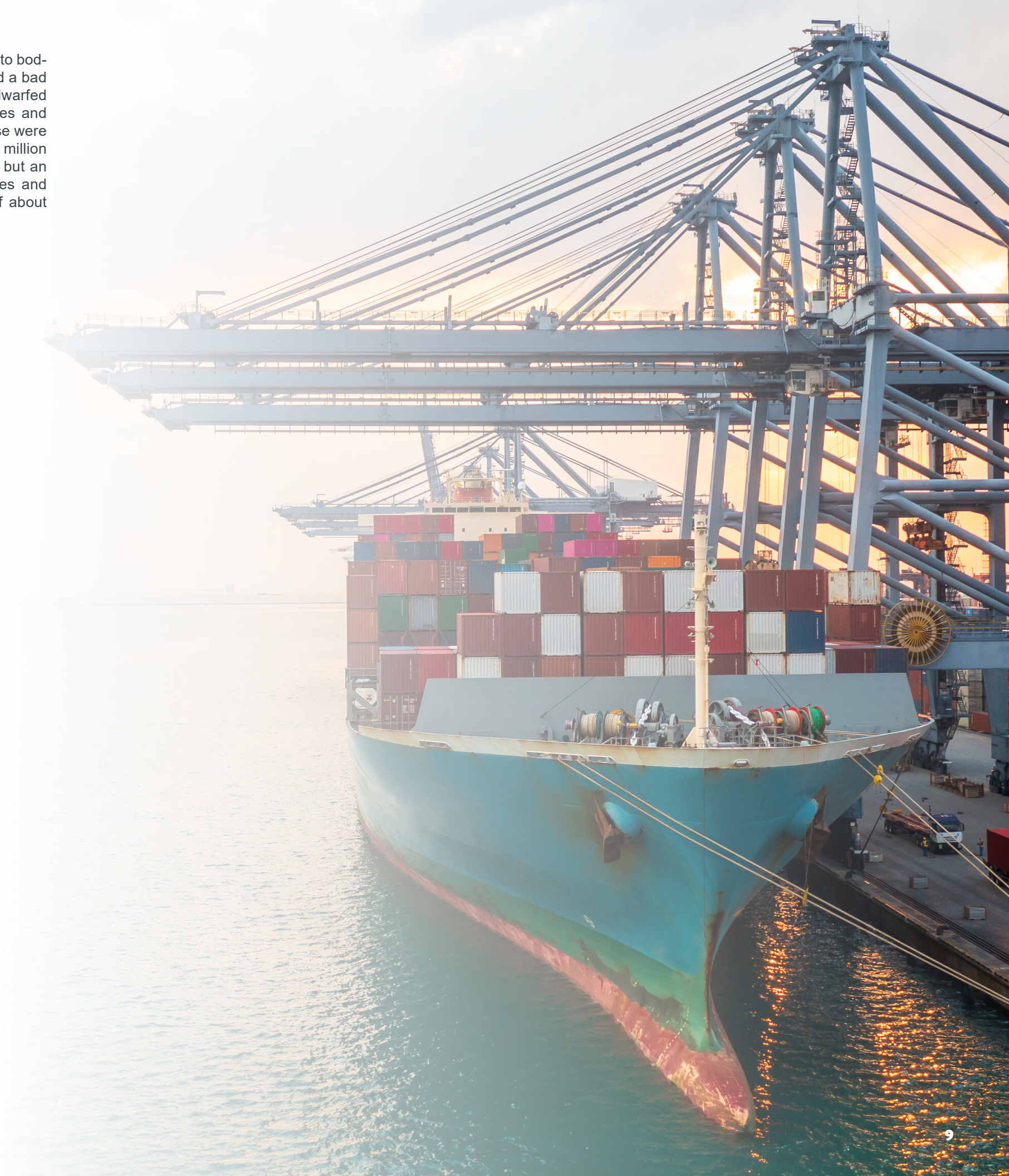


Figure 2: Tennessee's Largest Export Markets

	Exports	Change from Last Quarter	Change from Last Year
Medical Equipment	\$1,142,427,758	17.12%	-3.31%
Communications Equipment	\$902,022,835	50.47%	49.76%
Computer Equipment	\$872,889,875	48.07%	-13.08%
Navigation/Measuring/Medical/Contr..	\$684,069,309	12.02%	-1.52%
Motor Vehicle Parts	\$514,357,147	-12.50%	-0.65%
Pharma and Medicines	\$444,263,707	85.82%	62.93%
Aerospace	\$400,921,321	44.35%	17.15%
Basic Chemicals	\$382,076,246	-16.96%	-12.01%
Plastics	\$288,153,147	-25.46%	-9.31%
Waste and Scrap	\$285,787,296	67.63%	-31.66%



...but it was a great quarter for the Communications and Computer Sectors

If the automotive sector was the bad news, computers and communications equipment were the major good news. Smartphones were the quarter’s undoubted star. The value of smartphone exports soared \$200 million to \$742 million for the quarter. This was enough for the sector to surpass medical instruments as the single largest Tennessee export sector (at the 6-digit hs). Additionally, the collection of technologies involved in receiving and transmitting communications (routers, modems, switching gear, etc.) had a similarly big quarter, growing from

\$43 million to \$142 million, a gain of a cool \$100 million. By the way, the rise of smartphones to the top export was not because medical instruments had a bad quarter! Medical instrument exports themselves were very strong, growing by \$170 million.

The other big sector this quarter was computers. Shipments of computer components (motherboards, etc.) grew by 84%, to \$499 million, from a year ago. Exports of computer storage devices (hard drives, etc.) also increased dramatically, from \$3 million to \$88 million. In total, Tennessee exported over \$740 million in computer equipment last quarter. (This included \$154 million of

laptops. The state is not a major exporter of all-in-one type desktops.)

A Tough Quarter in North American, A Good Quarter Almost Everywhere Else

Turning from products to countries, most of Tennessee’s auto related shipments go to Mexico and Canada, so it should be no surprise that state’s two major markets both performed poorly. Exports to Canada lost about \$200 million (an 11% decline), while those to Mexico, where auto-related exports are even more dominant, dropped by a bit more than that, a nearly 25% decline. Things were much better elsewhere. Powered by large gains in Germany and the Netherlands, Tennessee exports to the euro market rose from \$1.44 billion to \$1.78 billion. The story in Germany was precious metal waste and scrap, an odd “sector” that includes used catalytic converters which can be recycled. Computers, medical instruments, and laboratory reagents were the big gainers in the Netherlands. Outside the euro zone, exports to the U.K. were also very strong, up 20%, despite the failure to repeat the 2024 4th quarter’s large sale of turbojets. That failure led turbojets to being the state’s worst performing exported good for the quarter. Its global sales fell to flat zero.

Asian markets were also strong. Though shipments to China fell \$41 million for the quarter, shipments to Hong Kong more than compensated for this, growing by \$97 million. Taiwanese purchases of Tennessee goods increased from \$84 million to \$143 million. Like in many other countries around the globe, Taiwan’s performance was owing to a big increase in computer-related exports. Exports to South Korea were up 18%, to Japan 7%. Even better than Asia were the numbers coming out of South America. There 4th quarter Tennessee exports grew by \$275 million, to approach the\$1 billion mark. Almost one-third of this 40% gain (\$80 million) was in Brazil. Across much of the continent the story was the same: smartphones. Smartphone shipments rose \$76 million in Peru, \$38 million in Colombia, and \$16 million in Uruguay.

Questions Ahead

Though there were other goods that struggled, including basic chemicals (cellulose in particular), man-made fibers, and whiskey, it generally was a pretty good quarter especially given the headwind coming out of the auto industry. Perhaps the major question mark going forward is when and if that sector, long an export powerhouse, regains its footing. Of course that question mark must now compete with large uncertainties arising from events outside of Tennessee and outside of the country.

Figure 3: Largest Market Changes

		Exports	Growth	Decline
Fastest Growing	Oman	30,636,403	937.51%	
	Ukraine	24,805,368	728.58%	
	Peru	124,123,789	206.22%	
	Ireland	55,562,418	196.39%	
	Nigeria	18,748,242	174.98%	
Largest Declines	Angola	460,845		-93.14%
	Bangladesh	5,190,534		-70.97%
	Pakistan	13,672,216		-55.09%
	Lithuania	4,031,299		-48.15%
	Poland	46,098,584		-41.53%

Among countries averaging more than \$5m in sales per quarter.

Zoning for the Current Moment

Aligning Nashville's Land Use Framework with Contemporary Housing and Transit Needs

Trevor Garrett

Trevor Garrett is a realtor, broker, and partner in Nashville, TN, with Bradford Real Estate, a local agent-owned brokerage. In 2025, he served as Vice President of Member Engagement on the board of Greater Nashville REALTORS® and has spent the past three years representing the association membership on the Board of Directors. Trevor's current real estate business focuses on development and construction. He previously served as Principal Broker and Partner at Property Management Connection from 2015 to 2022, was awarded the Top Team Listing Award at the Awards of Excellence in 2017 and 2019, and was recognized as a Diamond Elite recipient from 2016 to 2019.

Nashville's steady population growth over the past two decades has created significant pressure on its housing market, infrastructure, and transportation. As the city continues to attract new residents and employers, the ability to provide sufficient housing across a range of price points has emerged as a central challenge. Market conditions influence housing production and availability, but zoning plays a decisive role in determining how, where, and what types of housing can be built. In Nashville, the zoning framework increasingly struggles to accommodate recent growth, contributing to rising housing

costs, longer commute times, and misalignment between policy and development.

Across the United States, housing supply has failed to keep pace with demand. The National Association of Home Builders (NAHB) estimates a national housing deficit of approximately 1.5 million homes as of late 2025, with their Chief Economist Robert Dietz noting that the nation would need to build more than 1.15 million single-family homes annually to meaningfully reduce this shortfall. Broader analysis from Zillow includes rental housing, which suggests an even larger gap of 4.7 mil-

lion housing units nationally, and Nashville alone is experiencing a deficit of approximately 35,000 units as of mid-2025. These figures underscore that housing affordability challenges are not isolated, but structural.

In Nashville, the roots of these constraints extend beyond market dynamics to the city's zoning code itself. Much of the zoning framework was shaped by early twentieth-century segregation and later reinforced through post-segregation downzoning. In turn, downzoning limited density and unit diversity. Throughout the year, planning priorities have evolved, but zoning regulations have

not consistently kept pace. As a result, housing supply remains constrained while demand grows. This article examines how outdated zoning frameworks limit Nashville's capacity to meet current housing and transportation needs, evaluates recent zoning reforms, and considers the policy implications of aligning zoning regulations with contemporary planning goals.

Methodology

This article employs a qualitative, policy-focused analysis of zoning, housing supply, and transportation



planning in Nashville, Tennessee. The analysis draws on publicly available planning documents, housing studies, zoning ordinances, and legislative records, with particular emphasis on materials produced by the Metro Nashville Planning Department. Key sources include the NashvilleNext Planning Policy Guide (adopted in 2015), the Metro Planning Department's March Housing & Infrastructure Study, and findings from the Unified Housing Strategy led by Metro Planning's Housing Division.

