

THE JOURNAL OF Urban and Regional Perspectives

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

CONNECTING THE REGION

Nashville Airport leader discusses BNA's current developments, including addressing traffic and tourism.

LOCAL LEADERS ON LIVABILITY

Middle Tennessee Mayors discuss how their communities address livability challenges.

PLUS

IMPACTS OF FAMILY
BUSINESSES
ON MIDDLE TENNESSEE

TENNESSEE
INTERNATIONAL TRADE
REPORT

SHORT-TERM RENTALS
IMPACT ON HOUSING
AND CRIME

ASSESSING HEAT
VULNERABILITY
IN NASHVILLE

THE JOURNAL OF
Urban and Regional
Perspectives

Fall 2025, Vol. 2, Issue 1

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, Ph.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

Kathleen Caldwell
Graduate Editor



1025-7819 / 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. The MTSU policy on non-discrimination can be found at crc.mtsu.edu.

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

Cover Photo: Courtesy of the Metropolitan Nashville Airport Authority

Table of Contents

4	Editor's Note
6	Tennessee International Trade Report
9	BERC's Profile of Activities
10	Connecting Academia and Community
12	A Panel on Livability Challenges
17	Short Term Rentals Impact on Housing and Crime
20	Partnership 2020 and Foreign Direct Investment
22	Connecting the Region
28	The Impacts of Infrastructure on Housing Affordability
30	Economic Impact of Family Businesses
34	Analysis of Strategies Used by Rural Counties to Attract Professionals in Middle Tennessee
36	Assessing Heat Vulnerability in Nashville
38	The Dean's Corner

MTSU Jones College of Business
Business and Economic
Research Center


mtsu-berc
Jones-URP


MTSU
BERC


BERCatMTSU
JonesURP


@MTSUBERC



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 Volume 2, Number 1 of The Journal of Urban and Regional Perspectives. This issue is anchored around the theme of “Connecting Region.” Across both urban and rural landscapes, the long-term growth, innovation, and economic competitiveness of Middle Tennessee depend on how effectively the different parts of our region are connected. When transportation systems, housing markets, workforce supply, and commuting patterns align through thoughtful policies, infrastructural improvements, and collaborative activi-

ties, the result is more than efficiency—it is a stronger, more sustainable, and more competitive region with a higher quality of life for its people.

The Jennings and Rebecca Jones Chair of Excellence in Urban and Regional Planning is dedicated to advancing this mission by connecting people, policies, and places through academic research, networking, public forums, and the dissemination of diverse voices from across our region.

This issue highlights perspectives from student scholars, community stakeholders, and academic researchers. Within the Undergraduate Scholars Program, five student researchers present original studies on pressing regional challenges:

Undergraduate Scholars Program:

“Short Term Rentals Impact on Housing and Crime in the Nashville Metropolitan Area” – **Ashna Goel** explores how short-term rentals affect housing markets and crime dynamics.

“Partnership 2020 and Foreign Direct Investment: The Growth of International Business in the Nashville MSA” – **Aykut Iri** examines the drivers of foreign direct investment and evaluates the role of the Nashville Area Chamber of Commerce’s Partnership 2020 program.

“The Impacts of Utility Infrastructure Upon Housing Affordability” – **Andrew Hair** investigates how utility infrastructure shapes the cost of housing.

“Analysis of Strategies used by Rural Counties in Middle Tennessee to Attract Professionals” – **Hannah Osborne** evaluates approaches rural counties use to attract and retain professional talent.

“Assessing Heat Vulnerability in Nashville: The Role of Building Value, Tree Canopy, and Socioeconomic Factors” – **Isabella Gilbert** considers multiple dimensions of vulnerability in the face of rising urban heat.

Our Invited Articles and Expert Conversations continue this theme of connectivity:

“Connecting the Region” – **Douglas Kreulen, A.A.E., president and CEO of the Metropolitan Nashville**

Our hope is that this issue, by fostering dialogue and sharing research, further strengthens the connectors that bind together the diverse parts of our region—communities, industries, institutions, and people alike. Happy reading!

Airport Authority, discusses transformative airport investments and offers a blueprint for Middle Tennessee as a connector to the world.

“Economic Impact of Family Businesses on Urban and Rural Communities in Tennessee” – **Greg Lewis, co-founder and director of the Tennessee Family Business Center**, highlights the critical role family businesses play as the glue holding together regional economies.

“A Panel on Livability Challenges in Middle Tennessee” – Brings together Mayor Chaz Molder (Columbia, TN) Mayor Randall Hutto (Wilson County, TN), Mayor Paige Brown (Gallatin, TN), and Michael Skipper (Greater Nashville Regional Council) to discuss community challenges and strategies for improving livability across the region.

Finally applied research and expert commentary:

“Tennessee International Trade Report” – **Steven Livingston, BERC associate director**, provides analysis of international trade dynamics in Tennessee as of the first quarter of 2025.

“BERC Profiles of Activities” –presents summaries of the Business and Economic Research Center’s recent projects and initiatives.

The Dean’s Corner” – **Joyce Heames, dean of the Jones College of Business**, reflects on higher education’s role in connecting the region, particularly through workforce development, industry engagement, and support for non-traditional learners.



Sincerely,

Murat Arik, Ph.D, PDBP, CERP
Editor, The Journal of Urban and Regional Perspectives

Tennessee International Trade Report

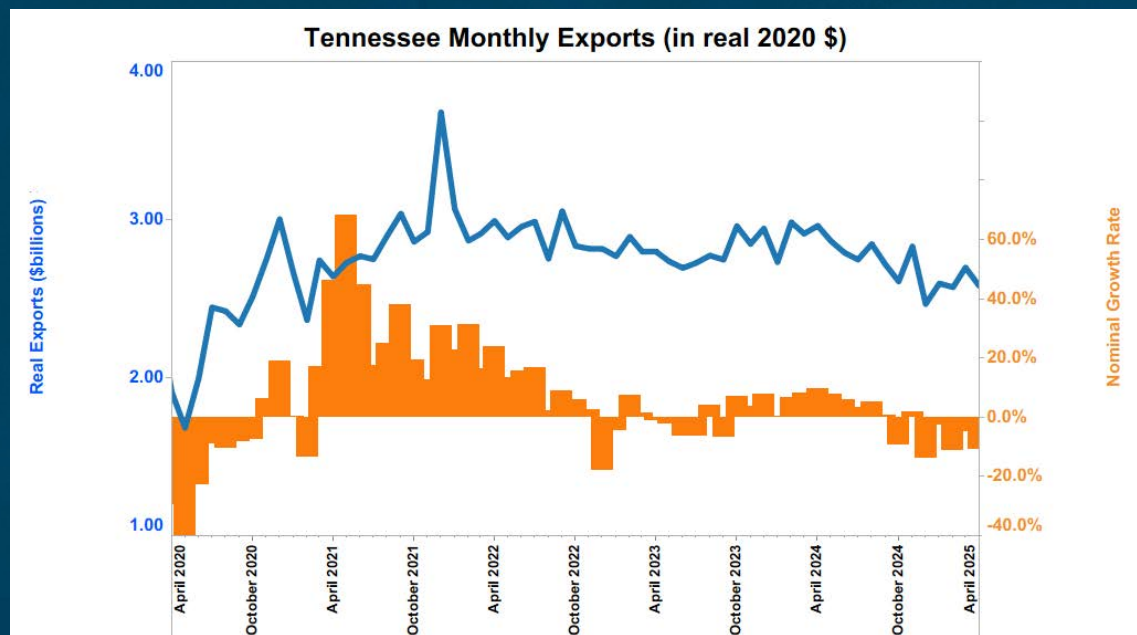
1st Quarter 2025. Steven Livingston, Ph.D.

State exporters have struggled mightily in the first months of 2025. The value of Tennessee's first quarter exports, \$9.534 billion, was a decline of almost \$500 million from 2024's first quarter. This is a 6.75 percent loss. Only nine other states saw larger percentage losses. It was one of the poorest quarterly performances in memory.

