

NOVEMBER 2024
4TH QUARTER



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TNSA Times

Tennessee Stormwater Association
Quarterly Newsletter

A Message From the TNSA President

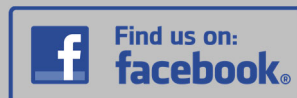
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Christmas time is near and so is the rainy season. As the last of the leaves fall, take a look around your neighborhood and try to identify potential clogs and litter collection spots. We are stewards of stormwater, even in our daily lives. With the rainy season also comes an increase in the loading of nutrients and sediment to our waterways. It's also the time of year where SCMs earn their keep. One of my ongoing goals for 2025 is to help identify interesting SCMs in my community. There's a particularly cool bioretention area by the gas station outside my neighborhood that I enjoy seeing - I really am a sucker for gabion baskets. Seeing SCMs in action can help connect communities to stormwater and tell the story of our relationship with water. They also help us achieve our MCMs while they're at it.



I'm looking forward to a strong 2025 with Joe Phillips of Sumner County at the helm. TNSA is always searching for volunteers to help run committees, put together fundraisers, presentations, conferences and more. Folks like Joe that step up and lead are what makes this organization a success. I hope to see you at region meetings soon and thank you for the privilege of being your president for 2024.

TNSA President,
Aaron Rogge
CDM Smith



The Tennessee Stormwater Association is Tennessee's premier membership organization for stormwater professionals. TNSA's mission is to assist members with their local efforts to comply with State and Federal clean water laws; including stormwater regulations through EPA and TDEC (Tennessee Department of Environment and Conservation). TNSA's goal is to protect and improve the quality of the waters of Tennessee through the exchange of information and knowledge regarding design, construction, maintenance, administration and operation of stormwater facilities.

Upcoming Regional Meetings

Regional meetings are held each quarter. You do not have to be a TNSA member to attend a meeting. Region meetings are a great way to keep updated within your area and the state. Meet like-minded professionals, network, learn about statewide events and new ideas within the stormwater community. Region chairs are always looking speakers at the meetings. If you are interested in speaking please contact the region chairs. The chairs arrange the meetings and set the agendas.

Meeting Dates/Locations are subject to change. Email the region chair if you would like to be added to a specific region email list. If agendas were provided before the meeting they will be uploaded to the Club Express document library under Region Meetings.

East Region Chair: Maddy Johnson, mjohn337@vols.utk.edu

Dec 6: Morristown Public Works 4360 Durham Landing Morristown, TN 37813

Time: 8:30am Networking, 9:30am-11:30am Meeting Time

Speaker: Steve Drummer, P.E., LDA Engineering

Topic: Havelly Springs Watershed Study

Future Dates: March 7, June 6, Sept. 5, Dec. 5

West Region Chair: Chris Masin, Chris.Masin@shelbycountyttn.gov

Dec 3: International Harvester Park 4523 Canada Rd Lakeland, TN 38002

Time: 1pm-3pm

Future Dates: March 4, June 3, Sept. 2, Dec. 2

North West Region Chair: Tom Lawrence, tomlawrence@bellsouth.net

Dec 4: City of Paris City Hall 100 N. Caldwell St. Paris, TN 38242

Time: 11am

Please RSVP to charlene@tnstormwater.org

Future Dates: March 5, June 4, Sept. 3, Dec. 3

Middle Region Chair: Don Green, biogreen1@comcast.net

Dec 5: Williamson County AG Expo Park 4215 Long Ln, Franklin, TN 37064

Time: 10am-12pm

Future Dates: March 6, June 5, Sept. 4, Dec. 4

South East Region Chair: Erik Hancock, ehancock@chattanooga.gov

Dec 10: Greenway Farm Conference Center 4960 Gann Store Road, Hixson TN 37343

Time: 11am-12:30pm

Speaker: Michael Kusch, Foley Products Company

RSVP for lunch to ehancock@chattanooga.gov

Future Dates: March 11, June 10, Sept. 9, Dec. 9

North East Region Chair: Amanda McMullen, AmandaMcMullen@KingsportTN.gov

Dec 11: Kingsport Water Services Center 1113 Konnarock Rd Kingsport 37664

Time: 1pm

Future Dates: March 13, June 12, Sept. 11, Dec. 11

Meeting
dates/locations
are subject to
change

TNSA
TN AFPM  **CONFLUENCE:**
A Stormwater and Floodplain Summit

February 26, 2025 9am-5pm
Williamson County Expo Center
4215 Long Lane Franklin, TN 37064

REGISTRATION OPEN!