National housing data from the National Association of Home Builders and Zillow are incorporated to contextualize Nashville's housing challenges within broader market trends. In addition, practitioner-informed insights are included to highlight recurring patterns observed in development, rezoning activity, and stakeholder engagement. Nashville is treated as a case study representative of the pressures facing fast-growing metropolitan regions, particularly those seeking to balance growth, affordability, and infrastructure investment.

Discussion
Structural Zoning Constraints and Housing Supply

At its most basic level, a city's housing system must accommodate both current residents and those seeking to relocate. For supply to meet demand, zoning codes

must allow sufficient buildable capacity in terms of both lot availability and permissible unit types. In Nashville, recent planning analysis suggests that this capacity has fallen short.

The Metro Nashville Planning Department's March 2025 Housing & Infrastructure Study notes that Nashville's growth has exceeded the projections established in NashvilleNext by more than 30,000 households, and 44,000 homes. While some lag between demand and new construction is to be expected, the study identifies zoning as a key factor further slowing housing delivery. Specifically, poorly calibrated zoning districts and a fragmented set of implementation tools have constrained the city's ability to respond efficiently to housing demand.

Early findings from the Unified Housing Strategy recommend that Nashville anticipate the need for an additional 90,000 housing units over the next ten years. Of these, 56 percent are projected to need to be for-sale units, which is a substantial shift from production trends favoring rental units over the prior decade. However, current zoning capacity does not align with this level of anticipated need, reinforcing the role of regulatory constraints in shaping housing outcomes.

The Missing Middle and Density Mismatch

One of the most frequently cited consequences of Nashville's zoning framework is the absence of "middle"

housing. While zoning codes typically allow large apartment complexes in designated areas and single-family or two-family homes elsewhere, they often prohibit small-scale multifamily buildings such as triplexes, fourplexes, and modest apartment structures.

Historically, these housing types were common in urban neighborhoods and provided attainable ownership and rental opportunities near employment centers. Their exclusion from modern zoning codes has reduced housing diversity and limited density in areas already served by infrastructure. This gap contributes to affordability challenges while also undermining transportation efficiency.

Lower residential density makes it more difficult to sustain frequent public transit service. As housing options near job centers remain limited, residents are increasingly pushed to outlying counties, lengthening commute times and increasing congestion. In this way, zoning constraints intersect directly with transportation outcomes, reinforcing patterns of sprawl and automobile dependence.

Piecemeal Rezoning and Administrative Inefficiency

In the absence of zoning districts that permit missing middle housing, Nashville has relied heavily on lot-by-lot rezoning requests to accommodate increased densi-

ty. Each request typically requires community meetings, Planning Commission review, Metro Council consideration, and multiple legislative readings. While this process allows for localized decision-making, it is inherently inefficient as a response to a citywide housing shortage.

In 2025, the Metro Nashville Planning Committee heard over 350 cases related to residential density, with many seeking similar outcomes that could be addressed more systematically through zoning reform. This reliance on individualized rezonings places strain on government staff, elected officials, and community stakeholders, while also introducing uncertainty and delay into the housing delivery process.

Recent Zoning Reforms and Institutional Engagement

Recognizing these challenges, Nashville has taken initial steps toward modernizing its zoning framework. In 2025, Metro Council adopted legislation creating two new residential zoning districts: Residential Neighborhood (RN) and Residential Limited (RL). These districts permit housing types for the "missing middle", allowing between three and twenty units on a single lot, depending on district standards. While the legislation did not automatically rezone properties, it established a regulatory pathway for incremental density that had been absent for more than three decades.





Moving forward, the effectiveness of these reforms will depend on thoughtful implementation, continued mapping alignment, and collaboration among policymakers, planners, and institutional stakeholders.

Additional reforms include legislation permitting detached accessory dwelling units (DADUs) across much of Nashville’s Urban Services District. These units, often constructed above detached garages and typically under 700 square feet, provide flexible housing options most commonly for extended family members, caregivers, and young professionals while preserving neighborhood scale.

Greater Nashville REALTORS® has engaged constructively in zoning discussions surrounding these reforms. Representing nearly 7,000 real estate professionals, Greater Nashville REALTORS® brings practitioner insight into how zoning regulations affect housing supply and affordability. Through public commentary, press releases, and ongoing engagement by its government affairs staff Greater Nashville REALTORS® has supported evidence-based zoning updates that prioritize systemic solutions over ad hoc rezonings. This institutional en-

gagement contributes to informed policy dialogue by connecting market realities with long-range planning objectives.

Zoning, Transit Investment, and Planning Alignment

The importance of zoning reform has been further underscored by Nashville’s approval of a major transit referendum in 2024. As the city expands bus service and invests in multimodal transportation, planners have emphasized the need to concentrate density near major corridors of the city. Higher residential density along these corridors supports more frequent service, increases ridership, and improves system efficiency.

However, many of these corridors remain zoned primarily for single-family use, limiting the effectiveness of transit investments. This disconnect reflects a broader challenge identified by practitioners: zoning regulations

in many areas do not align with the forward-looking vision articulated in the NashvilleNext Planning Policy Guide. While planning policy encourages density, walkability, and mixed-use development, zoning maps have not consistently been updated to reflect these goals, creating contradictions that complicate implementation.

Limitations and Policy Implications

Zoning reform alone cannot resolve Nashville’s housing affordability challenges. Changes to zoning codes do not guarantee immediate affordability, nor do they address concerns related to infrastructure capacity, displacement, or neighborhood character. Implementation requires careful mapping, public engagement, and coordination with infrastructure planning and housing finance tools.

Nevertheless, the policy implications are significant. Updating zoning frameworks to allow a broader range of housing types can reduce reliance on variances, improve administrative efficiency, and better align land use with transportation investments. Analysis from the Housing & Infrastructure Study suggests that middle housing typologies can produce for-sale homes at prices \$220,000 to \$344,000 lower than likely status-quo alternatives, while reducing monthly rents by \$300 to \$600. These outcomes lower income requirements by 12 to 30 percent, depending on building type, demonstrating the potential of zoning reform to influence affordability indirectly.

Conclusion

Nashville’s zoning challenges illustrate the difficulty of managing rapid growth with regulatory frameworks designed for a different era. As housing demand continues to outpace supply, outdated zoning codes exacerbate affordability pressures, strain infrastructure, and undermine transit investments. Recent reforms, including the introduction of zoning districts for the “missing middle” and expanded accessory dwelling unit allowances, represent meaningful progress toward aligning zoning with contemporary needs.

Moving forward, the effectiveness of these reforms will depend on thoughtful implementation, continued mapping alignment, and collaboration among policymakers, planners, and institutional stakeholders. Organizations such as Greater Nashville Realtors play an important role in this process by contributing practitioner insight and supporting evidence-based approaches to zoning reform. Aligning zoning regulations with planning vision and market realities offers Nashville an opportunity not only to accommodate growth, but to shape it in ways that enhance affordability, mobility, and quality of life.





THE SCHOLARS PROGRAM RESEARCH

Assessing the Impact of

Walkability & Socioeconomic Variables on Obesity

in Nashville, Tennessee

Kalistah Lawrence

Obesity is a public health issue across the United States, with Tennessee ranking among one of the top states with highest adult obesity rates. This study examined whether a city’s walkability and other socioeconomic and health related factors influence obesity prevalence in Nashville, Tennessee.

Background

Doubling worldwide since 1980, obesity, an excess of fat deposits in the body measured by BMI, is seen as a complex multifactorial disease which can lead to many noncommunicable diseases.¹ Physical activity, including walking, is very important when trying to prevent chronic diseases like obesity.² Increasingly popular due to its physical and mental health benefits, walkability is defined as a built environment friendly to those who walk, helping to provide active transportation and improve the livability of neighborhoods and communities.³

For this study, Nashville is a great subject for multiple reasons, including its rapid growth throughout the city and neighboring areas.⁴ Additionally, Nashville is investing in pedestrian infrastructure through the \$3.1 billion “Choose How You Move” initiative, which aims to expand sidewalks, enhance public transit, and reduce car dependency.⁵ Therefore, understanding the health benefits of walkability is currently relevant to Nashville, Tennessee.

Methodology

This quantitative research paper used a multiple linear regression model the effect of walkability on obesity prevalence while controlling other demographic factors.

This study utilized the EPA’s National Walkability Index, which assigns walkability scores based on a standardized formula using selected indicators from the Smart Location Database. This study also used data from the Center for Disease Control and Prevention (CDC) PLACES dataset, which provided a model-based estimate of adult obesity prevalence and data for food insecurity and healthcare access. All other variables collected from the U.S. Census Bureau. To test for wmulticollinearity prior to running the regression model, a correlation matrix was created, and the variables with correlation coefficients above |0.7| were considered to exhibit multicollinearity and were excluded from the model.

Once the data was cleaned and organized, a multi-linear regression model was used to test the following hypothesis: “There is a negative association between walkability and obesity in Nashville, TN, such that higher levels of walkability lead to lower obesity rates; food insecurity is positively associated with obesity, such that higher percentages of food insecurity lead to higher rates of obesity; and healthcare access is negatively associat-

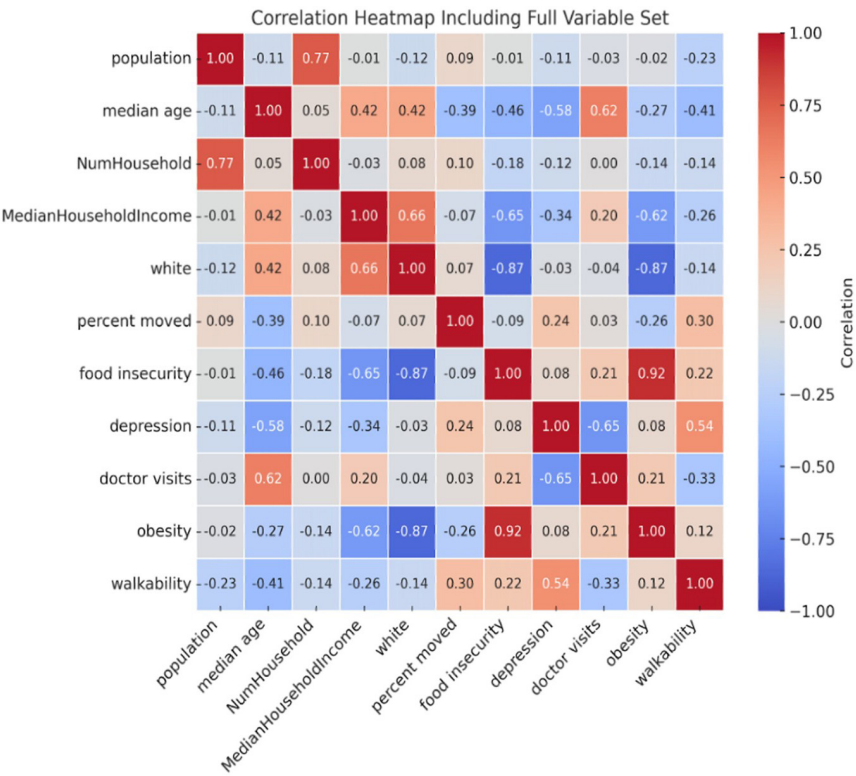


Figure 1: Correlation Results to Check for Multicollinearity

ed with obesity, such that higher percentages of healthcare access lead to lower rates of obesity.” This model was evaluated with an ANOVA test.