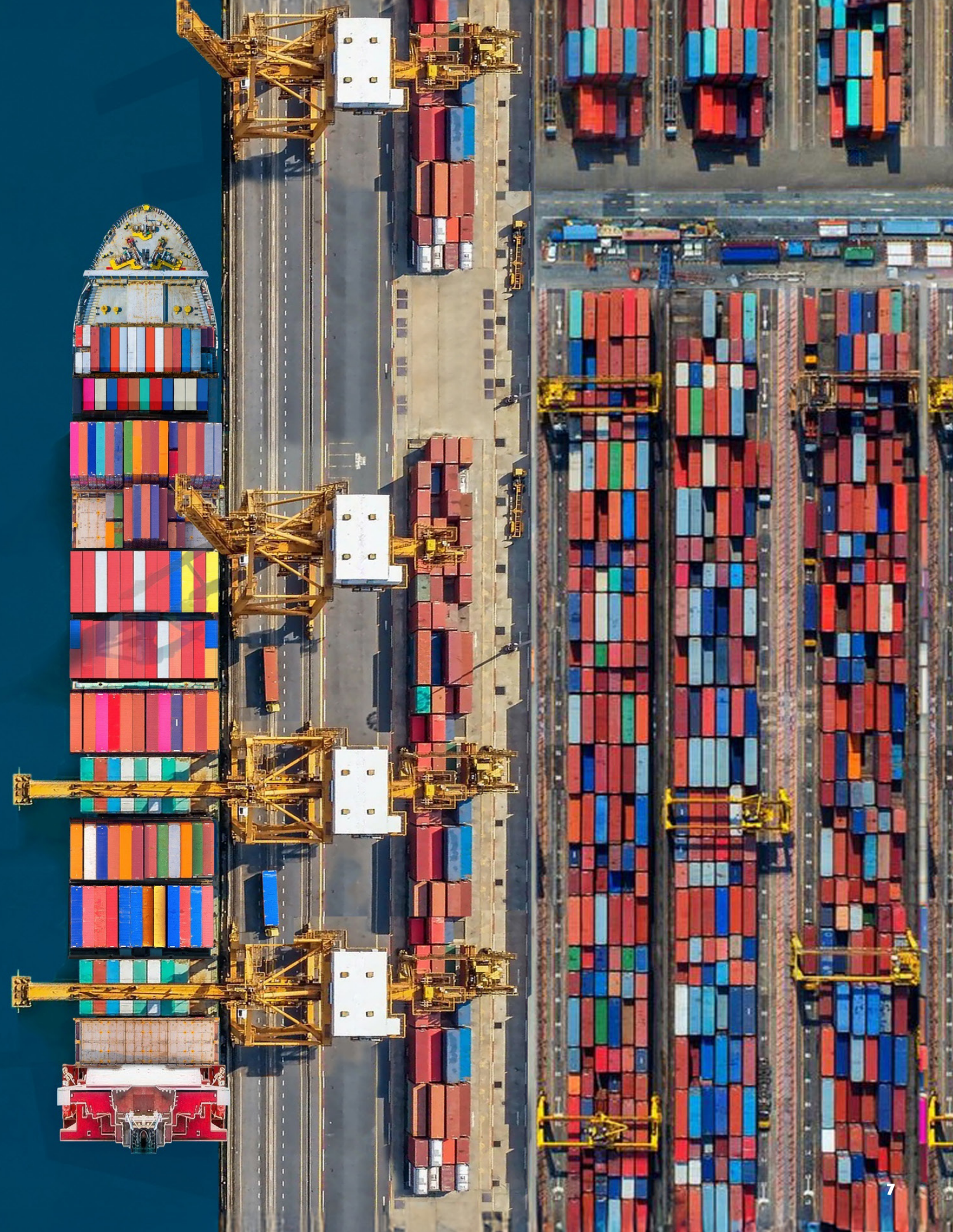
Why? Unfortunately, the problem was not one industry or one market. Many of the state's biggest export sectors had a rough go. We can start with Tennessee's largest export – miscellaneous medical instruments. The losses here were severe, as exports fell from \$863 million in the first three months of 2024 to \$553 million in 2025. Tennessee exports of these medical goods were down across the globe. Some of the larger losses were in Belgium, the Netherlands, China, and Singapore. Computer system shipments also dropped substantially (although, to be fair, their exports were unusually high last year). Exports of this good were off by \$159 million, a loss of a full third from last year. The manufacture of artificial joints (and parts) suffered an even bigger fall, losing half of the sector's exports (to \$383 million) compared to a year earlier. Europe (in particular, the Netherlands), China,

and Japan accounted for most of those losses. Cotton was the final good with losses of more than \$100 million for the quarter (falling from \$356 million to \$162 million). Here, at least, almost all the decline was in one market, China. The state's huge automotive export sector was saved from such drastic losses because of increased shipments of motor vehicle parts and cars. The latter posted some very good numbers, with exports up almost a third (to \$411 million). But it was a terrible quarter for SUV shipments. They were down by almost fifty percent (to \$162 million). And EV shipments weren't much better, declining from \$145 million in the first quarter of 2024 to \$101 million this past quarter. However, with automobiles, the story is not entirely a Tennessee one. Though one might suspect that Nissan's troubles were at the heart of the state's export losses, it in fact was not a very good quarter for American automobile exports generally.

A few silver linings Fortunately, not every industry saw losses. A number, in fact, did quite well. The star was undoubtedly electric storage batteries. Their exports boomed, from a bit over \$1 million last year to \$134 million. All of these went to Mexico. Among larger export sectors, smartphones, or-



Steven Livingston, Ph.D., is a professor of political science and global affairs at Middle Tennessee State University. As the assistant director of the Business and Economic Research Center, he publishes Global Commerce: Tennessee and the International Economy, a quarterly report on the state's international economic performance.



in solid numbers. A relatively new export, charcoal briquettes, also made a very good gain, particularly to India and Ukraine. In fact, it is briquette exports that made Ukraine the country with Tennessee's single biggest percentage export gains for the quarter.

Global Declines

Several of Tennessee's big markets had strong quarters. Mexico led the way in this regard. The state's shipments to Mexico surged by more than \$200 million. Half of this gain was the above-mentioned electric storage batteries. But items such as aluminum foil and kraft paper also gained significantly. Oddly, an exception to this was a very large decline in shipments of both pens and pencils to Mexico this past quarter. The Philippines (smartphones), Taiwan, the UK, and Argentina (petroleum-based lubricants), were other markets that performed well.

But an unusually large number of major markets did not perform so well. Shipments to Canada fell by close to \$200 million (down to \$2.14 billion). This decline involved a wide range of products. European markets were also generally down. The biggest losses in the EU were in the Netherlands (from \$893 million to \$646 million) and Belgium (\$376 million to \$266 million). Medical instruments and computer systems were the major problems in each. Declines in auto sales caused problems in the Middle East, particularly Saudi Arabia. Exports to India were down by more than \$50 million, with most of the loss coming in a decline of charcoal briquette sales, the product that did so well elsewhere.

Perhaps the most significant declines, though, were across the Pacific Rim. America's trade war with China seems to be finally eating into the state's export numbers. Tennessee shipments to China were down by more than a third (to \$646 million). The largest single factor was the fall in cotton exports, but there were also substantial losses in chemical, industrial, and medical shipments. Japan and South Korea, however, the other two big markets in this part of the world, also fared pretty poorly. The loss in exports to Japan approached \$100 million, while exports to Korea dropped twenty percent (to \$114 million).

Tennessee's Most Rapidly Changing Markets - 1st Qtr 2025				
		Exports	Growth	Decline
Fastest Growing	Ukraine	59,647,845	261.91%	
	Iraq	10,737,232	206.70%	
	Sweden	21,659,844	161.16%	
	Argentina	55,098,408	127.37%	
	Portugal	9,818,362	82.95%	
Largest Declines	Finland	8,198,845		-86.97%
	Hungary	7,620,812		-41.63%
	Malaysia	38,752,399		-37.48%
	China	643,381,806		-34.40%
	Honduras	21,683,388		-33.93%

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



The only global region where exports remained steady was Latin America. Shipments to South America barely moved, growing from \$702 million in the first quarter of 2024 to \$704 million this past quarter. That hid, however, some big shifts on the continent, as both Chile and Argentina purchased much more from Tennessee exporters while Colombia purchased much less.

Tariffs?

The obvious question is the extent to which the quarter's export numbers were influenced by the new Trump tariff policies. At this point it is way too early to know. The state is heavily invested in industries that are very exposed to tariffs and trade wars, notably automotive products and whiskey. Tennessee's chemical and medical goods industries could be added to that. Supply chain operations and strategic purchasing decisions ahead of the expected tariffs likely had and will have repercussions on exports and imports, though we really don't have much experience in what to expect. As of this writing, even more sizable tariffs have been announced. How and when these will show up in the export numbers, let alone in the Tennessee economy, are the huge unknowns. It will no doubt take a number of quarters before we can see their full impact.

BERC'S PROFILE OF ACTIVITIES



It has been a season of sustained growth and new opportunities for the MTSU Business and Economic Research Center. The Jennings and Rebecca Jones Chair of Excellence in Urban and Regional Planning Scholars Program completed another outstanding year, with a new cohort of students conducting consequential research and providing thoughtful presentations. BERC staff have continued to be awarded for their excellent work, bolstering the benefit of the center to our community. Our community partnerships have deepened through events like the human resource advisory panel with Middle Tennessee Industrial Development Association.



Awards and Promotions

Dr. Murat Arik, BERC director, was promoted to professor over the summer. He also received the Certified Economic Research Professional designation from the Council for Community and Economic Research. Additionally, Dr. Arik received the Distinguished Research Award from the Institute for Global Business Research at their spring conference.



Partnerships

The Business and Economic Research Center continues to deepen its partnerships across Middle Tennessee. One key initiative is the Wage and Benefit Survey, conducted in collaboration with the Middle Tennessee Industrial Development Association. This year, BERC convened more than 40 human resource and industry professionals to gather insights for the upcoming 2026 survey. The study remains a trusted source of regional wage data, supporting economic development strategies and human resource planning across the area.



Urban and
Regional Planning

CONNECTING **ACADEMIA** AND **COMMUNITY**

The MTSU Chair of Excellence in Urban and Regional Planning Scholars Program is a nine-month academic initiative designed to engage undergraduate students, university faculty, and community stakeholders in the systematic examination of regional challenges. The program fosters interdisciplinary collaboration and applies scholarly research methods to develop evidence-based solutions to issues of significance in Middle Tennessee.