<https://www.tnstormwater.org/confluencesummit>

\$50 Registration Fee

PDH Certificate and Lunch Included

Drought & Aquatic Ecosystems in the Southeast Workshop

Jan 7-9, 2025 | Raleigh, NC



Learn More:



<https://go.ncsu.edu/2025-drought-workshop>

TNSA WEBSITE REMINDERS

What to see at www.tnstormwater.org

Job Openings Across the State

Grant Opportunities

Webinars throughout the U.S.

TNSA Brochure Order Form and Online Ordering

What to see on Club Express

<https://tnsa.clubexpress.com/>

Document Library: Past Conference/Workshop Powerpoints, Agendas and PDH Certificates

Region Meeting Agendas, Newsletters, Basic videos and photos free for use.

Photo Library, Event Calendar, Member Information, Forum for easy topic discussion.

TNSA Committee Updates

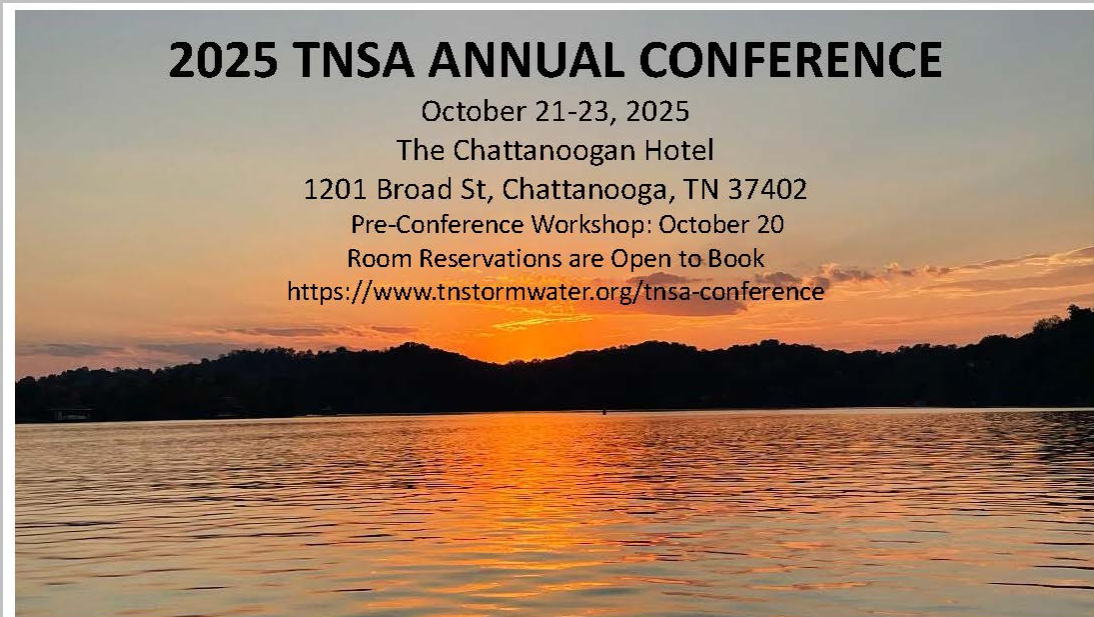
Conference: Coordinates the Annual Conference

Chair: Amy Hathaway, WK Dickson

Thank you everyone for a fantastic annual conference. This year, the conference committee kicked things up a notch! We personally invited more university speakers to bring in the latest buzz from the research world and set up a series of lively panels with MS4 representatives—because who better to learn from than our own peers? With 29 attendees at our pre-conference workshops, 238 conference-goers, 13 sponsors, and 26 exhibitors, we're excited to expand even further next year in a new, larger venue—especially to create more space for our exhibitors and foster even more connections and collaborations in Chattanooga on October 20-23, 2025!