Findings

The model explained 91.5% of the variance in obesity prevalence ($R^2 = 0.915$), indicating a strong overall fit.

No significant relationship was found between the walkability index and obesity prevalence, suggesting that walkability did not contribute meaningfully enough to explain obesity prevalence in this dataset.

Food insecurity showed extremely high significance with the prevalence of obesity in the model. The percentage of doctor visits for annual checkups, showed significance with the prevalence of obesity.

The percentage of white residents and the percentage of residents who have moved from another state showed significance with the prevalence of obesity in this model. The total population for each census track, the number of households, the median age, and median income were not significant.

	Predictor Variable	B	SE	t	p	95% CI Lower	95% CI Upper
9	Walkability Index	-0.0020	0.0486	-0.04	0.968	-0.0981	0.0942
1	Population	-0.0003	0.0002	-1.90	0.060	-0.0006	0.0000
2	Median Age	0.0326	0.0356	0.92	0.362	-0.0379	0.1031
3	Number of Households	0.0007	0.0004	1.62	0.107	-0.0001	0.0015
4	Median Household Income	0.0000	0.0000	-1.43	0.154	0.0000	0.0000
5	White Residents (%)	-0.0693	0.0132	-5.23	< .001	-0.0955	-0.0431
6	Residents Moved from out of state (%)	-0.1512	0.0364	-4.16	< .001	-0.2231	-0.0792
7	Food Insecurity (%)	0.3243	0.0294	11.01	< .001	0.2660	0.3825
8	Doctor Visits for Routine Checkup (%)	0.2183	0.0735	2.97	0.004	0.0729	0.3637

Figure 2: Regression results for predictors of obesity prevalence in Nashville, Tennessee

Discussion

This research found that walkability has the possibility of being able to reduce obesity but is not significant enough, going against several previous studies. However, Nashville is a rapidly growing urban city with walkable measures, which previous literature states can alleviate some of the issues regarding obesity (Petridou, Siopi, Mougios, 2019). While walkability was not statistically significant in the full regression model, it remains a conceptually important factor. Its lack of significance may reflect overlapping influences with other predictors such as migration or income, rather than a true absence of effect, underscoring the complexity of environmental influences on obesity. This data is relevant but needs further examination to see whether Nashville is showing smaller results due to outside factors or limitations of the cross-sectional data.

The most significant finding was the positive correlation between food insecurity and obesity prevalence. This is supported by previous research showing that individuals experiencing food insecurity are more likely to consume low-cost, energy-dense foods which lead to weight gain in the long run (Franklin et al., 2012). Finally, the positive significance observed between healthcare access and obesity prevalence reflects the importance of the strategic placement of public health services in areas with higher health needs.

Conclusion

This study aimed to determine whether walkability, food insecurity, and healthcare accessibility were significant predictors for obesity prevalence across Nashville, Tennessee. While food accessibility and healthcare access both proved to show strong positive associations, the findings suggest that walkability was not a significant predictor of obesity prevalence in this urban area. The results of this analysis support the idea that addressing barriers to accessibility for food and healthcare would be more effective for tackling the obesity prevalence in

urban areas than solely focusing on improving walkability. However, walkability measures should also not be ignored; more research needs to be done to entirely determine what is best for this urban city. With this research and future research goals in mind, urban and regional planners should focus on food and healthcare accessibility as well as making cities walkable.

Kalistah Lawrence is an undergraduate biochemistry major at Middle Tennessee State University in Murfreesboro, TN.

Ugur Orak, Ph.D., is an associate professor of sociology at Middle Tennessee State University. He served as the faculty mentor on this project.

¹ World Health Organization. (2021). *Obesity and Overweight – WHO*. <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>

² Howell, N. A., Farber, S., Widener, M. J., & Booth, G. L. (2017). *Residential or activity space walkability: What drives transportation physical activity?* *Journal of Transport and Health*, 7, 160–171. <https://doi.org/10.1016/j.jth.2017.08.011>

³ Ibid.

⁴ U.S. Census Bureau. (2024, March 14). *Nation’s White population shows largest gains in the South*. <https://www.census.gov/newsroom/press-releases/2024/population-estimates-characteristics.html>

⁵ City of Nashville. (2024). *Choose How You Move: Transportation Improvement Plan*. <https://www.nashville.gov/featured-initiatives/transit>

Weighing the Weights

Analyzing Tennessee’s Education Reform through a Multi-State Lense

Kayla Welker



In recent years, numerous states have switched to a weighted student funding (WSF) approach to enhance their educational funding formulas to allocate money to schools in an equitable way. These formulas provide additional funds for students requiring extra support, such as English Language Learners (ELL), students with special needs, and those from low-income households. In the 2023-24 school year, Tennessee replaced its Basic Education Program (BEP) with a weighted student funding formula, the Tennessee Investment in Student Achievement (TISA) Act. TISA can be broken down into four main categories: base amount, weighted funding, direct funding, and outcomes funding.¹

This paper focuses on TISA’s weights, specifically its additional funding for students facing economic disadvantages, concentrated poverty, small district size, and unique learning needs, and compares them to formulas from Arkansas, Kentucky, Mississippi, and Missouri.

Background

Previous policies and research studies have proposed multiple WSF structures to more equitably allocate funding to students with specific needs. For example,

extra funding can be given to students from low-income families, who may tend to struggle with meeting learning goals.² Many states indicate this group of students as students who receive free and reduced lunch, such as Arkansas, while others like Tennessee include a component for “economically disadvantaged” students.³

Another weight typically included in funding formulas is district size, often labeled as “small district” or “sparse district,” helping to cover expenses related to transportation and specialized staffing.⁴ Roza *et al* also identify support for ELL as another standard weight for funding formulas, helping to provide the necessary resources for students who need language development support.⁵ Another study by the U.S. Department of Education identifies special education as one of the most common components in funding formulas, since students who need special education typically require different classes, assistive technologies, and specialized staff to enrich their learning.⁶

Since policymakers implemented TISA for the 2023-24 school year, little literature has been published discussing its components or outcomes. This research aims to fill this gap by analyzing TISA and other WSF formulas to see if TISA is on the right track to accomplish its goals.



Methodology

Similar to research by Candelaria, this study uses a mixed-methods approach to analyze the allocation of resources in WSF in Tennessee compared to formulas from four other states: Arkansas, Kentucky, Mississippi, and Missouri (2024). These states were included in the analysis since they had adopted a WSF formula and are geographically close to Tennessee. For the quantitative part of this study, a comparative matrix listing the types of funding weights present in these formulas was created to compare weights across all five states. To provide context for state’s decisions and priorities, an additional qualitative approach was conducted by thematically and manually coding documents regarding policy and government reports. The themes identified include equity, transparency, resource priorities, and state educational goals. To combine both the quantitative and qualitative data, the findings of the funding matrix were cross-referenced with the policy documents.

Findings

Aside from the base amount, common categories of WSF formulas identified in this study include low-income, sparse/small school districts, ELL, and special education (Table 1).

When looking at the comparative matrix (Table 1), all the states examined use different weights combinations in their funding formulas. In all cases, the state’s funding formulas included components for English language learners, low-income students, and special education. Despite those inclusions, only 2 of 5 states utilized a



Kayla Walker presenting her research at the scholars program graduation ceremony. Photo by Tom Beckwith.

weight for small/sparse districts: Tennessee and Arkansas. Additionally, while Kentucky did not have a weight designated for small/sparse districts, it did notably include a weight for transportation funding.

Besides the main weights identified in Table 1, most states also had additional weights unique to their individual needs. Examples are Arkansas’ declining enrollment fund, Kentucky’s home and hospital fund, Mississippi’s Career & Technical Education fund, and Tennessee’s

concentrated poverty fund (Table 2). In contrast, Missouri was the only state to have no additional weights besides its three weights identified in Table 1.

The TISA formula differs from its predecessor, the BEP, and has additional weights that other states lack. All of the states analyzed used at least three of the common weight categories, including weights for English-learners, low income, sparse district, and special education, while most states also utilized extra weights that fit their state’s needs unique to their student demographics/state geographics. Additionally, Tennessee is one of the only two states with a weight designed for small districts, helping to provide support for schools in rural areas with higher operational and quality costs (Tennessee Department of Education, n.d.). The differences in TISA’s funding formula reflect its commitment to addressing the disparities related to Tennessee’s demographic and geographical needs.

The TISA formula aims to improve areas BEP could not reach, specifically with promoting equity, efficiency, and improved academic achievement. First, it tries to increase transparency for families and policymakers by requiring school districts to report annually on student funds and goals. Along with transparency, TISA plans to empower local education agencies (LEAs), which are tied to district reports. TISA also aims to support the rural school districts through their small and concentrated poverty weights, which, as the results in Table 1 and Table 2 show, not many other states utilize.

This study used a mixed-methods approach to examine five state weighted student funding formulas to see how Tennessee’s recent formula, TISA, would progress in the long run. When comparing funding weights amongst four other states to Tennessee’s formula, Tennessee had components that most other states did not, such as small district weight and concentrated poverty weight. When examining the goals of Tennessee’s funding formula, TISA addresses transparency, equity, and accountability, meaning TISA can create better outcomes for many groups that could potentially be overlooked with one-size-fits-all funding models. While possible limitations of this study include its reliance on publicly available documents and its selective focus on solely the weights of funding formulas, this study still contributes to understanding how states, particularly Tennessee, prioritize equity by their WSF formulas.

While the success of TISA will depend on the utilization and outcomes of the adopted formula, overall, TISA gives Tennessee a modern and more equitable approach to student funding that will help meet the state’s specific needs.

Kayla Welker is an undergraduate marketing major at Middle Tennessee State University in Murfreesboro, TN.

Steven Livingston, Ph.D., is a professor of political science and global affairs at Middle Tennessee State University. He served as the faculty mentor on this project.

Table 1
Funding Weights of Each State

State	English-Learners	Low Income*	Sparse District	Special Education	Miscellaneous
Arkansas	✓	✓	✓	✓	✓
Kentucky	✓	✓	x	✓	✓
Mississippi	✓	✓	x	✓	✓
Missouri	✓	✓	x	✓	x
Tennessee	✓	✓	✓	✓	✓

*Includes Free and Reduced Lunch

¹ Tennessee Department of Education. (n.d.). 2024-25 TISA Guide. https://www.tn.gov/content/dam/tn/education/tisa-resources/2024-25_TISA_Guide.pdf

² So Hoffman, M., et al. (2013). *State School Finance System Variance Impacts on Student Achievement: Inadequacies in School Funding*. <https://files.eric.ed.gov/fulltext/EJ1158691.pdf>

³ Ibid.

⁴ Roza, M., et al. (2020). *Variation is the Norm: A Landscape Analysis of Weighted Student Funding Implementation*. Public Budgeting & Finance. <https://doi.org/10.1111/pbaf.12276>

⁵ Ibid.