Over the course of the program, participants attend structured workshops on research design and methodology, interact with practitioners and thought leaders from relevant sectors, and collaborate with faculty mentors to investigate complex regional problems. Previous cohorts have addressed topics such as housing affordability, solid waste management, small business financing mechanisms, and strategies for managing rapid demographic and economic growth.

By the conclusion of the 2025–26 program year, Scholars will have cultivated a robust professional network, strengthened their capacity for applied research, and produced both a formal research manuscript and an accompanying presentation contributing to the discourse on regional development.

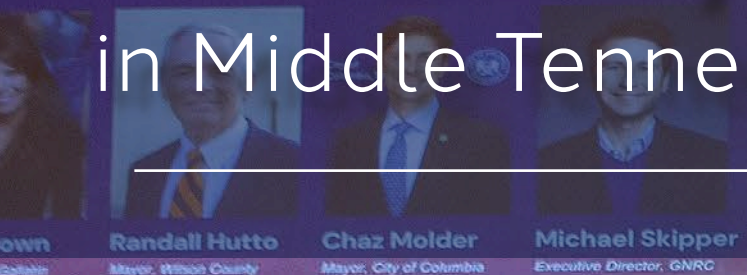
This issue of the Journal of Urban and Regional Perspectives includes five synopses from the 2024–25 Scholars Program, reflecting the scope and depth of inquiry characteristic of the initiative.



MTSU Student Scholar, Sydney Panak, presents her research on the impact of landfills on property values and community well-being at the Scholars Program graduation ceremony.

Photo by Tom Beckwith.

A Panel on Livability Challenges in Middle Tennessee



The Forum on Growth and Regional Challenges at Middle Tennessee State University brings together leaders and community members to explore the dynamics of growth in one of the fastest-expanding regions of the United States. This year's forum featured a mayoral panel centered on livability challenges in the middle Tennessee region. The panel was moderated by David Plazas, opinion editor for the Atlanta-Journal-Constitution, and the panelists included Michael Skipper, executive director of Greater Nashville Regional Council; Paige Brown, mayor of Gallatin; Randall Hutto, mayor of Wilson County; and Chaz Molder, mayor of Columbia.



Murat Arik (left), Stephanie Coleman, Michael Skipper, David Plazas, Chaz Molder, Douglas Kreulen, Mark Byrnes, Paige Brown, Alan Thompson, and Randall Hutto at Middle Tennessee State University for the Forum on Growth and Regional Challenges. Photo by Tom Beckwith.

“Forums such as this one are important to remind people of the changes happening and showcase some wins along the way.”

How do you define livability and what does it look like in practice?

Mayor Molder: Livability is impacted greatly by the quality of service a municipal or county government can provide. The quality of the service is determined by the quality of the people providing the services. In all sectors, you want service to be sophisticated and top-notch because the quality of service directly impacts livability.

Mayor Hutto: In my county, we want to provide a good quality of life to our citizens, especially when they spend time with their families. Dr. Arik helped create a business plan the County Commission bought into for an event center. That center is up for its tenth anniversary this year. Quality of life is really associated with livability in Wilson County.

Mayor Brown: Livability is dynamic and individual, so when I think about livability, I think about what retains people in your community and what makes people want to live there. I don't think people have a sense of our services until they really experience them. We can measure livability by seeing how many people want to remain here, move back after college, and have extended family move here. This speaks to whether our public and private amenities meet the demand of our community.

As Middle Tennessee continues to grow, what do you see as the biggest barrier to maintaining and improving livability? How are these challenges shaping how you plan for the future?

Mayor Molder: We must make sure we are collaborating between cities and counties. One barrier is that if we aren't planning for the future, we won't be able to sustain growth. We must make sure that we are planning for 40 years in the future; if we don't, it will come back and hurt us.

Mayor Hutto: We know that we will continue to grow. Wilson County's education system is probably the number one reason people move here, so we will continue to have an influx of people. We have three cities: Mt. Juliet, Lebanon, and Watertown. Mt. Juliet is somewhere people can live and travel pretty easily in and out of Nashville. Lebanon has a more hometown feel, and Watertown is a largely rural area. So, our biggest challenge is allowing people to move here while preserving both urban and rural areas.

Mayor Brown: Affordability and congestion are two of the largest barriers. One of the largest complaints I hear

regarding growth is the traffic. Losing land is a worry for many citizens, but we need to change the narrative to discuss how we can preserve land and fulfill our smart growth plans. Some people blame growth and want to “close the doors,” but that will negatively impact livability because you lose the retention of the people you really want to be here.

Michael Skipper: We see a loss of patience waiting for some solutions to play out. It is a slower process to fix roadways and other societal issues, and it takes a lot of patience. I think the loss of patience leads folks to believe that we aren't going to be able to solve our issues. Forums such as this one are important to remind people of the changes happening and showcase some wins along the way.

Transportation and mobility are key components of livability. What steps are being taken to ensure that people can move efficiently, affordably, and sustainably between and within communities?

Mayor Molder: I can remember as a kid, it took 10 to 12 minutes to get from downtown Columbia to Springhill. It probably takes double that now. I think it is important to empower local governments to improve traffic infrastructure in ways that may not have been tried before. We know a little bit better what the immediate traffic concerns are, rather than the people who are at the state level. We estimate that about 10 percent of our population commutes to Williamson or Davidson County daily. That is over 10,000 people a day that we are adding to the traffic volume. We know we are part of the problem and want to be a part of the conversation that provides a solution.

Mayor Hutto: As you look overall, Wilson County has the fifth-largest total lane miles of state routes. How do you maintain the roads? We've doubled the size of our jail, we have plenty of schools and plenty of emergency management stations, but we've done nothing for the county roads. Largely because there is no money set aside. We hired a company to look at all the state routes in our county, and they came back with 54 that need our attention. The issue is how we fund that. We've worked on raising Commercial Adequate Facilities Tax to be competitive: taken that increase and put in a separate fund for roads. We would try to raise mineral tax, since the legislature is now allowing that, and put that in a funds towards roads as well. We may also ask the County Commission, at a later date, to put a \$25 wheel tax on a referendum so that the people can decide on the funding. There is a plan, but the main issue is cost.

Mayor Brown: I think we are, as has been demonstrated in so many of our communities, pretty far behind in the state of Tennessee on roads. Even 40 years ago, the traffic was bad if you were trying to get into Nashville. We are always 10, 15, 20 years behind what needs to happen. A challenge to livability is anti-growth sentiment. There are people who will be in the legislature who are very anti-growth, and it is going to have a very challenging impact on growing the way we should to accommodate the growth in Middle Tennessee.

Ensuring that livability extends to all residents, regardless of income, background, or ability is critical. What strategies are helping to make Middle Tennessee growth more accessible, and where do you still see gaps that need to be addressed?



David Plazas at Middle Tennessee State University for the panel Forum on Growth and Regional Challenges.

Photo by Tom Beckwith.

Mayor Molder: All mayors are struggling to make sure we don't leave people behind during this period of exponential growth. We don't want to overburden taxpayers. We don't want to go beyond what the least among us can afford, but also seniors and others cannot bear the brunt of paying for infrastructure they may never experience. Affordable, accessible housing is a conversation we are having regularly and trying to come to terms with. How do we manage new subdivisions where the starting price was \$300,000 five years ago and now is \$450,000-\$500,000? Not everyone can afford that, particularly first-time home buyers. It is great to provide new opportunities, but we cannot overlook those who will otherwise be left behind.

Funding and resources often determine what can realistically be accomplished. What creative funding approaches or partnerships have been successful in advancing livability efforts?

Mayor Hutto: In our county, we have a home grant that we work really hard to get, which helps people who are older or have homes that need repair. They can apply for this grant, and it will help keep them in their homes.



Michael Skipper at Middle Tennessee State University for the Forum on Growth and Regional Challenges.

Photo by Tom Beckwith..

Otherwise, we continuously strive to look for any grants that are out there. We also have several organizations throughout the county that were started by the government but not funded by the government. These organizations reach out to different groups of people with whom we need to bridge the gap. An example is Everyone's Wilson, which is a group that has looked for and found different holes that the government can't answer, where there are needs. I think these kinds of organizations help us bridge the gap. New funding sources are always at the forefront for us. We recently received some ARP (American Rescue Plan) funding that we put towards infrastructure to help low-income families get water and sewer. So, I think we will focus on those extra funding opportunities going forward. We've also started meeting with our homeless roundtable group to talk about the best way to tackle homelessness in Wilson County.

Looking ahead 20 to 30 years, what are the most important steps Middle Tennessee needs to take now to ensure that growth enhances rather than hinders livability? What role do residents and local leaders play in shaping the future?

Mayor Brown: That plays well into what I was saying about who ends up in local leadership roles. As we look to the future, we have to make sure that we have community leaders who understand the needs of their community, their county, and the whole country. One thing we hear so much in my community is anti-multi-family and anti-town homes. A home is currently about 6 times the median income, and the people next door in the single-family home on an acre of land don't understand that, which creates frustration in the community. I have had to speak multiple times at town meetings, saying, "Let's not speak disparagingly about other people's living choices." We need to ask questions and vet leaders who are going to take us into the future.

Closing Remarks

Michael Skipper: I would like to underscore the need for patience and persistence on many of these challenges, as they are long-term commitments. It is important to have these conversations, to set expectations, and to realize that while we may be able to all agree on the big picture, everyone still has individual wants and needs that are worthy of our respect and consideration.