Cheers to everyone who submitted a conference survey (our highest number of responses EVER!) and voting for the inaugural Fan Favorite Title Award, which was awarded to “Dude, Where’s My Sediment” by Jacob Dorman. We’re looking forward to an agenda full of creative titles next year!

Thank you again and stay tuned for more details for TNSA’s 2025 Annual Conference.



TDEC Updates

Construction Stormwater

Tennessee Erosion Prevention and Sediment Control (EPSC) Handbook

The [Table of Contents](#), [Chapter 1](#), and Chapter 2 of Tennessee’s EPSC Handbook have been revised and are now available online at [Erosion Prevention & Sediment Control Handbook](#).

Tennessee Nutrient Reduction Framework

The Tennessee Nutrient Reduction Framework [webpage](#) has been updated to include stormwater information.



TNSA Committee Updates (Continued)

INTERESTED IN BEING MORE INVOLVED? CONSIDER PARTICIPATING IN A COMMITTEE. POLICY, CONFERENCE, EDUCATION, COMMUNICATION, SCM AND PUBLIC OUTREACH CONTACT CHARLENE FOR MORE INFORMATION

SCM: Standardizes Device Evaluation and Develops SCM Toolkit.

Co-Chairs: Jacob Dorman, Contech & Dana Stayer, StormTrap

The SCM Committee would like to announce the addition of Co-Chair Dana Stayer with StormTrap. Please welcome Dana when you see her at the upcoming region meetings.

Communication: Goal is to work on communication within and outside of the organization

Chair: Aaron Rogge, CDM Smith

The committee is preparing “community profiles” as part of a video series highlighting success stories and neat approaches to running their MS4s. We will be looking for MS4s to participate throughout the year. Do you have an interesting new project? A community event that went really well? These are the sorts of things we’re looking to highlight.

Policy: Works with TDEC to share and update members on state and EPA regulations and policies.

Chair: David Mason, CDM Smith

The Policy Committee is keeping a close eye on any new bills introduced in 2025.

Please notify David Mason or Charlene DeSha if you see anything concerning come across your office.

Communication: Working to create education resources for MS4's and TNSA members

Chair: Tom Lawrence, Thomas Lawrence, PLLC

The committee is working on the next HOA brochure which will discuss how to maintain stormwater features within the HOA.

You can purchase pre-printed brochures here: <https://www.tnstormwater.org/ed>

We currently have 3 brochures, a children’s activity booklet and stickers. For additional brochures please visit the Club Express document library.

Education: Manages and Creates Educational Training and Resources

Chair: Tim Gangaware, UT Water Resources Research Center

Upcoming Event:

The education committee is working on lining up three TNSA Talks in 2025. Topics range from Community Outreach/Education, MTD Sizing under the new permit and Streambank repair.

Dates to be released soon.

TNSA Talks are held on Zoom, one hour in length and include PDH’s.

Contact Tim or Charlene if you are interested in speaking at a TNSA Talk.

ALL MEMBERSHIP RENEWAL PAYMENTS ARE DUE NO LATER THAN DECEMBER 27, 2024 OR YOUR ACCOUNT BE MOVED TO INACTIVE STATUS. PLEASE KEEP AN EYE OUT FOR A REMINDER EMAIL OR PHONE CALL.

Sewer Overflow & Stormwater Reuse Grant (OSG)

Division of Water Resources, State Water Infrastructure Grants Program

The Division of Water Resources (DWR) State Water Infrastructure Grants Program (SWIG) is offering a funding opportunity through the Sewer Overflow and Stormwater Reuse Municipal Grant (OSG). This funding is dedicated to improving stormwater management and increasing green infrastructure within the state.

The DWR is awarding this grant to address the chronic underfunding of stormwater management within America's water infrastructure. While certain communities have successfully implemented stormwater fees to support water quality and management projects, many others lack this financial resource. The funding from OSG seeks to bridge this significant gap in stormwater funding, ensuring that all communities have the support needed to manage stormwater effectively.