⁶ U.S. Department of Education. (2019). *Districts’ Use of Weighted Student Funding Systems to Increase School Autonomy and Equity: Findings From a National Study Volume 1 -Final Report*. <https://files.eric.ed.gov/fulltext/ED600460.pdf>

A Conversation on Small Business & Economic Impact in Tennessee

The Chair of Excellence in Urban and Regional Planning Scholars Program is a nine-month undergraduate research initiative designed to cultivate students analytical skills, communication, and problem-solving skills while exploring the challenges facing Tennessee's growing communities. Each gathering features a guest speaker or expert panel to deepen students' understanding of key regional planning issues.

On September 19th, 2025, the Tennessee Small Business Development Center sponsored a panel session on Small Business and Economic Impact. This session provided our students, faculty, and community members with key insight into the challenges small businesses face and the local organizations that are working with them to overcome obstacles. The following article is adapted from the panel conversation during our scholars session.

The panel was moderated by **Monique Little**, Manager of Organizational Strategy and Development at the Tennessee Small Business Development Center.

Panelists included:

Sarah Callender – Executive Director, Main Street Murfreesboro

Greg Lowe – Business Development Consultant, Tennessee Department of Economic and Community Development

Kayla Miller – Associate State Director, Tennessee Small Business Development Center



Small businesses are essential to the economy for several reasons; they account for a whopping forty-four percent of U.S economic activity.¹ According to the Small Business Association, small businesses of 500 employees or fewer make up 99.9% of all U.S businesses.² Of the jobs that were created between 1995 and 2020, 62% of them came from small businesses, that is 12.7 million jobs compared to 7.9 million from large corporations.³

Before a small business can be successful, there are many hoops they have to jump through and issues they must face. Finding a physical location can be an issue for several reasons; one being they are expensive, another being it can be difficult to own and run a business in a building you do not own. There are many roadblocks along the way such as zoning and codes.

Knowing how to start when building your business can be difficult and confusing, in Murfreesboro, TN; Main Street Murfreesboro has a collaborative effort with TSBDC and the City Planning Department where they created a one-page “How to Start a Business Downtown” guide. This guide simplifies the process, reduces confusion, and creates a more supportive environment for new business development. The State of Tennessee has a similar resource, called the Smart Start Guide. It has the same mission, essentially connecting entrepreneurs to Main Street Programs, SBDC’s, Chambers of Commerce and other community resources. This guide provides clarity and direction in a landscape that can otherwise feel overwhelming for first time business owners.

When starting a business, rents can be expensive and out of reach for many entrepreneurs, that’s why incubator spaces can be so helpful. In Chattanooga, there is a collaboration between the TSBDC, the Chattanooga Chamber of Commerce, and other regional economic development organizations called the Chattanooga business incubator. The incubator provides early-stage businesses with affordable workspace and structured support



Monique Little presenting at Middle Tennessee State University for the panel on Small Business and Economic Development. Photo by Tom Beckwith.

for up to five years, including gradually increasing rent to help entrepreneurs adjust to market conditions. The unified ecosystem – bringing together training, coaching, networking, and accessible space – significantly strengthens long term success rates. Additional to incubator spaces, markets, pop ups, and trailers are crucial especially in historic downtown areas. These low-risk opportunities allow entrepreneurs to test ideas before transitioning into permanent storefronts. In Murfreesboro, TN, the Saturday Farmers Market has been particularly successful as an incubator space.



Entrepreneurship often stalls because individuals don’t know where to start or who to speak with.

Some of the biggest regulatory barriers to infrastructure and small businesses are the inclusion of sprinklers, accessibility updates, and structural changes required by codes. They are expensive and funding is often difficult to secure. Stronger partnerships between landlords, city officials, and local organizations are necessary to make these upgrades financially viable. Communities benefit greatly from a single coordinated review where fire, codes and engineering as well as business owners meet once to mark changes needed on a site plan. A community’s reputation for efficient, collaborative permitting strongly influences where entrepreneurs choose to locate. Streamlined processes give small communities a competitive advantage.

Some additional barriers that small businesses, particularly in downtown areas face, are walkability, parking, signage, and homelessness. If an area or shop is not easily accessible or easy to walk to, customers may consider somewhere else to shop. The same goes for parking, if there is not close by parking, shoppers may choose somewhere else to spend their time. A lack of signage can also make a downtown area confusing if someone is new to the area, and there happens to be a one way road. Finally, homelessness can impact the willingness of customers to shop in a given store. If they feel unsafe or inconvenienced, they will likely choose other commercial areas.

Looking to the future, within 5 to 10 years Tennessee’s small business landscape may shift in several ways. For one, digital and local commerce are likely going to blend. To keep up with this, the mom-and-pop shops must learn to use online platforms to market their goods. Additionally, communities must proactively plan their infrastructure and business mix before growth arrives. Finally, AI will likely dramatically alter small business operations by automating tasks, improving decision making, and enhancing efficiency. Communities that help entrepreneurs adopt AI will be more competitive.

¹ U.S. Small Business Administration. (2019, January 30). *Small businesses generate 44 percent of U.S. Economic activity*. U. S. Small Business Administration Office of Advocacy. <https://advocacy.sba.gov/2019/01/30/small-businesses-generate-44-percent-of-u-s-economic-activity/>

² Rowinski, Martin. (2022, April 14). *How Small Businesses Drive the American Economy*. Forbes. <https://www.forbes.com/councils/forbesbusinesscouncil/2022/03/25/how-small-businesses-drive-the-american-economy/>

³ Ibid.

The Importance of Housing Stability *in Tennessee*

Challenges, Policy Responses,
and Opportunities
for Progress

Ralph Perrey

Ralph Perrey is the executive director of Tennessee Housing Development Agency. Appointed in November 2012 following nine years of service on THDA's Board of Directors, he is now the longest-serving executive director in the agency's history. His tenure as THDA's executive director has seen the agency revamp its mortgage products and down payment assistance program, establish its own loan servicing division, significantly increase support for affordable housing development, and base THDA staff regionally to better interact with partners across the state. Perrey is Vice Chairman of the Board of Governors of the National Housing Conference, the nation's oldest housing advocacy organization. He is also immediate past Board Chairman of the National Council of State Housing Agencies (NCSHA) and serves on the bipartisan National Housing Crisis Task Force.

Stable housing is a foundational element of individual and community well-being. The ability to depend on a safe place to sleep each night shapes physical health, family stability, educational outcomes, and long-term economic opportunity. Many of the social and economic outcomes communities strive to improve—health, educational performance, workforce participation, and civic engagement—are strengthened when residents have stable, affordable housing.

Housing quality plays a critical role in these outcomes. Individuals living in homes that are warm in winter, equipped with adequate plumbing, and free of environmental hazards such as mold, lead paint, and pests experience better health. Children whose families are not forced to move repeatedly perform better academically and experience fewer behavioral and social disruptions. When households spend more than half of their income on rent, they must inevitably sacrifice essential

needs such as food, medicine, or utilities, undermining long-term stability.

Homeownership remains an essential anchor for strong neighborhoods. While renters contribute meaningfully to communities, homeowners who have invested financially in their property are generally more engaged in maintaining their homes, advocating for neighborhood quality, and participating in civic life. They tend to be more attentive to issues such as school quality, park safety, and community infrastructure. Housing is therefore more than a commodity—it is deeply intertwined with quality of life and a community’s broader social fabric.

THDA’s Mission and Role in the Housing Landscape

The Tennessee Housing Development Agency (THDA) serves as the state’s housing finance agency, with a primary mission of supporting first-time homebuyers in the middle-income range. THDA currently manages a \$3.7 billion mortgage portfolio, and earnings from that portfolio fund the full scope of the agency’s activities. THDA receives no state appropriations; rather, portfolio revenue supports down payment assistance, special initiatives, grants, pilot programs, and the administration of more than a dozen federal housing programs.

If a project in Tennessee involves expanding or sustaining affordable housing, THDA is likely involved. The agency’s investment portfolio not only provides direct mortgage financing but also supports broader state initiatives aimed at improving housing affordability and access.

Rising Housing Affordability Challenges

Housing affordability has become a pressing concern across nearly all Tennessee communities. Rapid population growth, rising home prices, and escalating rents have intensified pressure on both buyers and renters. THDA calculates an annual housing cost index measuring the percentage of average income required to cover housing expenses. For many years, the index hovered between 28 and 29 percent. In recent years, however, it has risen dramatically: to 30 percent, then 38 percent, then 44 percent, and this year to 45 percent, the highest level recorded.

These shifting dynamics profoundly affect the homebuyers THDA serves. The average THDA mortgage loan issued this year is approximately 48 percent larger than the average loan in 2019. Interest rates have nearly doubled, meaning the typical THDA borrower now pays more



Ralph Perrey at Middle Tennessee State University for the Housing and Quality of Life Session. Photo by J. Intintoli.

than \$900 more each month than their counterpart just five years ago. Renters face similar strains. In Greater Nashville, an income of roughly \$65,000 is now required to comfortably afford a two-bedroom apartment—far more than many essential workers earn.

The root of the challenge dates back to the 2008–2009 housing market crash. Homebuilding slowed dramatically and remained suppressed for nearly 15 years, failing to keep pace with population growth. Tennessee, which now ranks among the top states for inbound migration—has seen demand far outpace supply. The inevitable result is higher prices and rising rents.

Current and Emerging Strategies to Expand Housing Supply

Tennessee urgently needs additional housing across all price points, but especially starter homes and rental units affordable to working families. Very few affordably priced units are built without support from subsidies, incentives, or public–private financing tools. The largest sources of these subsidies are low-income housing tax credits and tax-exempt bond authority administered by THDA.

“Tennessee depends on the people who need affordable housing: teachers, healthcare workers, first responders, hospitality employees, and others essential to community well-being.”

At present, Tennessee has 175 developments under construction, totaling more than 21,000 units and representing more than \$2 billion in bond and equity investments. Recent federal legislation, the Affordable Housing Credit Improvement Act, has expanded the resources available to states.

Grant funding for single-family housing remains limited. THDA is working with Governor Lee’s administration to pursue a state appropriation aimed at stimulating the production of starter homes. Starter homes, which once made up 40 percent of new builds in Middle Tennessee, now account for just 7 percent.

THDA is also advancing strategies to encourage infill development in communities where construction costs exceed appraised home values. Through a \$3 million grant program, THDA is helping local partners close appraisal gaps. At the federal level, the proposed Neighborhood Homes Investment Act would create tax credits to support similar revitalization efforts nationwide.

Zoning, Regulation, and the Challenge of the “Missing Middle”

Between traditional single-family homes and large apartment complexes lies a category known as “missing middle housing”—small-lot homes, townhomes, duplexes, triplexes, and low-rise multifamily buildings. These home types are compatible with existing neighborhoods and often more attainable for working families, yet zoning codes in many communities make them difficult to build.

Missing middle housing offers significant advantages. In urban areas, it increases density in walkable, transit-served locations. In small towns, it provides housing for young adults and aging residents. In older suburbs, it fills market gaps without altering neighborhood character. However, well-intended regulations frequently make such housing financially or legally infeasible.