The upcoming Forum on Growth and Regional Challenges is on **March 20, 2026**. Registration opens January 2026. Scan for more information!



THE SCHOLARS PROGRAM RESEARCH

Short-term Rentals Impact on Housing and Crime

The Impact of Short-Term Rentals on Housing Affordability and Crime in the Nashville Metropolitan Area
Ashna Goel

Introduction:

The purpose of the following study is to better understand the relationship between short-term rentals, housing prices, and crime within the Nashville metropolitan area. The Nashville metropolitan region has grown significantly both in population and the number of short-term rentals over the past few years, and with this growth, there is the concern that the increase in short-term rentals may reduce housing supply, specifically in affordable housing. The following research investigates if there is a correlation between the density of short-term rentals, rising housing prices, and crime at the council district level from 2017-2024. This study aims to demonstrate how short-term rentals may be influencing the housing market and crime rates in communities. Although there are limitations, these findings are intended to provide information that can be utilized by local policymakers as they look for solutions to improve our cities.

With Nashville being ranked the fourth most common metropolitan region to move to in 2021, the Nashville metropolitan area has seen a massive influx in people. According to the Urban Institute, between 2010 and 2022, households in Nashville grew by 32%. Along with this increase in population, the real estate market in the Nashville metropolitan area has been at an all-time high. From January 2021 to July 2023, the median home

price increased by over \$100,000. Additionally, in 2022, 49% of renters were cost-burdened, with 23% of renters being severely cost-burdened. During the same year, there were only 48 affordable homes for every 100 renter households.

As tourism increases, more short-term rentals are popping up in the Nashville metropolitan area, which further reduces the number of homes available. Short-term rentals allow owners to rent out their properties on either a nightly or weekly basis, creating economic opportunities for hosts and providing tourists with an alternative option to hotels. Regardless, short-term rentals are increasingly seen as a factor in the reduction of available houses in the market.

When it comes to violent crime, in the past few years, Nashville has seen a decline, with violent crime decreasing by 1% from 2022 to 2023 and decreasing by 5% from 2023 to 2024. On the other hand, there has been a large spike in the number of property crimes, with property crimes increasing by 16% from 2022 to 2023 alone. This led to the question of whether short-term rentals are not only affecting housing affordability but also if they have an impact on crime rates. The following study aims to determine the relationship between short-term rentals, housing affordability, and crime in the Nashville Metropolitan Area between 2017 and 2024.

Methodology

This study was conducted by utilizing publicly available data sources such as Crime Reports by Council District, which are issued by the Metropolitan Government of Nashville and Davidson County, and short-term rental permit information, which is provided by Nashville Open Data. The purpose of using these data sources was to determine if the number of short-term rentals (independent variable) within a council district impacts housing prices (mediating variable) and crime rates (dependent variable) over time. However, limitations exist as this approach does not consider the fact that publicly available data may not necessarily be comprehensive, as the number of short-term rentals is based on the number of permits, meaning that any short-term rentals that exist without a permit are not considered in the data source. Furthermore, some crimes may not be reported, and even with controls in place, it may be difficult to conclude a correlation, as many factors outside short-term rentals may impact crime within a council district. Additionally, due to the large amounts of data, a lot of which was manually sorted and filtered, the probability of human error occurring is extremely high. Furthermore, even with controls in place, it may be difficult to conclude a correlation, as many factors outside short-term rentals may affect housing prices. While these drawbacks exist, this approach was decided upon due to the ease of accessibility to the data, the consistency, the ability to correlate the data, and the geographic nature in which the data was collected.

Findings

From the table below, it can be concluded that as the number of short-term rentals increases, the percentage increase in property value decreases, meaning that more short-term rentals don't necessarily result in less affordable housing, as the opposite can be seen in the data analyzed. For example, quartile 1, which consists of the top 5 council districts in terms of total short-term rental

	Average Property Value (2024)	% Increase in Property Value (2017-2024)	Average Property Crimes	Average (Property & Violent) Crimes per Permit	% Increase in Property & Violent Crime (2017-2024)	Average Calls for Service per Permit
Q1	\$515,924	49%	17,721	12	18%	165
Q2	\$491,959	62%	8,558	20	17%	240
Q3	\$408,232	80%	8,922	60	15%	682
Q4	\$578,568	75%	6,096	79	9%	879

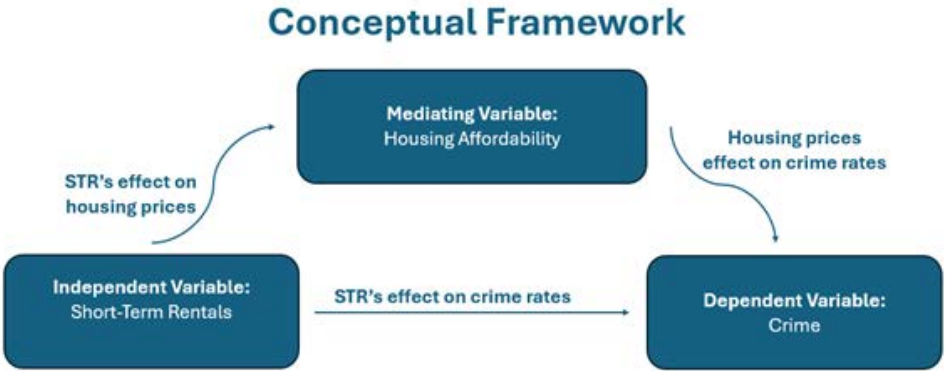
permits issued between the years of 2017 and 2024, shows only a 49% increase in property value, while quartile 4, which consists of the lowest 4 council districts (after the data has been filtered out) has a 75% property value increase which is around almost 25% more than quartile 1.

Another important finding that can be seen in the table is that areas with more short-term rentals have a higher percentage increase in property and violent crime vs. areas with fewer short-term rentals. For example, quartile 1 has an 18% increase in property and violent crime, while quartile 4 has only a 9% increase, which is half the amount of quartile 1. Furthermore, the average property crime for quartile 1 is around 2.9 times higher than the average property crime for quartile 4. However, when we look at crime on a per-permit basis, we can see that there is more crime per permit and calls for service per permit in areas with fewer short-term rentals. From this analysis, we can see that while more short-term rental areas have larger increases in crime, it does not necessarily have more crime.

Discussion

Industry professionals can use this data to better identify various trends and make more informed decisions when it comes to housing developments and the issuance of permits. Additional analyses that may have been useful to perform include an analysis of the residuals of the regression model or an analysis of other potential predictors of housing value increase, such as location, interest rates, policy incentives, and more.

One potential future research question that can be investigated further to better understand short-term rentals and the impact they have on cities is the effectiveness of different policies and regulations on the housing market. For example, a 2023 Purdue article looks into the "One Host, One Home" policy that was introduced in 2016 in



San Francisco, CA, and introduced in New York and other cities in 2017. The article discusses that research found that after the implementation of the policy, long-term rent and housing prices saw around a 3% reduction. Research with findings like this suggests that proper regulation has the potential to alleviate issues caused by short-term rentals. Therefore, by continuing research into policy implementation and various other areas, policymakers can be provided with more information to find better solutions and strategies.

Key takeaways from the study included that while short-term rentals were found to be correlated strongly with increases in crime, there was not a strong correlation found with reduced housing affordability. In fact, the opposite effect was found when it comes to housing affordability where council districts with more short-term rentals saw a significantly smaller increasing in housing value when compared to areas with less short-term rentals. This suggests that housing affordability is more driven by more of a supply issue rather than a short-term rental issue. These findings support the conclusion of increased crime associated with short-term rentals but

differ against the proposed theory of short-term rentals leading to gentrification. One explanation for the increase in housing affordability found could be that a high presence of short-term rentals makes an area less appealing for investors, resulting in a lower housing value increase when compared to areas with a lower presence of short-term rentals.

Conclusion

Currently, many individuals in the local government have been working together to solve this issue. The Affordable Housing Taskforce estimates that by 2030, 53,000 units would need to be added, with 18,000 of those being affordable to individuals making below 80% of Area Median Income (AMI). Still, there is a long way to go in terms of solutions and future research in the field. This study explored the relationship between short-term rentals, housing affordability, and crime within the 35 council districts in the Nashville metropolitan area from 2017 to 2024. The study found that while short-term rentals are strongly correlated with crime, there was no correlation with reduced housing affordability and short-term rentals found. These findings show the importance of using data to determine local policies. Further research specific to Nashville could examine how specific types of regulation for short-term rentals impact our cities or include various other socioeconomic factors in their research to better reach a conclusion of causality over correlation.



Ashna Goel at Middle Tennessee State University presenting her research at the Scholars Program graduation ceremony.

Photo by Tom Beckwith.

Ashna Goel is a senior at Middle Tennessee State University, studying accounting with a minor in business administration.

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

PARTNERSHIP 2020 AND FOREIGN DIRECT INVESTMENT:

The Growth of International Businesses in the Nashville Metropolitan Statistical Area

Aykut Iri

The Nashville Area Chamber of Commerce Partnership 2020 has successfully attracted foreign direct investment (FDI) to the Nashville metropolitan statistical area (MSA). Three primary factors emphasized by the Nashville Area Chamber of Commerce's Partnership 2020 strategic program have influenced FDI in the Nashville MSA: strong education, a ready labor force, and potent tax incentives. Because of these desired qualities, Nashville MSA has become an attractive location for international businesses.