Effective stormwater management is critical to maintaining a municipality's water system, mitigating stormwater damage, and protecting vulnerable outlets for stormwater, such as streams and tributaries. Inadequate stormwater infrastructure and management within municipalities can lead to water system failures, posing significant risks to residents and harming the community. Municipalities that encounter stormwater infrastructure failures may face higher costs in addressing these failures compared to implementing proactive stormwater management measures beforehand.

Click here to visit the website for more information.

Applicants must apply through the Grants Management System ([GMS](#)), and applications will be open through December 22nd.

EPA Technical Assistance Opportunity: Building Blocks for Sustainable Communities

EPA's Building Blocks for Sustainable Communities program is accepting letters of interest until December 12, 2024, at 5:00pm Eastern. The program will provide planning assistance to local governments partnering with community organizations to reduce the effects of heat islands in overburdened communities.

Local land use decisions – such as transportation options, housing type and location, stormwater management and issues of equity – all have direct impacts on the health and environment of our communities. Founded in 2011, the Building Blocks for Sustainable Communities program works with local communities across the United States, including tribes and territories, to develop smart growth solutions and strategies in ways that benefit human health and the environment. The program uses an inclusive and locally-led process that strengthens local capacity, facilitates partnerships and creates a path forward to achieve community-identified goals. As of 2024, this program has had over 200 projects in 47 states.

Background

The Building Blocks for Sustainable Communities technical assistance program is delivered by EPA staff and EPA-hired consultant teams. Each technical assistance project spans a period of roughly eight months, including inclusive public engagement through a two-day workshop, the involvement of relevant decision-makers and potential public and private sector partners, and a report outlining the workshop process and specific next steps generated that the community could take to achieve its goals. The workshop focuses on the issues and priorities determined by the community.

- The benefits each community gets from the process vary by project and are specific to the community. Some common benefits include:
- Engagement with residents and stakeholders around a specific topic, which yields valuable feedback and ideas as well as creating buy-in and community spirit around proposed initiatives.
- Creation of key partnerships and relationships both within the community and with state and federal staff and programs.
- The creation of a locally driven and expert-guided action plan that is both attainable and ambitious.

In past rounds of technical assistance, EPA has focused on topic areas such as infill development, equitable development and green and complete streets, as well as special topic areas like emerging mobility and regional disaster resilience.

The tools typically consist of:

1. Agendas, presentations and exercises to help facilitate discussion around a given topic.
2. A targeted self-assessment, which helps the community and EPA team delve deeper into local issues to identify the most promising areas for progress.
3. An action-oriented and inclusive process that leads to an achievable next steps and partnerships.

Once EPA has used a tool in several communities, it may be refined to create a product that any community can use with limited outside assistance.

More info: <https://www.epa.gov/smartgrowth/building-blocks-sustainable-communities>

Fascinating Mystery of Why Everest, the World's Tallest Mountain, Keeps Growing Taller

Story by Kritika Bhatia

Mount Everest, despite being the world's tallest mountain, has been growing each year. Recent research published in the journal *Nature Geoscience* revealed a surprising reason behind this growth: a river. About 89,000 years ago, the Kosi River merged with the Arun River, intensifying geological processes that eroded more of the Himalayan landscape, lightened the Earth's crust, and caused the mountains to rise.



Fascinating Mystery of Why Everest, the World's Tallest Mountain, Keeps Growing Taller © Knewz

Jin-Gen Dai, a co-author of the study and geoscientist at the China University of Geosciences in Beijing, told *The New York Times*, "Although mountains may have appeared to stand still from the perspective of a human lifetime, they were, in fact, constantly in motion." He added, "Even a feature as seemingly permanent as Mount Everest was subject to ongoing changes driven by various geological forces."

According to the researchers, the main factor behind Everest's growth was this river-induced erosion, along with a process called isostatic rebound. *Knewz.com* noted that when the two rivers joined, they created a stronger force that washed away a significant amount of rock and soil from the Himalayan base, making Mount Everest and the surrounding land rise. Dai further explained to *NBC News*, "Essentially, as the river carved away more rocks, the Earth's crust rebounded, rising like a boat when weight is removed."