States across the country face similar challenges. Tennessee has avoided the most burdensome regulato-

ry environments, yet many local zoning codes continue to limit options. Recent legislative reforms have granted local governments more flexibility, and additional policy updates may be considered in the upcoming year.

Local Progress and Community Concerns

Cities such as Knoxville, Chattanooga, and Memphis have made progress modernizing housing policy. Yet community resistance to new development remains widespread. Housing is personal, and concerns about property values or changing neighborhood character often lead to opposition.

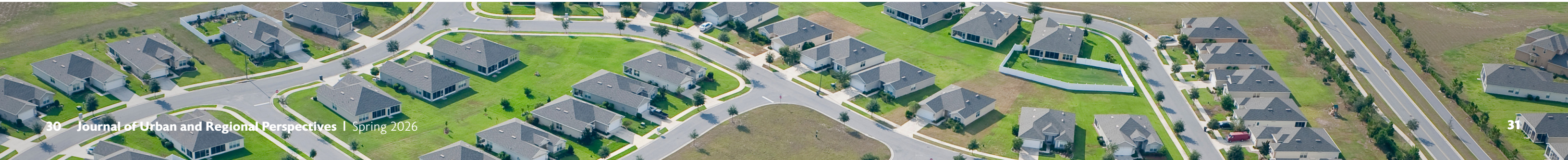
The term “affordable housing” itself can trigger misconceptions. Many residents envision outdated public housing models that no longer represent modern development practices.

Communicating the Need and Building the Path Forward

The path forward depends on clear, proactive communication. Communities must understand what new housing will look like, how it fits within local contexts, and who the intended residents are. Affordable housing today serves working families—households earning below \$100,000, a family of three earning \$65,000, or a single parent earning \$42,000.

Tennessee depends on the people who need affordable housing: teachers, healthcare workers, first responders, hospitality employees, and others essential to community well-being. Sustainable growth requires that these workers can live in the communities they serve.

Building a future where stable, attainable housing is available to all Tennesseans will require collaboration among state agencies, local governments, developers, and residents. By aligning resources, modernizing zoning, expanding diverse housing types, and engaging communities directly, Tennessee can foster a stronger, more resilient housing landscape.



Dumped on the Market

Understanding the Impact of Landfills on Property Values and Community Well-Being

Sydney Panak

As Middle Tennessee grows, so does its trash. Waste infrastructure is reaching its limits, and the consequences are starting to show up in places where people live. Landfills come with costs - property values fall, quality of life declines, and the smell carries. These impacts tend to settle where resistance is lowest, on the people closest to the sites, and furthest from the decision-making table. This study asks a basic question: How do landfills affect local property values and community well-being? And can innovation offer something better—or just different ways to cover it all up? It's not just about what landfills do, but how systems respond.

Background

The closer a home sits to a landfill, the more its value sinks—dragged down by odor, noise, the view, or the idea of what is living next door. Schütt's meta-regression of global waste site studies found that residential values typically fall between 1.5% and 12.9%, depending on site characteristics and distance.¹ However, the costs of landfill proximity do not stop at property lines. Air and groundwater pollution, heavy truck traffic, noxious odors, and the slow erosion of landscape quality all shape how it feels to live nearby. The burden tends to settle in lower-income neighborhoods, historically underrepresented communities, and areas with less political leverage. For example, in Knox County, Tennessee, a study of the Carter community found that lower-income households were more likely to report being affected by the impacts of nearby landfill operations.²

The ongoing controversy over the Middle Point Landfill in Rutherford County reflects the staying power of these patterns. Residents have raised concerns about truck traffic, persistent odors, and water quality, none of which tend to show up in typical cost-benefit models.³ Census data adds context to these concerns: neighborhoods near landfills in the region typically report lower median household incomes, higher rates of rental hous-

ing, and more demographic diversity than the state average.⁴

While prior studies have documented the negative impact of landfill proximity on property values, few studies have applied these insights to areas like Middle Tennessee, which is experiencing both rapid population growth and landfill saturation. This paper addresses that gap by offering a localized, policy-informed, and equity-aware analysis of landfills' economic and social impacts.

Methodology

This study utilized a mixed-method research design integrating quantitative Geographic Information Systems (GIS) mapping and spatial analysis with detailed policy and community analysis. ArcGIS Pro was utilized to visually and quantitatively analyze property values across varying distances from landfill sites, with zip code level property value data sourced from the Zillow Home Value Index (ZHVI). A multiple buffer analysis created zones at 1, 2, and 5 miles from each landfill. To assess whether property values recover after a landfill closes, this study calculated the average ZHVI for sites with documented closure dates for the five years leading up to the closure and the five years following it, allowing for an estimate of recovery effects. In addition to the spatial analysis, this study examined the policy landscape to offer context for the patterns seen in property values and help surface some of the structural barriers to more equitable outcomes.

Findings

When examining Middle Point Landfill in Rutherford County, homes within a 1-mile radius consistently exhibit the lowest Zillow Home Value Index (ZHVI) values, often less than half of those located just 5 miles away (Figure 1). In 2025, homes within 1 mile

still hover around \$600K or less, showing only modest or stagnant real appreciation once adjusted for 75–80 percent cumulative inflation. By contrast, homes 5 miles away exceeded \$1.6 million in some ZIPs, suggesting substantial appreciation and growing distance-based disparities.

This study also examined the Bordeaux landfill in Davidson County. ZHVI buffers supplied in the project dataset show the familiar distance-decay pattern Middle Point exhibits: average ZHVI within 1 mile of Bordeaux trails the 2- and 5-mile rings by roughly 30–50 percent, appreciation in the innermost ring has barely kept pace with inflation since 2010, while 5-mile properties have posted double-digit real gains.

The impact of landfill closure is clearly demonstrated in the case of Cumberland County. While the Cumberland County Landfill was still open (through 2009), it delivered an estimated \$3 million a year in short-run budget relief, but before closure the typical home within one mile of the landfill was worth \$97,692, whereas the average house five miles out yielded \$297,053 (Table 1). Even a post-closure rebound of 25 percent of that gap for the 400 owner-occupied parcels in the one-mile buffer would restore \$20 million in household wealth, erasing more than six years of the landfill's short-term savings in a single stroke. In other

words, Cumberland's landfill paid the county's day-to-day disposal bills, but it also trapped tens of millions of dollars in suppressed property equity, an economic drag that only began to lift once the site shut down.

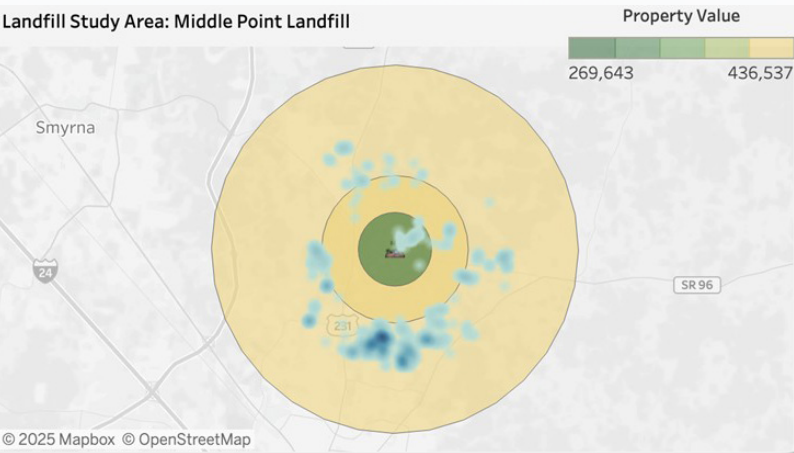


Figure 1: Middle Point Landfill



This analysis also examined the fiscal impacts of implementing innovative waste systems – such as waste-to-energy (WtE) incineration, gasification, recycling/composting, and waste diversion - in both the short term (0–5 years) and long term (5–30 years), including direct costs, externalities, potential savings, and funding mechanisms (Table 2).

Discussion

Distance (miles)	1	2	5
ZHVI Before (\$)	97692	97692	297053
ZHVI After (\$)	104902	104902	317642
Change (%)	7.38	7.38	6.93
ZHVI After Adjusted for Inflation (2025 \$)	152107.9	152107.9	460580.9
Property Count	10	37	297

Table 1: Comparison of Property Values Before and After Landfill Activity for Cumberland County Site, Adjusted for Inflation (2025 Dollars)

This study confirms a consistent economic penalty tied to living near a landfill in Middle Tennessee, with sharper home value declines closest to landfill sites and a measurable rebound following closure, most pronounced within a one-mile radius.

Landfills like Middle Point offer clear short-term savings, but these savings come at a steep long-term cost in lost property value and diminished quality of life, usually absorbed by communities with the least leverage to resist. The benefit of these landfills is regional, but the burden is not.

The fiscal modeling presented in this study shows that investing in alternative systems—particularly waste-to-energy and high-diversion infrastructure—is not just a theoretical improvement, but a sound financial strategy. While these systems require significant initial capital, the long-term revenue potential offsets those costs relatively quickly. Innovation, in this context, is not an idealistic upgrade—it is a rational economic response for a region experiencing rapid growth, rising land prices, and strained capacity.

Conclusion

Landfills aren’t just about waste – they’re about where power lands and where it doesn’t. This study shows that proximity to landfills suppresses property values, stifles long-term growth, and burdens communities with the least political leverage. While short-term costs savings make landfills seem attractive, the true costs show up later – in stagnating home equity, weaker neighborhood growth, or just the slow creep of lowered expectations. Innovation exists, but it is not reaching the front lines. This will not change without rethinking who pays, who decides, and what kind of future this region wants to buy into. It is never just about the trash. It is about who gets stuck with it and who gets to walk away.

Sydney Panak is an undergraduate information systems and economics major at Middle Tennessee State University in Murfreesboro, TN.

Richard Tarpey, DBA, is an associate professor of management at Middle Tennessee State University. He served as faculty mentor on this project.

¹ Schütt, M. (2021). Systematic variation in waste site effects on residential property values: A meta-regression analysis and benefit transfer. *Environmental and Resource Economics*, 78(3), 381–416. <https://doi.org/10.1007/s10640-021-00536-2>

² University of Tennessee Institute of Agriculture. (2000). *Landfill impacts in Knox County’s Carter community*. (Referenced; original source details not provided.)