This research addresses two questions: What factors have affected inward FDI in the United States? And, how do the Partnership programs accelerate the growth of FDI in MSAs? Analyzing the three main factors influencing FDI flows into the Nashville MSA—education, workforce, and taxes—reveals how Nashville and its surrounding area have become a hub for international businesses. It also reveals gaps the Nashville Area Chamber of Commerce can address to improve future planning.

Methodology

The Nashville Metropolitan Statistical Area (MSA) utilized for this research consists of 10 counties, including Cheatham, Davidson, Dickson, Maury, Montgomery, Robertson, Rutherford, Sumner, Williamson, and Wilson counties, which are the counties under the Partnership

focus.¹ Four peer cities—Atlanta, GA; Austin, TX; Charlotte, NC; and Indianapolis, IN—were used to compare statistical data sets and to analyze the growth of the Nashville MSA. The Nashville Area Chamber of Commerce considered these four peer cities as providing top metro benchmarks, and the peer cities had growth patterns and future outlooks for development similar to the Nashville MSA.

Data sets were critical for navigating the statistical growth and decline of Nashville and other MSAs. These data sets were sourced from the Nashville Area Chamber of Commerce, the Tennessee Department of Economic and Community Development, the United States Department of Commerce, and the United States Census Bureau. These data sets included variables such as Gross Domestic Product (GDP), population, employment rate, and educational attainment, in order to quantitatively analyze the growth of five MSAs and the effectiveness of the Partnership programs in the Nashville MSA.

In addition, surveys of business professionals in five MSAs were conducted to gain personal insights from individuals who had started or expanded their businesses. Pollfish, an online survey platform, was used to gather 150 responses (30 responses from each MSA). Business professionals could comment on the assistance their local chambers of commerce gave through strategic programs and if they had seen any positive or neg-

¹ Nashville Area Chamber of Commerce (2024b, November). Nashville region economic overview. <https://s3.us-east-1.amazonaws.com/nashvillechamber.com/Publications+and+Documents/2024+Nashville+Region+Economic+Overview.pdf>

ative outcomes by implementing these programs. Also, it was essential to incorporate the opinion of business professionals on FDI development in these five MSAs and whether the international businesses were actively contributing to the area's growth.

Results

The Nashville MSA hosts a diverse mix of global brands in manufacturing. For example, in Franklin, TN, Nissan Americas Headquarters has been a long-standing international business since July 2008.² The list includes companies such as Bridgestone, Hankook, LG, and Philips, comprising various international businesses. Next is corporate operations, with Nashville being an attractive location for further business expansion. The Nashville MSA is also experiencing strong growth in export opportunities for trade expansion. In 2022, the Nashville MSA was the 43rd largest Metropolitan exporter, with Tennessee goods exported worldwide totaling \$38.2 billion.



Partnership 2020, managed by the Nashville Area Chamber of Commerce, has significantly impacted the economic growth and attractiveness of the Nashville metropolitan statistical area (MSA) for international businesses and foreign direct investment (FDI). For instance, Partnership 2020 has been pivotal in driving economic growth in the Nashville MSA. Since its inception, it has facilitated the creation of thousands of jobs and attracted billions of dollars in capital investment. In 2023 alone, the region added 5,456 new jobs and \$4.7 billion in capital investment.³

A significant focus of Partnership 2020 is on workforce development. The Partnership programs have implemented various programs such as work-based learning, dual enrollment, and high-quality career pathways to ensure that the local workforce is skilled and ready to meet the demands of international businesses.

The current strategic plan, Partnership 2030, focuses on maintaining and growing the Nashville region's

² Global Nissan Newsroom (2008, July 21). Employees celebrate Nissan America's opening. <https://global.nissannews.com/en/releases/080722-03-e>
³ Nashville Area Chamber of Commerce (2023). 2023 annual report. <https://annual23.nashvillechamber.report/>

economy by creating jobs, building a talented workforce, and promoting a high quality of life

Another key aspect of strengthening the Partnership programs is regional collaboration. By working closely with regional economic development partners, mayors, and business leaders, the programs ensure an effective approach to economic growth. This collaboration enhances the competitiveness of the Nashville MSA and fosters a supportive environment for international businesses.

Conclusion

Overall, Partnership 2020 has significantly positioned Nashville metropolitan statistical area (MSA) as an attractive destination for international businesses. The strategic plan's focus on economic growth, workforce development, regional collaboration, and economic inclusion has created a strong and competitive environment that continues to draw global investment. Fostering collaboration between educational institutions, industry, and community organizations aims to create a responsive and adaptable workforce, supporting the region's economic growth and innovation.



Aykut Iri presenting her research at the Scholars Program graduation ceremony.

Photo by Tom Beckwith..

Aykut Iri graduated from Middle Tennessee State University in May 2025 with a B.B.A. in finance with minors in accounting and data science.

Murat Arik, Ph.D., is a professor of management at Middle Tennessee State University. He served as faculty mentor on this project.

Connecting The Region



Departures

Arrivals

The following article was adapted from Douglas Kreulen's keynote presentation at the Forum on Growth and Regional Challenges in March 2025.

Overview and Challenges

In recent years, both airports managed by MNA, John C. Tune Airport® (JWN®) and Nashville International Airport® (BNA®), have navigated challenges that have proven our airports' resilience, dedication, and clear vision for the future. Beginning with the devastating 2020 tornado that damaged 91 aircraft at JWN, to the unnervingly quiet skies of April 8, 2020, the lowest air travel day the airport has seen, our airports demonstrated their commitment to excellence and flexibility through it all.

Despite challenges faced, an ongoing effort for BNA is delivering a world-class airport that meets unprecedented passenger growth, which doubles roughly every ten years. The airport currently welcomes 70,000 passengers daily, a striking jump from 32,000 just a decade ago. To put this in perspective, Nissan Stadium accommodates 69,000 patrons. BNA is serving a full Nissan Stadium worth of passengers daily. With such unprecedented demand, luggage management, weather delays, and terminal roadway congestion are among the challenges that the airport is strategically addressing through development, expansion and renovation programs.

Current Growth and Renovations

Launched in 2017, the ambitious BNA® Vision plan represents a \$1.5 billion investment designed to elevate the world-class reputation and efficiency of the airport in light of the increased demand for travel to Nashville.

These advancements include a rebuilt Concourse D, an updated International Arrivals Facility, a cutting-edge satellite concourse, and a Terminal Lobby renovation comprised of a re-imagined Grand Lobby in the center of the terminal, a new centralized security checkpoint with 24 lanes, as well as many other infrastructure improvements. BNA® Vision culminated in February 2024 with the completion of the Hilton BNA Nashville Airport Terminal hotel, the airport's first on-site hotel. Thanks to these new developments, the airport's capacity increased drastically, and it is now positioned to serve up to 30 million passengers each year.

The next phase of infrastructure development is New Horizon, a two-phase endeavor, much like BNA® Vision, that will enable the airport to serve 40 million annual passengers in the future. Building on the success of BNA® Vision, New Horizon, which began its design phase in 2022, marks the next chapter in BNA's ongoing transformation. The first project under New Horizon was the Concourse D extension. Completed on July 2, 2025, this top-of-the-line \$247 million addition vaunts five brand-new gates and a striking 161,854 square feet of modernized space. Within this new concourse lies 23,000 square feet dedicated to concessions, featuring five new food and beverage stations alongside three new retail shops. The Concourse D extension culminates in a new circular node space, designed to imitate a vinyl record and pay homage to Music City. This renovation includes a luxurious martini bar and the airport's first outdoor lounge space.

The completion of the Concourse D extension enables BNA to relocate airline and airport operations so that BNA may begin the demolition and reconstruction of Concourse A under New Horizon. The \$855 million undertaking is scheduled to be completed on July 11, 2028. This update includes a dual-concourse allowing jets to park on both sides, a brand-new atrium space, and an expansive 30,000-square-foot Admirals Club for American Airlines members. Once completed, this concourse will be home to an impressive 16 gates, bringing the total number of gates at the airport to 70.

This growth and development has enabled BNA to expand upon its ability to serve its airline partners and passengers. BNA is currently the seventh largest station for Southwest Airlines® and is an official Southwest crew base. This distinction more than tripled the number of Southwest pilots stationed at BNA, going from 250 to 750, and increased the number of flight attendants as well, further expanding the

economic impact of the airport and benefits for the region. Together, JWN and BNA fuel the livelihoods of around 76,000 Tennesseans, providing even more economic drive and opportunities for the community.

Improvements and Solutions

New Horizon is designed to address operational and infrastructure needs as BNA prepares to support 40 million annual passengers. As previously mentioned, addressing baggage handling is a vital part of airport operations, and it requires robust coordination with the Transportation Security Administration (TSA) and airline partners. In light of exponential growth, BNA is developing a new baggage handling system under New Horizon that is designed to improve accuracy and processing speed. The new \$243 million system will include a three-mile conveyor system and have the capacity to handle luggage for up to 40 million passengers yearly.



Photo Courtesy of Metropolitan Nashville Airport Authority



Photo Courtesy of Metropolitan Nashville Airport Authority

Weather challenges, especially related to snow delays, pose substantial issues to airline operations, often leading to widespread traveler dissatisfaction. During winter weather periods, BNA collaborates with airline partners to ensure traveler safety with as few delays as possible. Constant communication is a necessity; while BNA stocks ice melt and de-icing products for runways and other paved areas, airlines are responsible for supplying their own aircraft de-icing agents. To better support airline partners with space for de-icing activities, as part of New Horizon, BNA will fill a massive hole adjacent to the central ramp with approximately 1.1 million cubic yards of fill to expand the central ramp and construct a de-icing station to provide efficient turnaround, even in the harshest weather conditions. The central ramp expansion will also provide seven additional spots for jets to remain overnight before departing from BNA the following day, providing additional flexibility for weather diversions and other airline scheduling needs.

Finally, navigating BNA's current roadway system can lead to challenges for drivers. To tackle this obstacle, BNA is improving and expanding its terminal roadways through New Horizon from the existing two-lane, one-mile loop to a new six-lane, two-mile loop, designed for smoother traffic flow and a more easily navigated roadway that will support 40 million annual passengers in the future. To facilitate this roadway expansion, BNA coordi-

nated with the Tennessee Department of Transportation to relocate Donelson Pike, ensuring routes to and from the airport are more direct and less congested. A bigger and better rental car complex and additional garage and surface parking are also projects under New Horizon that will support infrastructure for BNA's growth.

Future Endeavors

Looking to the future, a phased development of a second terminal is planned for build-out for growth beyond 40 million annual passengers. This expansion will require tenant relocation, and BNA will need to navigate adding an air traffic control tower, as well as working around existing city and state roads. Equally pressing is the need for an additional runway. Two primary factors contribute to this necessary expansion. First, our current runways are at 60% capacity. Once they hit the 80% mark, a new runway will be crucial. Second is the growing need for flights to Asia. With more than 200 Japanese companies in the middle Tennessee area, along with numerous South Korean firms, the demand for flights to Asia is continuously growing. Accommodating this expansion will require larger aircraft, which requires a longer runway to ensure necessary takeoff speeds. Proactive planning will ensure that the travelers' needs are met for this growing demand and that BNA will be positioned to provide the necessary infrastructure.



Photo Courtesy of Metropolitan Nashville Airport Authority



Tennessee is known for its warmth and friendliness. We hope that as we look toward the future, our airport can be seen doing just the same – welcoming millions of travelers with the same warmth our great state exhibits. We are proud to support Tennesseans. Through providing substantial employment opportunities, bolstering the reve-

nue of the state, and with billions invested in improvement projects, it's clear that BNA is growing in meaningful ways to serve the travelers and economy of Tennessee. As Tennessee continues to advance in innovation, development, technology, and the arts, our airport is ready to connect Tennessee to the world, and the world to Tennessee.



Douglas Kreulen, A.A.E., joined the Metropolitan Nashville Airport Authority in 2012, and stepped into the role of president and CEO in 2017, bringing with him a wealth of experience and dedication in the field. He has 27 years of distinguished service in the United States Air Force, and a mindset shaped by strategy, resilience, and vision.

A decorated veteran, Kreulen's service has earned him some of the military's highest honors, including the Bronze Star, the Legion of Merit, and the Defense Superior Service Medal. Backed by master's degrees in national security strategy and personnel management, his numerous credentials have guided his strategic leadership.

The Impacts of Infrastructure Upon Housing Affordability:

The Unavoidable Expense of Homeownership

Andrew Hair

Introduction

Housing affordability is an issue many Americans are facing as urbanization impacts infrastructure. Tennessee's population growth has brought challenges to resources that provide basic utilities such as electricity and water. This research develops a conceptual framework for the impacts of utility infrastructure relative to housing affordability, considering population growth, housing markets, resource constraints, capital investments, and the resulting consumer utility costs.

Background

Housing affordability influences economic viability, livability, and sustainable growth. In Tennessee, unprecedented residential growth requires resource allocations for reliable and efficient utilities, often through legal or policy changes. Utility costs are part of the expenses used to calculate cost-burdened households, defined as spending more than thirty percent of income on housing. These costs include utilities, mortgages or rent, insurance, and taxes. Efficiency improvements and infrastructure expansion are passed to ratepayers, increasing housing cost burdens.

Methodology

A narrative literature review was conducted using scholarly articles, industry literature, company and government websites, and regulatory sources to understand infrastructure requirements, housing growth, and consumer costs.

Literature Review

Population Growth: Middle Tennessee, led by Rutherford County, continues to experience record growth, ranking among the nation's fastest. Ninety of Tennessee's ninety-five counties contributed to recent population growth, intensifying housing affordability concerns.

Home Prices and Wage Information: The 2024 average Tennessee home price was \$319,742 compared to the national median of \$420,400. With an annual average wage of \$56,030, affordability concerns arise as incomes lag behind rising home prices. Using Fidelity's calculation, affordable home values should be 3 to 5 times income, yet Tennessee's prices exceed this threshold for many households. Cost-burdened conditions occur when housing expenses surpass thirty percent of income, limiting quality of life.

Housing Expenses: Housing costs include mortgages or rent, insurance, taxes, and utilities. Prices are influenced by location, supply and demand, regulations, and efficiency standards. Utility costs are unavoidable for both owners and renters, often unpredictable, and affected by weather, maintenance, and infrastructure upgrades. Infrastructure for new development requires additional electricity, water, and sometimes natural gas, further burdening ratepayers.



Author Andrew Hair (middle) receiving a completion award for his research at the Scholars Program graduation ceremony alongside Paul Martin (left), Murat Arik, and Steven Livingston.

Photo by Tom Beckwith.

Physical Resource Requirements: Much of the United States electric grid was built in the 1960s and 1970s and struggles to meet modern needs. Renewable sources such as hydro, wind, and solar power require significant land use. Rutherford County imports nearly all of its electricity despite high consumption, signaling challenges for future generations and affordability. Water infrastructure is also aging, requiring major reinvestment. Providers pass costs to consumers, raising monthly bills and increasing cost burdens.

Disparities: Rising rents prevent tenants from saving for homeownership. Population growth drives rental demand, while wage growth has lagged housing costs. Generational divides complicate solutions, with Baby Boomers resisting high-density housing that younger groups favor for affordability and sustainability.

Balancing Resources and Funding: High housing costs can deter business growth. The 2021 Bipartisan Infrastructure Law provides opportunities for federal funding, but rural areas often lack shovel-ready projects. These communities, once affordable, face similar cost-burdened conditions as growth arrives.

Infrastructure Considerations: Rapid growth strains utilities, transportation, accessibility, and housing supply. Competing interests for property, labor, and resources, along with tourism demands, intensify constraints and affordability challenges.

Conceptual Framework

Current utility infrastructure requires modifications and innovations to meet population growth. Former rural areas like Rutherford County now face urban-scale demand, increasing construction, utility use, and technology needs. Infrastructure improvements, mobility taxes, and efficiency costs are passed to residents, heightening cost burdens and limiting affordable housing options. Municipalities and economic development organizations must collaborate to address housing needs alongside infrastructure capacity.



Conclusion

Population growth demands collaboration among leaders, utilities, developers, and residents. Sustainable growth must ensure affordable housing, reliable infrastructure, and a desirable quality of life. Without careful planning and investment, utility expenses will continue to burden housing affordability and constrain opportunities for homeownership.

Andrew Hair is a senior at Middle Tennessee State University, where he studies construction management with a minor in business administration.

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.

Economic Impact of FAMILY BUSINESSES on Urban and Rural Communities In Tennessee

Greg Lewis



Family businesses have historically been the backbone of the American economy, and their impact can be felt in both urban and rural communities across Tennessee. This article explores the economic significance of family businesses in the state, highlighting their contributions to employment, local development, and the challenges they face. By focusing on statistics and providing insights into how these enterprises shape both urban and rural life, we can appreciate the genuine value of family-owned institutions in Tennessee.



The Role of Family Businesses

Family businesses are more than just profit-generating entities; they represent a legacy, a tradition, and an unwavering commitment to the communities they serve. Here are some of the vital statistics that underline their significance.

A Dominant Presence

Family-owned businesses account for 87% of all business tax returns in the United States, translating to approximately 32.4 million enterprises. This vast number illustrates how integral these businesses are to the economy, underscoring their prevalence in daily life. In Tennessee, family-owned businesses range from shops along our towns' main streets to national and international companies that provide jobs to thousands of our Tennessee communities. Each one has a positive impact on the economic growth of their community and the state of Tennessee.

For example, Ford Motor Company has been under continuous family control for over 100 years and is one of the largest family-owned companies in the world. On September 27, 2021, Ford Motor Company announced the creation of Blue Oval City. Blue Oval City represents a \$5.6 billion investment manufacturing cars and batteries near Stanton, Tennessee, a community with less than 600 residents. The initiative is expected to generate

27,000 new jobs and \$1.02 billion in annual earnings. The project is expected to also generate \$178.9 million in state sales taxes and \$70.3 million in local sales taxes according to the Tennessee Department of Economic and Community Development.

A Significant Economic Contribution

As of 2021, family firms generated a staggering 64% of the United States' GDP and provided employment for 62% of the private sector workforce, equating to 83.3 million jobs. In Tennessee, this reflects a robust economic foundation fueled by family-run enterprises.