³ Wadhvani, A. (2021, June 29). “Y’all are crappy neighbors”: Rutherford County residents slam landfill expansion plan at public hearing. *Tennessee Lookout*. <https://tennesseelookout.com/2021/06/29/yall-are-crappy-neighbors-rutherford-county-residents-slam-landfill-expansion-plan/>

⁴ U.S. Census Bureau. (2020). *2020 Census data*. <https://www.census.gov>

Table 2: Fiscal Comparison: Current Landfill Model vs. Innovative Waste System

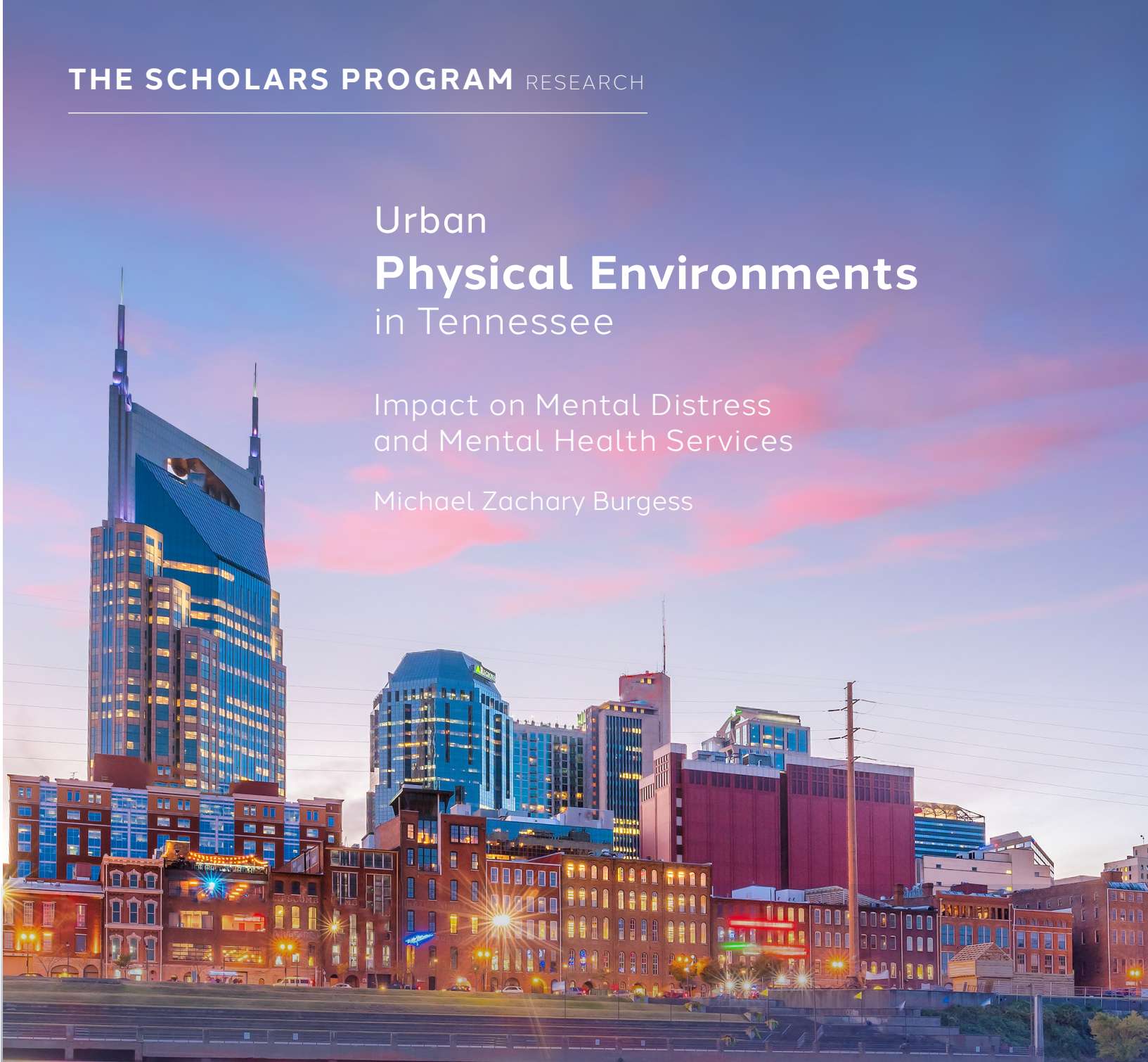
Metric	Current Landfill Model (Middle Point & Bordeaux)	Innovative Waste System (e.g., WtE, Composting)
Annual Disposal Savings	~\$4.1M from host fees & free tonnage (Rutherford only)	Lower initially; requires capital investment
Local Economic Impact	~\$4.7M in taxes + 226 jobs (Middle Point est., Rutherford)	Moderate: fewer landfill jobs; offset by facility operations
Future Export Costs	~\$90/ton if landfills close (hauling to distant sites)	Avoided through local processing facilities
New Infrastructure Cost	\$20–30M+ for new landfill siting & development	\$60–100M for WtE plant (based on Palm Beach example)
Long-Term Revenue Potential	None	Up to ~\$80M/year (energy sales, metals, tipping fees)
Diversion Cost Savings	None	~\$4.5M/year from diverting 82,750 tons (free tons now subsidized)

THE SCHOLARS PROGRAM RESEARCH

Urban Physical Environments in Tennessee

Impact on Mental Distress and Mental Health Services

Michael Zachary Burgess



Urban environments shape the physical and psychological well-being of communities in diverse and profound ways. Across Tennessee, regional differences in infrastructure, environmental exposure, and civic participation contribute to unequal health outcomes, particularly with mental health. The state’s varied geographic and socioeconomic landscape presents a unique opportunity to investigate how physical and social environments influence both the prevalence of mental health distress and the availability of mental health services.

This study explores the relationship between key urban physical environment indicators, including housing and transportation characteristics, environmental quality, and civic engagement, and two crucial outcomes: men-

tal distress and access to mental health providers. Using a robust county-level dataset, this research applies a multivariate statistical framework to assess how different factors jointly influence mental health. By doing so, the study aims to clarify which aspects of urban living most strongly relate to mental health burdens and provider accessibility, with the goal of informing regional health policy and urban planning.

Previous research has shown that physical factors in urban environments can influence mental health. In Nashville, transportation networks and neighborhood designs directly affect public health by impacting physical activity, environmental pollution, and financial strains that amplify existing health disparities for Tennesseans. En-

vironmental factors, including poor air quality and limited access to green spaces, can exacerbate chronic lung conditions, diminish opportunities for physical activity, and negatively impact mental health, particularly in urban, economically disadvantaged communities.^{1, 2} Civic participation and abundant community resources are essential for facilitating positive health outcomes for both urban and rural communities. Low civic engagement and voter turnout can weaken the population's advocacy for healthcare resources, indirectly undermining health equity and the provision of essential services.³

Studies indicate many inequities in life expectancy, mental health, and physical distress for urban and rural counties in Tennessee. Urban residents, although generally benefiting from greater access to clinical care resources, frequently encounter heightened stress levels and mental health issues associated with economic and financial struggles, environmental stressors, and housing instability.^{4, 5} Oppositely, rural populations face limited healthcare access, leading to increased rates of preventable hospital stays, premature deaths, and heightened chronic conditions.^{6, 7}

Methodology

This research applied a multivariate statistical framework to assess how physical environment indicators jointly influence mental health, including which aspects of urban living most strongly relate to mental health burdens and provider accessibility. The research focused on three thematic domains: Housing/Transportation, Environmental Factors, and Civic and Community Resources, as predictors of two outcome variables: % Frequent Mental Distress and Mental Health Provider Rate.

A secondary data analysis was conducted using county-level data from the County Health Rankings & Roadmaps. Variables included housing affordability, homeownership rates, traffic volume, park access, frequency of adverse climate events, census participation, and voter turnout. The dataset was cleaned and prepared using Python. Missing values were handled using listwise deletion, and all variables were standardized for comparability. The primary statistical technique used was Multivariate Analysis of Variance (MANOVA), which is suitable when examining the effect of multiple predictors on the joint modeling of mental distress and provider

availability while accounting for shared variance between the two. Separate MANOVAs were conducted for each thematic group to assess their collective influence on the mental health outcomes.

Findings

A Multivariate Analysis of Variance with all predictors was conducted against both response variables for the purpose of viewing the coefficients for each variable.

Housing and Transportation

Given the MANOVA output for each of the three Housing/Transportation variables, two of them are statistically significant in relation to Mental Distress & Provider Rate: Traffic Volume and Homeownership. Cost Burden's high p-value renders it statistically insignificant.

Climate and Recreation

Mental distress levels appear relatively constant across categories of climate adversity. Counties with more reported events do not show a dramatic increase in distress, suggesting that either community resilience or limited measurement sensitivity may be at play.

According to the MANOVA output for Climate and Recreation variables in regard to Mental Distress & Provider Rate, neither one is statistically significant because they fail to yield a <0.05 p-value.

Civic and Community Resources

A strong inverse relationship exists between census participation, voter turnout, and mental distress, showing counties with higher civic engagement tend to report lower levels of mental distress. This pattern supports theories that community cohesion and collective efficacy may help buffer mental health risks.

From the given MANOVA output, we find that both values of Civic and Community Resources are statistically significant in relation to Mental Distress and Provider Rate because of their low p-values (<0.05).

Health Outcomes and Healthcare: Mental Health Distress and Mental Health Providers

We observe Mental Health Provider Rate to be associated with larger coefficients, which allows us to speculate that the Provider Rate: 1) has little to do with variables such as Adverse Climate Events and Traffic Volume, and 2) can't be easily inferred using such vari-

ables. Frequent Mental Distress appears to be relatively constant across all variables, yielding low coefficients and indicating that the ratio of mental distress from county-to-county is about the same.

Relationship Between Mental Health Providers and Mental Distress

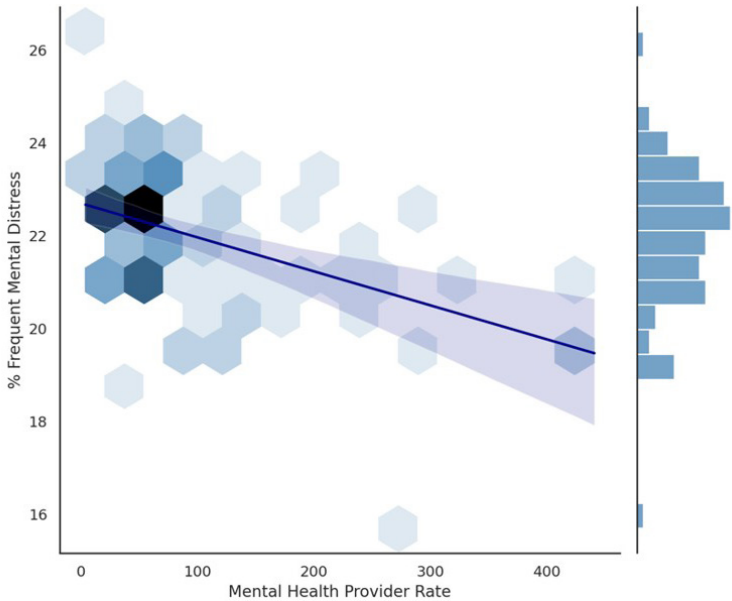


Figure 2: Relationship Between Mental Providers and Mental Distress

Discussion & Conclusion

This study reveals that physical and civic attributes of Tennessee's communities play a meaningful role in shaping mental health outcomes. Among the factors examined, housing and transportation (especially traffic volume), stood out as important predictors. Interestingly, counties with higher traffic volumes not only had greater access to mental health providers but also reported lower levels of mental distress, suggesting that urban infrastructure may offer both resources and resilience.



Zach Burgess presenting his research at the scholars program graduation ceremony. Photo by Tom Beckwith.