In 2021, Lodge Manufacturing Company announced an investment of \$56 million to expand its South Pittsburg facility, where it has operated for 125 years. The increased production capabilities as a result of the expansion will create 239 jobs in Marion County. "For the past 125 years, Lodge Cast Iron has been a cornerstone for South Pittsburg's economy. This expansion will continue for generations to come," said South Pittsburg Mayor Samantha Rector.

Vital to Small Business Continuity

According to the Small Business Administration, about 40% of business owners are contemplating transitions in the next five years, and the primary reason for failure is inadequate planning. This highlights the delicate nature of family businesses, stressing the need for

proper succession planning to ensure continuity and stability for future generations.

Impact on Local Communities

The reality is that 100% of us are going to transition whether we want to or not. With a little planning a family business can ensure a successful future that will provide for their family, employees, service providers and the communities in which they live and work

Employment Creation

Family businesses are critical job creators. They are estimated to be responsible for 78% of all new job creations in the United States according to the Cornell SC Johnson College of Business. This is particularly evident in rural areas where job opportunities may be limited. By driving employment, they help maintain economic stability and promote local spending.

Dollywood, jointly owned by Herschend Family Entertainment and Dolly Parton, has a substantial impact on rural Sevier County, Tennessee. They are the county's largest employer, with a workforce of over 4,000 people, creating an additional 23,000 jobs in the region. They generate an annual direct economic impact of over \$1.8 billion according to Tennessee Department of Tourism Development Commissioner Mark Ezell.

Unlike larger national companies that relocate to a

community, these families lived in the community before they started their business. They have no intention of relocating because this is their home. Many family-owned businesses desire to create a lasting legacy for their family and community. Today many of these family businesses are in their third and even fourth generations of family ownership and/or leadership

Recognizing these trends enables local governments to anticipate future needs, allocate resources effectively, and engage in proactive policymaking that addresses current challenges and future priorities.

Investment in Community Welfare

Family businesses contribute directly to the welfare of their communities by supporting local schools, hospitals, and infrastructure projects. This hidden contribution often goes unnoticed but plays a crucial role in enhancing quality of life in both urban and rural areas.

In Tennessee, chances are the company's name, often the family's name, and reputation are well known through-

out the community for their charitable giving. Their giving not only reflects their values but also their desire to strengthen the ties that bind their family and their business to their community. The family shows their charitable giving not only through their pocketbook but with their time and talents to support those philanthropic causes that are important to their family.

An excellent example in Tennessee is Dolly Parton's Imagination Library. Over the past 30 years they have distributed millions of children's books in Tennessee, the United States, and around the world.

Fostering Entrepreneurship

Family businesses are a hotbed of innovation and entrepreneurship, leveraging their deep industry knowledge

and long-term perspective to adapt and grow. This entrepreneurial spirit is often passed down through generations, fostering a culture of innovation within the family. Family businesses stimulate local economies by setting a model for entrepreneurship. Their success encourages individuals within the community to start their ventures, thus promoting a culture of innovation and resilience

"My great-great grandfather spent the first half of his life making money, and the second half of his life, giving it away – and the family has continued a strong tradition of both business and philanthropy, I see impact investing as a natural continuation of those themes and those family values." —Justin Rockefeller

Here are only a few examples of multigenerational family-owned businesses who started in and have remained an important part of Tennessee's economic landscape:

- ✿ **Lodge Manufacturing Company:** A company with deep roots in South Pittsburg, Tennessee. Has been run by the Lodge/Kellerman family since 1896 and remains 100% family owned.
- ✿ **Nashville Wire Products Manufacturing Company:** Based in Nashville. Has been manufacturing wire and steel products by the Rollins family for four generations.
- ✿ **The Moon Pie:** Made by Chattanooga Bakery, in Chattanooga, TN. A privately held, family-owned bakery since 1917.
- ✿ **Pictsweet Farms:** A family owned business in Bells, Tennessee. Has been growing and distributing frozen vegetables since 1945.
- ✿ **Dollywood:** A theme park jointly owned by the Herchend (Family) Entertainment and Dolly Parton and has been located in Pigeon Forge, Tennessee since 1961.

In 1968, Hospital Corporation of America (now HCA Healthcare) was founded by Dr. Thomas Frist Sr., Dr. Thomas Frist Jr, and Jack C. Massey. Their entrepreneurial spirit created a new model for hospital care seen today all across the United States.

Challenges Faced by Family Businesses

Despite their importance, family businesses face unique challenges that can impact their longevity and contribution to the community:

Succession Issues

According to the Family Business Institute, only about 30% of family businesses successfully transition to the second generation. Moreover, only 12% endure the third, and a mere 3% reach the fourth generation. This alarming statistic underlines the urgency for proper succession planning.

Succession planning in family businesses is often derailed by a combination of emotional, structural and relational challenges. When you begin to dig deeper you often find the family is not talking about these issues for fear of damaging relationships with their children and/or parents.

Succession planning in a family business is a process and not an event. Start earlier than you think. Business owners are very good at what they do: running their family business. Creating a succession plan is different. They may experience this only once, maybe twice in their career. I hear it often, "Why does succession planning have to be so darn difficult?"

Engaging an external advisor helps families deal with objectivity, emotional intelligence and to balance business needs with personal family dynamics. This strategy often leads to better long-term outcomes in the succession process.

Economic Pressures

Family businesses often operate with limited resources. Economic downturns, changes in consumer behavior, and increasing competition can disproportionately affect them. Without robust financial backing, many may struggle to survive. According to a 2007 survey by American Family Business the top ten challenges for family businesses are: 1) Succession, 2) Labor costs, 3) Healthcare costs, 4) Finding qualified employees, 5) Foreign competition, 6) Labor union demands, 7) Domestic Competition, 8) Oil prices, 9) Availability of credit for lenders, 10) Estate taxes.

Planning for the Future

According to the Small Business Administration 50% of family business owners are considering transitioning in the next 5 years and the primary reason for failure is a lack of planning. In my work as a family business advisor, I often hear family business owners tell me that they think their successors are unqualified or unwilling to take over their company.

One of the usual suspects in succession planning is lack of communication. The Now Gen is just not talking to the Next Gen about key issues including their retirement, ownership shares, and what leadership roles each family member will have once they retire. Creating a roadmap for a successful transition can eliminate much of the conflict among siblings and allows all family members to participate in transition discussions.



Conclusion

Family businesses are vital to both the economy and local communities, providing jobs, fostering innovation, and promoting ethical practices. Their unique structure and values not only facilitate strong internal relationships but also contribute positively to the social fabric of society. As they navigate both opportunities and challenges, family businesses continue to play an integral role in shaping economic landscapes and reinforcing community bonds across Tennessee.

As we look to the future, the onus falls on business owners, communities, and policymakers to bolster family businesses through education and resource accessibility like those available from Middle Tennessee State University. Recognizing and valuing the contributions of family-owned enterprises can pave the way for more resilient local economies and a thriving Tennessee. The legacy of family businesses should not only be preserved but actively encouraged, for in their success lies the prosperity of communities throughout the State of Tennessee.



Greg Lewis is a family business advisor and co-founder of The Tennessee Center for Family Business in Columbia, Tennessee. He is the host of the Family Business Today Podcast, and serves on the Jennings and Rebecca Jones Chair of Excellence in Urban and Regional Planning Advisory Committee at Middle Tennessee State University.

Analysis of Strategies Used by Rural Counties to Attract Professionals in Middle Tennessee

Hannah Osborne
Richard Tarpey, DBA

This project was completed as part of the MTSU COE-URP Scholars Program. It was then adapted for and presented at the Institute for Global Business Research (IGBR) conference. The following article is the abstract from the IGBR proceedings.

One of the main economic challenges rural areas face is the need to bring new workers into rural communities. This research identifies strategies used by rural counties in Middle Tennessee to attract professionals and analyzes how these strategies differ across counties. In addition to utilizing quantitative economic data from the Tennessee Department of Economic and Community Development, this research also gathered qualitative data from interviews with chamber of commerce officials from five counties in rural Middle Tennessee.

After analyzing the interview results with reflexive thematic analysis, four themes were identified from the interview data, including 1) Emphasis on community environment, amenities, recreation, and tourism; 2) Focus on education, workforce development, and recruitment; 3) Lack of infrastructure, amenities, development, and incentives; and 4) Variability in chambers' roles and responsibilities. One of the most significant discrepancies between this study's results and strategies proposed by previous research was the lack of financial incentives offered to individuals in the five counties interviewed.

Additionally, although economic rankings did not necessarily dictate the strategies counties adopted, the counties that utilized specific strategies, such as community partnerships, also saw some of the largest improvements in their economic performance metrics. While limitations of this study include the geographic spread and the number of counties interviewed, this research serves as an important tool for rural stakeholders. However, future research is needed to explore the connection between strategies adopted, economic performance, and the lack of implementation of specific strategies.

Hannah Osborne is a senior at Middle Tennessee State University where she studies mathematics with a business analytics minor.