Civic engagement emerged as another critical factor. Counties with higher voter turnout and census participation consistently experienced better mental health outcomes. This emphasizes the power of connected, civically active communities to influence public health in ways that go beyond clinics and hospitals.

Environmental variables, on the other hand, such as park access and climate events, were not statistically significant in this study. While these factors are widely recognized in the literature, our findings suggest that their effects may be more complex or indirect, and perhaps better captured through more detailed or longitudinal data.

Ultimately, the results suggest that improving mental health isn't just about increasing providers. It can also mean investing in and encouraging transportation equity, housing stability, and community participation. Addressing mental health challenges in Tennessee will require a holistic, collaborative approach, one that connects urban planning with public health and empowers our communities to lead healthier futures.

Michael Zachary Burgess is an undergraduate data science major at Middle Tennessee State University in Murfreesboro, TN.

Richard Tarpey, DBA, is an associate professor of management at Middle Tennessee State University. He served as faculty

mentor on this project.

¹ Bird, J., & Rogers, W. III. (2023). *Transportation Affects Health: Five Indicator Domains Recommended for Tennessee*. Tennessee Department of Transportation.

²Environmental Defense Fund. (2017). *State of Risk: How Hobbiling the Environmental Protection Agency Would Threaten Tennessee's Health, Families, Jobs, and Economy*. Environmental Defense Fund.

³Landstreet, J., & Paul, W. S. (2013). *Nashville's Health, Livability, and the Built Environment*. NashvilleNext, Nashville Civic Design Center.

⁴Shelton, K. D. (2023). *Examining Healthcare Access in Rural and Urban Areas in Tennessee: Policy Implications* [Doctoral dissertation, Southern University and A&M College].

⁵Tennessee Department of Health. (2024). *Health Disparities in Tennessee*. Division of Health Disparities Elimination.

⁶Ibid.

⁷Letheren, A. M. (2021). *Rural hospital closures and perceived access to care: A qualitative descriptive study in an Appalachian county of Tennessee* [Doctoral dissertation, University of Tennessee].



A Panel on **Regional Mobility &** *Economic Competitiveness*

On November 21, the Chair of Excellence in Urban and Regional Planning Scholars Program hosted a panel discussion on regional mobility. Moderated by Jessica Dauphin, president and CEO of the Transit Alliance of Middle Tennessee, the panel included Ken Moore, Mayor of Franklin; Steve Bland, CEO of WeGo Public Transit; and Michael Skipper, executive director of the Greater Nashville. The following article is adapted from the panel session.

Jessica Dauphin: The economy of Middle Tennessee is shaped not only by market forces and population growth, but by something even more fundamental: how we move. Middle Tennessee is one of the fastest-growing regions in the country; yet, growth without connection creates friction—in our housing market, our workforce access, our ability to attract global investment, and in the everyday lives of the people who call this region home. Connecting the region is not a slogan; it is a competitive strategy. Our panel includes three leaders, each of whom holds a different but essential piece of that puzzle.

Steve Bland is the CEO of WeGo Public Transit, which oversees both the Nashville Metro Transportation Authority and the Regional Transportation Authority of Middle Tennessee. He is responsible for delivering mobility solutions every single day.

Michael Skipper, executive director of the Greater Nashville Regional Council (GNRC), is the chief regional planner and architect behind many of our long-range mobility strategies.

Mayor Ken Moore of the City of Franklin is one of the most influential voices in Williamson County—and arguably the broader region—and leads a city that demonstrates daily both the pressures and opportunities created by regional growth.



When we talk about connecting the region, what does that mean from your particular seat?

Michael Skipper: Connectivity means several things to me. My background is in transportation planning, so at its core, connectivity means ensuring we provide safe and convenient ways for people to get from where they are to where they want to be—whether by road, transit, walking, or other modes. Improving that type of connectivity is critically important to the region and to me as a transportation planning professional.

In my role at GNRC, I help manage a variety of programs focused on housing, economic development, workforce development, and other infrastructure needed to support our communities' growth. From that perspective, connectivity also means linking those disciplines and focus areas together to solve problems more effectively. It requires thinking about transportation holistically—alongside housing challenges, workforce needs, and economic development priorities. Finally, connectivity means connecting the people across the region who share responsibility for addressing these issues.

Mayor Ken Moore: Connectivity means a great deal to me. At its most basic level, it is about getting from point A to point B—whether through multimodal options such as walking, biking, or driving. But connectivity also includes how we build and design our neighborhoods so people do not have to get in their car just to go to the grocery store. Walkable neighborhoods are essential.

It is also important that the neighborhoods we build are connected to one another, allowing residents to move between them without long or inefficient trips. Lastly, connectivity is about people. In the roles I play, it is critically important that I communicate with and know the people I serve, as well as the people making key decisions that move our region forward. To me, connectivity is about people connections, neighborhood connections, and transportation connections.

Steve Bland: I would echo what both of these gentlemen have said and add that connectivity means we are all communicating and working together—including the Tennessee Department of Transportation. From a transit operator's perspective, connectivity is about making our system as simple and seamless as possible for the end user. That includes making it easy for someone at MTSU to access transit, whether they are traveling within Murfreesboro or connecting into Nashville.

Efforts like co-branding the Nashville Metro Transportation Authority and the Regional Transportation Authority of Middle Tennessee under WeGo were undertaken with the customer in mind. The goal is to reduce confusion and make the system intuitive and accessible for riders across the region.

Looking ahead to 2030 or 2050, mobility will be part of companies' site-selection criteria. How does regional connectivity—or the lack of it—affect our economic competitiveness, particularly for international employers considering Middle Tennessee?

Mayor Ken Moore: One thing we talk about frequently is the direct connection between economic development and transportation. We face a significant challenge moving forward because we know that by 2040, we will be in gridlock if we do not address transportation aggressively. We must ensure people can move efficiently to and from Nashville, Franklin, Murfreesboro, and throughout the region as we continue to grow.

Michael Skipper: There are three key reasons transportation matters so much. First is goods to market—that one is obvious. Second, employees want to live in places where the commute is manageable, and employers need assurance that their workforce can reliably get to work.

The third—and arguably most important—factor is quality of life. In order for the workforce to be here at all, we must offer amenities that attract talent. Vibrant places with transit options and walkable communities are the places winning that competition. Ultimately, you have to attract the workforce, get them to work efficiently, and move the products of that workforce to market.

Steve Bland: What I see is that when we are involved in site-selection conversations, both site selectors and companies are asking increasingly detailed questions about a region's long-term mobility plans. Mayor O'Connell led a successful referendum, passed by nearly a two-thirds margin, called "Choose How You Move," which dedicated a half-cent sales tax to transit and transportation improvements.

This program succeeded largely because of strong support from the business community, which raised more than \$2 million for the campaign. Businesses are bottom-line driven. They would not have invested at that level without believing there would be a return on investment. The business community, both large corporations and small businesses, has been among the strongest and most effective advocates for improved mobility.

What role do state and local partnerships play in regional connectivity?

Steve Bland: We are primarily a bus system, and we operate on streets that are largely controlled by the state. Choice lanes are a good example of how our partnership with the Tennessee Department of Transportation allows us to deliver mass transit service as new facilities are developed. We also receive state

funding for both capital investments, such as equipment and facilities, and operations.

Equally important is coordinated planning. We consistently work with the state to ensure our efforts align with its broader transportation goals and priorities.

Michael Skipper: There are three formal state-local relationships related to transportation that I am most connected to. First is the operation of the Regional Transportation Authority, which has shared ownership between city and county governments—demonstrating true regional collaboration.

Second, federal law has required metropolitan planning organizations since the 1960s. These organizations bring together local elected officials and state representatives on transportation policy boards to determine how every dollar of federal gas tax funding is spent within a region. These requirements were created in response to mistakes made during the construction of the interstate system, which disrupted many communities across the country, including here in Middle Tennessee.

Third—and less formal but equally important—is the partnership among mayors to collectively engage state leadership, whether that means the Tennessee Department of Transportation, the Governor's Office, or the Tennessee General Assembly, on the issues most critical to advancing the region.

Mayor Ken Moore: State and local planning partnerships are essential. We cannot plan in isolation. To secure federal, state, and local funding, coordination is mandatory. For example, any road we intend to include in our network must be submitted through the regional transportation planning organization.

I also want to highlight a key outcome of the Transportation Modernization Act, the statewide partnership program, which allows communities to contribute funding to accelerate road projects. Tennessee faces a transportation funding challenge, making collaboration with federal, state, and local partners imperative if we are to build and maintain effective transportation networks.

Conclusion

Middle Tennessee stands at a pivotal moment, where continued growth brings both opportunity and increasing challenges related to mobility, infrastructure, and regional connectivity. Addressing these issues will require sustained collaboration across jurisdictions, disciplines, and levels of government, as well as meaningful engagement from the business and civic communities. By working together with a shared vision, the region has the opportunity to build a more connected, accessible, and competitive future—one that supports economic vitality, enhances quality of life, and meets the needs of future generations.

Trapped in Traffic

The Economic, Social, and Behavioral Barriers to Transit Adoption

Sreehari Sreejith

Public transit usage in Middle Tennessee remains strikingly low, with only 0.86% of commuters utilizing public transportation despite ongoing urban development. Prior research on public transit highlights how transit adoption is heavily influenced by infrastructure reliability, economic disparities, and cultural perceptions, with car-dependent cities often facing significant challenges in shifting behavior toward public transportation. This study aims to investigate the persistent lack of public transit adoption in Middle Tennessee by analyzing the socio-economic, cultural, and infrastructural factors influencing public transit usage in Middle Tennessee.

Background

Middle Tennessee, and specifically the Nashville Metropolitan Area, has experienced rapid population explosion over the past two decades, with its growth outpacing the capacity of the existing transportation infrastructure and leaving the city heavily car dependent. According to the Inrix Global Traffic Scorecard, congestion alone costs Nashville drivers an average of 56 hours and \$985 annually – 34% higher than the national average of \$733.¹ While a 2018 “Let’s Move Nashville” referendum previously failed to pass, in 2024 Nashville Mayor Freddie O’Connell championed a transit referendum to great success among voters, showing there is a slow but growing notion and sense of importance to address transportation challenges and develop cost-effective, scalable, and most importantly, practical solutions in Middle Tennessee. More importantly, tackling transportation concerns becomes critical for promoting equity, regional economic development, and curtailing greenhouse gas emissions.

Research Design

To better understand the transportation usage patterns of residents in Middle Tennessee, commuter data from the American Community Survey was analyzed, showing that 86.89% of workers who do not work from home rely driving individually to travel to work, while only 0.86% of total commuters rely on public transportation (Fig. 1).^{2, 3, 4} This heavy reliance on private transportation for regular commutes is an indicator of the lack of trust in the transit offerings in Middle TN, especially when compared to a peer city, the Seattle-Tacoma-Bellevue, WA Metropolitan Area, where approximately 7.09% of commuters use transit.