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

Assessing Heat Vulnerability In Nashville:

The Role of Building Value, Tree Canopy, and Socioeconomic Factors

Isabella Gilbert

Abstract

Urban heat islands (UHIs) intensify temperature disparities in cities, straining energy infrastructure and increasing household costs. This study investigates the relationship between UHIs—using the Heat Vulnerability Index (HVI)—and socioeconomic and environmental factors in Nashville, Tennessee. Data from Nashville Electric Service, United States Census Bureau, FEMA, Yale Center on Climate Change and Health, and PlanIT Geo were analyzed at the census tract level. Multiple linear regression revealed that building value, income, households, household size, and poverty significantly influenced HVI scores. The model explained 49.1% of variance, suggesting urban planning strategies that address socioeconomic disparities and prioritize resilient infrastructure would best mitigate heat vulnerability in Nashville.

Introduction

UHIs contribute to rising temperatures, energy consumption, and health impacts, particularly in vulnerable communities. In Nashville, these effects are intensified by building practices, uneven tree canopy distribution, and socioeconomic inequality. This study uses the HVI to evaluate how tree canopy, building value, and socioeconomic factors shape urban heat vulnerability. By doing so, it identifies not only the physical but also the social determinants of heat exposure.

Literature Review

UHIs are well-documented as a public health and sustainability challenge. They stem from impervious surfaces, such as asphalt and concrete, and the lack of vegetation which normally reflects heat and provides cooling. Building materials with low albedo contribute heavily to warming, while income inequality and the legacy of redlining mean low-income and minority neighborhoods face the most severe impacts. Green infrastructure and reflective materials are widely recognized as effective

mitigation strategies. However, research gaps remain in evaluating long-term effectiveness, region-specific challenges, and the integration of multiple strategies to produce holistic solutions.

Methodology

This study employed a quantitative approach, using secondary data to compare HVI scores with socioeconomic and environmental factors. Key data sources included:

- HVI Scores from the Yale Center on Climate Change and Health
- Energy Use from Nashville Electric Service
- Building Values from FEMA
- Tree Canopy Data from PlanIT Geo
- Socioeconomic Data from the U.S. Census Bureau.

All datasets were standardized at the census tract level. A multiple linear regression model was used to analyze the relationship between HVI scores and predictor variables, with an ANOVA test confirming significance.

Results

The regression model explained 49.1% of the variance in HVI scores. Key findings include:

- Tree Canopy: No significant relationship with HVI.
- Building Value: Positive and significant relationship; higher values correlated with higher HVI scores, reflecting dense urbanization.
- Median household income: Strong negative relationship; lower incomes correlated with higher HVI.
- Number of Households: Negative relationship;

fewer households correlated with higher HVI.

- Household size: Negative relationship; larger household size linked to lower HVI.
- Poverty Rate: Positive and significant; higher poverty correlated with higher HVI.
- Median age and Energy use: No significant relationship found.

Predictor Variable	Coefficient	Standard Error	t-Statistic	p-Value	95% CI (Lower)	95% CI (Upper)
Tree Canopy (%)	-1.82	0.96	-1.91	0.059	-3.71	0.07
Building Value	7.68E-10	2.85E-10	2.69	0.008	2.03E-10	1.33E-09
Median Age	-0.0091	0.021	-0.43	0.665	-0.05	0.032
Median Household Income	-2.01E-05	3.93E-06	-5.12	<0.001	-2.79E-05	-1.23E-05
Number of Households	-0.00048	0.00018	-2.71	0.008	-0.00083	-0.00013
Persons per Households	-0.642	0.322	-1.99	0.048	-1.28	-0.0046
Poverty Rate (%)	3.70	1.17	3.16	0.002	1.38	6.01
Energy Consumption (kWh)	5.06E-09	1.48E-08	0.34	0.733	-2.42E-08	3.43E-08

Table 1: Regression results for predictors of Heat Vulnerability Index (HVI) in Nashville. Coefficients represent the effect size of each predictor on HVI, with standard errors, t-statistics, p-values, and 95% confidence intervals provided. Statistically significant predictors (p < 0.05) include Building Value, Median Household Income, Number of Households, Persons per Household, and Poverty Rate.

Discussion

The results show that socioeconomic and urbanization factors strongly influence heat vulnerability in Nashville. Building value and poverty levels were positively associated with higher HVI, while income and household density were negatively associated. Surprisingly,



Author Isabella Gilbert (middle) receiving a completion award for his research at the Scholars Program graduation ceremony alongside Ugur Orak (left), Murat Arik, and Paul Martin.

Photo by Tom Beckwith..

tree canopy coverage was not significant, a finding that challenges conventional wisdom. This may indicate issues with distribution, species type, or maintenance of canopy in Nashville, rather than total coverage. Overall, results align with broader research highlighting the disproportionate burden on low-income and minority communities.

Policy Implications

Findings emphasize the urgent need for targeted urban planning and policy. Green infrastructure projects, such as expanding tree coverage and green roofs in underserved areas, should be prioritized. Additionally, reflective materials, permeable pavements, and energy-efficient building designs offer promising solutions. Urban planners must also consider equity - ensuring vulnerable communities receive targeted resources to address the disproportionate impacts of UHIs.

Limitations

Several limitations affected this study. Some data were aggregated at the zip code level and then matched to census tracts, which could obscure finer neighborhood-level variations. The study did not include factors such as local climate variations, existing cooling infrastructure, or building design features that may also influence vulnerability. A more granular analysis would likely produce a deeper understanding of heat exposure in Nashville.

Conclusion

This study highlights the central role of socioeconomic and urban factors in shaping Nashville's heat vulnerability. Addressing disparities through equitable planning, targeted green infrastructure, and energy efficient construction is essential for reducing the risks posed by UHIs. Future research should examine the long term effectiveness of mitigation strategies, the role of policy interventions at local and regional levels, and the combined effects of multiple strategies. More detailed, neighborhood level studies would provide insights into how vulnerabilities vary within the city, support tailored interventions. As climate change continues to increase temperatures, cities like Nashville must adopt comprehensive and equitable strategies to protect their most vulnerable populations.

Isabella Gilbert is a senior at Middle Tennessee State University studying environmental science.

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

THE DEAN’S CORNER

Talent as Glue for Regional Prosperity

As we reflect on this issue's theme of "Connecting the Region," a fundamental truth emerges that while infrastructure and policy may build bridges, talent ultimately sustains those connections and ensures their endurance.

Middle Tennessee's prosperity hinges on the strength of its connectors. This issue demonstrates how infrastructure, housing, international investment, and community leadership collectively contribute to regional growth and livability. These articles illuminate a simple yet profound reality—a region's long-term competitiveness depends on the quality of its connections between people, policies, and places.

Talent stands at the heart of these vital connections. Far more than a workforce pipeline, talent serves as the energy that drives innovation, the magnet that attracts foreign direct investment, and the cornerstone that determines a region's global competitive capacity. A strong, skilled, diverse talent base transcends local advantage to become a global necessity.

Middle Tennessee State University plays an indispensable role in cultivating this talent. Over the past five years, MTSU has conferred nearly 25,000 degrees—solidifying the university's position as one of Tennessee's premier sources of new graduates and a direct driver of regional economic vitality.

The Jones College of Business exemplifies this contribution, producing more than 4,500 graduates over the

same period. These professionals enter diverse fields spanning accounting and finance to entrepreneurship and supply chain management, ensuring that Middle Tennessee's business infrastructure remains robust and competitive.

MTSU's impact extends far beyond impressive statistics. The university transforms a diverse student body into competitive professionals with the resilience and adaptability essential in today's dynamic economy. Thousands of students age 25 and older have earned degrees at MTSU over the past five years, including more than 1,700 from the Jones College of Business alone. These

graduates contribute maturity, practical experience, and perseverance to the workforce—qualities that enhance regional adaptability and foster innovation.

The university's commitment to educational accessi-

bility shines through its support of first-generation college graduates. With numbers reaching as high as 1,734 in 2020–21 and consistently maintaining thousands annually, these graduates embody upward mobility at its finest. They transform family trajectories while extending higher education's benefits across generations.

MTSU's dedication to service manifests clearly in its support of veteran and military-connected students. Over five years, the university has awarded degrees to 1,700 veterans and veteran dependents, preparing them to serve the region in new capacities. The Jones College

of Business has been instrumental in this mission, graduating more than 260 veterans and veteran dependents during this period. These individuals bring discipline, leadership, and global perspective to the local economy, strengthening community and industry foundations.

Collectively, these achievements tell a compelling story. MTSU, particularly through the Jones College of Business, produces more than graduates; it creates talent that serves as the region's binding force. Traditional students, adult learners, first-generation college graduates, and veterans contribute to a dynamic, competitive, resilient talent pipeline. This talent unifies Middle

Tennessee's diverse communities, connecting rural and urban areas while fueling business growth and establishing the region as a formidable competitor in the global marketplace.

Talent represents far more than an afterthought—it forms the foundation upon which everything else builds. While infrastructure, policies, and partnerships remain crucial, talent transforms connections into meaningful and lasting relationships. In Middle Tennessee's continued growth and prosperity, talent is the binding force that holds our region together.

MTSU and the Jones College of Business mold diverse students into a resilient talent pipeline that binds our region together.



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

**MIDDLE
TENNESSEE**
STATE UNIVERSITY.
JONES COLLEGE OF BUSINESS

**MIDDLE
TENNESSEE**
STATE UNIVERSITY.

1301 E. Main Street
Box 102
Murfreesboro, TN 37132

JONES COLLEGE OF BUSINESS

Business and Economic Research Center