One key aspect influencing the choice of transportation is an individual’s income level. When comparing commute patterns of residents in the Nashville MSA to their 2023 inflation-adjusted income levels, 84.90% of public transit users have an income of less than \$50,000, showing that public transit usage and annual income levels are inversely proportional. When transit systems are inefficient, low-income individuals are left with few to no alternatives, creating barriers to economic mobility and daily life.

To better understand the distribution of transit usage patterns, we analyzed Nashville’s WeGo Transit Bus Routes and corresponding income levels of neighborhoods in Nashville (and Davidson County). Several lower-income neighborhoods show gaps between routes and “transit deserts”, where there is no or strictly limited transportation coverage, indicating a clear mismatch in our transit system with transit routes concentrated in high-income neighborhoods. Low-income populations depend on public transportation as their only feasible option for mobility, yet the system appears designed to serve neighborhoods where residents have multiple transportation choices, showing a fundamental misalignment between service distribution and actual need. Additionally, residents also face disproportionately high total transportation costs. According to the H+T Index pertaining to Nashville-Davidson-Murfreesboro-Franklin MetroCenter, transportation costs accounted for 22% of the an individual’s income on average – 7% higher than the national average of 15% reported by the Bureau of Transportation Statistics.

Key Social Barriers to Transit Adoption

Our analysis of transit usage patterns indicates that low-income commuters, despite being the majority users of transit services in the region, are underserved – forcing them to continue relying on these services out of economic hardships and necessity rather than a voluntary choice. This cycle is also exacerbated by access to high quality jobs; according to the Brookings Institution, the Nashville transit system provided access to only 32.2% of working-age residents in the area. Additionally, while 32.6% of low-income jobs can be accessed via public transportation within a 90- minute interval, a mere 21.6% of high-income opportunities are accessible within the same time frame, demonstrating how inequitable job



Figure 1: Commute Data of Nashville MSA (Adjusted for Worker from Home Workers)

coverage in public transit can deepen economic disparities as residents in transit dependent neighborhoods face longer commutes, higher transportation costs, and fewer high-income employment opportunities.

With few commuters relying on public transit, many Middle Tennessee residents have developed a culture where lifestyles are centered around private vehicles as the primary means of transportation. A study by Moody and Zhao introduces the concept of “car pride” as a significant factor in this growing dependency on private transportation, with cars identified as symbols of freedom and control, even influencing the owners’ identities⁵. This increased reliance on personal transportation is not simply a matter of preference but a reflection of structural inefficiencies within the current transit system and social attitudes toward car ownership. This car-dependence coupled with limited transit coverage in middle and high-income neighborhoods (Fig. 2) also further the perception of public transit as a “last resort” option rather than a desirable mode of transportation, portraying public transit as inconvenient, inefficient, or even incompatible with the lifestyle aspirations of residents. Hence, it is essential to address systemic inequities and cultural biases, overturn the attitudes, and shift the mindset toward transit services. These efforts must align transit solutions and appeal to the broader aspirations of Middle Tennessee residents to shift public transit from a symbol of dire necessity to one of progress and equity.

Discussion

This research explored three interconnected social barriers to adopting public transit solutions in Middle Tennessee: Economic Disparities, Car-Dependency Culture, and Public Perception of Transit Systems. Analyzing data on income levels, ridership, and commute patterns showed that a multi-fold approach was neces-

sary to tackle these challenges in order to break self-perpetuating cycles of social barriers to make strides and progress in improving the system. Although this study relies primarily on secondary data sources which may not fully capture real-time changes in commuter behavior or personal attitudes, these findings serve as a foundational step for addressing transit barriers and high-light areas for further research.

Future transit planning must cater to the needs of the region’s diverse communities, particularly those marginalized by the current system. Ultimately, transforming public transit into Middle Tennessee is not merely about moving people – it is about creating a system reflecting the region’s growth, efficiency, and sustainability aspirations. This shift requires a collaborative effort among policymakers, corporations, local institutions, and residents, ensuring that transit solutions are not simply a functional alternative but a cornerstone to the region’s future.

Sreehari Sreejith is an undergraduate finance major at Middle Tennessee State University in Murfreesboro, TN.

Steven Livingston, Ph.D., is a professor of political science and global affairs at Middle Tennessee State University. He served as the faculty mentor on this project.

¹ Inrix. (2024b, June 27). *Global Traffic Scorecard* | INRIX Global Traffic Rankings. Inrix. <https://inrix.com/scorecard/#city-ranking-list>

² U.S. Census Bureau, U.S. Department of Commerce. (2023). *Selected Economic Characteristics*. American Community Survey, ACS 1-Year Estimates Data Profiles, Table DP03.<https://data.census.gov/table/ACSD-P1Y2023.DP03?q=DP03&g=310XX00US34980>

³ U.S. Census Bureau, U.S. Department of Commerce. (2023). *Selected Economic Characteristics*. American Community Survey, ACS 1-Year Estimates Data Profiles, Table DP03.<https://data.census.gov/table/ACSD-P1Y2023.DP03?q=DP03&g=310XX00US19740>

⁴ U.S. Census Bureau, U.S. Department of Commerce. (2023). *Means of Transportation to Work by Selected Characteristics*. American Community Survey, ACS 1-Year Estimates Subject Tables, Table S0802. <https://data.census.gov/table/ACSST1Y2023.S0802>

⁵ Moody, J., & Zhao, J. (2019). Car pride and its bidirectional relations with car ownership: Case studies in New York City and Houston. *Transportation Research Part A Policy and Practice*, 124, 334–353. <https://doi.org/10.1016/j.tra.2019.04.005>

BERC'S PROFILE OF ACTIVITIES

MTSU BUSINESS and ECONOMIC
RESEARCH CENTER



Photo by Andy Heidt

Throughout the past year, the MTSU Business and Economics Research Center continued to strengthen its role as a regional resource leader and expanded its influence throughout Middle Tennessee and beyond. The Jennings and Rebecca Jones Chair in Urban and Regional Planning, had another productive year, not only with research initiatives but also with various awards and recognitions acknowledging the Business and Economic Research Center's contributions. In addition to research activities, BERC continued to actively engage with the community.

The Business and Economic Research Center created opportunities for discussion and collaboration by bringing together leading local industry professionals, sponsors, and invited guests through its monthly panels. These events, along with conference participation and presentation opportunities, provided enriching, educational, and professionally rewarding experiences for both students and community members. Looking toward 2026, BERC remains optimistic and firmly dedicated to deepening its engagement with the community and supporting the continued development of the region.

AWARDS & MILESTONES

In 2025, the BERC marked a year of recognition for its applied research and institutional leadership. BERC's Tracking Tennessee's Economy dashboard, developed in partnership with the Tennessee Advisory Commission on Intergovernmental Relations, received the Economic and Workforce Development Applied Research Award from the Council for Community and Economic Research. BERC Director Dr. Murat Arik earned the Certified Economic Research Professional designation and received the Distinguished Research Award from the Institute for Global Business Research. The center also celebrated the promotion of Andrea Lawrence to BERC coordinator.



Michael Skipper, executive director of Greater Nashville Regional Council speaking at a COE-URP Scholars event. Photo by Andy Heidt.

PARTNERSHIPS

Business and Economic Research Center continues to strengthen its relationships with partners supporting and sustaining its research efforts. Through these collaborations, BERC develops a range of initiatives and community projects that extend beyond academic research. Partnerships not only enable research but also create opportunities for applied learning and professional engagement.

Studies and events conducted in collaboration with partner organizations offer students the opportunity to gain insight into real-world challenges and practical problem-solving environments. As BERC confidently enters 2026, it continues its preparations for another year of meaningful collaborations, including enriched panel discussions and the upcoming Growth and Regional Challenges Forum, in partnership with local organizations and industry leaders.



Through its participation in the Southeast U.S./Japan Joint Annual Meeting in Tokyo, the Business and Economic Research Center expanded its global engagement and strengthened international partnerships. Representing the center as part of the Tennessee delegation, Director Murat Arik joined leaders from government, industry, and academia to explore opportunities for collaboration, innovation, and economic development.

STUDENTS AT BERC

19
STUDENTS

9
PROJECTS

18
OPPORTUNITIES

BERC students represent a diverse community, bringing different academic backgrounds and experience levels from 5 countries. During the academic year, students completed 9 applied research projects for external clients, contributing to real-world economic and regional development studies while gaining valuable hands-on experience.

During the 2025–2026 academic year, BERC students and scholars had opportunities to attend conferences and engage with guest speakers, allowing them to broaden their perspectives while building professional networks prior to graduation.





THE DEAN'S CORNER

Forging Connections & Fostering Partnerships

Across Tennessee, and especially here in Middle Tennessee, the strength of our communities increasingly depends on how well we understand the connections among health, housing, economic vitality, and regional mobility. These forces shape opportunity, quality of life, and long-term competitiveness in ways that no single discipline or institution can address alone. Preparing graduates who recognize these connections and respond with insight, integrity, and collaboration remains at the heart of the Jennings A. Jones College of Business.

Over the past year, we have continued this work through the Business and Economic Research Center. Together, we connect academic research with real community needs. Expanded programming, stronger partnerships, and deeper student engagement reflect a shared commitment to rigorous inquiry, open dialogue, and meaningful regional service, investments that will continue to benefit both our students and the communities they will one day lead.

One of the defining strengths of the Jones College experience is our belief that learning must extend beyond the classroom. Internships, guest speakers, networking opportunities, and community-engaged research allow

students to gain practical insight while forming lasting relationships with business, civic, and nonprofit leaders. These experiences connect theory with practice and help our graduates enter the workforce with confidence, perspective, and a clear sense of purpose.

Applied research further deepens this connection between education and impact. Commissioned studies and student scholarship inform decisions related to workforce development, housing affordability, infrastructure, and economic resilience, issues that will influence Middle Tennessee for decades to come. Through collaboration with public agencies, private organizations, and community partners, this work supports not only academic progress but also meaningful regional advancement.

Throughout the year, regional dialogue has underscored the urgency of these shared challenges. Convenings such as the Forum on Growth and Regional Challenges bring students, faculty, and community leaders together to examine livability, infrastructure, and sustainable development, reflecting a growing commitment to informed and collaborative problem-solving across Middle Tennessee. At the same time, expanding global engagement—through partnerships like the Southeast

U.S.–Japan conference—reminds us that regional prosperity is increasingly connected to international relationships and shared opportunity.

The work featured in this issue, spanning mental health, walkability, environmental impact, education, housing stability, entrepreneurship, trade, and mobility, demonstrates both the complexity of today's challenges and the remarkable capacity of our students to engage them thoughtfully. Preparing leaders for this environment

requires interdisciplinary thinking, ethical awareness, and a sustained commitment to community engagement.

As we look ahead, one principle continues to guide our work: meaningful regional progress happens where education, research, and partnership come together. By cultivating talent, advancing applied knowledge, and strengthening collaboration, Jones College of Business remains committed to supporting a more resilient, innovative, and competitive Tennessee.

Meaningful regional progress happens where education, research, and partnership come together.



Warm regards,

Joyce Heames, Ph.D.
Dean, Jones College of Business
Middle Tennessee State University



1301 E. Main Street
Box 102
Murfreesboro, TN 37132