The researchers suggested this phenomenon might have added between 50 and 165 feet to Everest's height, demonstrating that even mountains could change. Everest, which stood at 8,850 meters (29,035 feet) above sea level, towered above Kangchenjunga and Lhotse. It was also known as Chomolungma in Tibet and Sagarmatha in Nepal.

Matthew Fox, a co-author of the study from UCL, told *The Independent*, "We could see [the mountains] growing by about 2mm a year using GPS instruments, and now we have a better understanding of what was driving it." Everest straddled the border between China and Nepal, with its northern side lying in China. The mountain began forming 45 million years ago when two tectonic plates collided, causing the crust to crumple and create the Himalayas.

The Arun River originated in Tibet, flowed into Nepal, and eventually merged with two other rivers to form the Kosi, which then met the Ganges in northern India. The rivers carried large amounts of sediment as they passed through the steep mountains. The team at University College London (UCL) found that the Arun River became much more erosive after merging with another river, contributing significantly to the erosion.

While the study provided insights into Everest's growth, experts remained uncertain about several details. Although the researchers estimated the movement of Everest, the exact calculations of erosion and how it impacted nearby peaks remained unclear.

Professor Hugh Sinclair from the School of Geosciences at the University of Edinburgh told the *BBC*, "Predicting river incision in such large catchments, especially after drainage capture (when one river captures another), was challenging." He added, "However, despite these uncertainties, the idea that some of Everest's elevation was linked to river activity offered exciting new insights."

TNSA CREDIT CARD PAYMENT ANNOUCEMENT!

We have added a new credit card payment feature to Club Express without using Paypal. When paying through Club Express for event registration and membership renewals you now have a choice to use paypal or a basic credit card payment feature.

Nashville rebounds, TN midsize cities shine in 2023 population estimates

By TIM KUHN Tennessee State Data Center

Throw a dart at middle Tennessee and chances are you'll hit one of the state's higher growth cities. The Census Bureau's 2023 population estimate data show Nashville, Clarksville, Lebanon, and Murfreesboro were the state's four fastest-growing cities last year.

Nashville's 5,658-person gain was the state's largest single-year population increase over the year from July 1, 2022, to July 1, 2023. Revised figures show the Music City added another 6,552 people in 2022 making it two-years running that it has topped the state's list of fastest gaining cities.

The new data still leaves the Tennessee capital below its 2020 population mark after moves out of the area accelerated sharply during the early stages of the COVID-19 pandemic, according to IRS migration data. That outflow spike has since subsided, but the longer-term trend of net domestic migration loss – more people moving out than moving in – has persisted in Davidson County since 2016 in the related IRS data and Census estimates.

Clarksville's growth of nearly 4,000 people placed it second on the list in 2023. For the decade, the 181,000-person community located northwest of Nashville has added 13,200 new residents – more than any other municipality in the state. The City of Lebanon ranked third and displaced Murfreesboro (#4) from the top three for the first time this decade. The Wilson County community logged a notable 8.9 percent 1-year increase and added more than 3,950 people last year characterizing this Decade's Municipal Population Trends

Tennessee's 345 municipalities have added 100,000 new residents so far this decade. That resulted in a 2.4 percent population increase that slightly lags the state's overall 2.9 percent gain of 200,000 people since 2020. But Tennessee's cities and towns range from Nashville, the country's 21st largest city, to the 66 residents of Cottage Grove, located 12 miles northwest of Paris. That array of community sizes and their distribution across the state's diverse landscape makes it challenging to understand the patterns of population change across Tennessee's cities and towns.

To help better understand that cross-section, we classified land in the state into four types: City, Suburban, Town, and Rural. Each of those areas were then further refined into three subtypes, which are determined by factors such as population size or proximity to densely developed areas. The classification scheme comes from the National Center for Education Statistics and is typically used to characterize schools. Using the latest available information on corporate boundaries and urban areas published in 2023, a new map for Tennessee was generated

A final step was to assign each of the state's 345 municipalities to the locale type that it fell within. When looking across the locale types, it's clear that the largest communities in closest proximity to urban centers are adding the most population, but the analysis also revealed some interesting exceptions.

The state's four mid-sized cities have maintained a strong foothold among the fastest-growing areas in Tennessee – consistently appearing in the annual list of cities adding the most population this decade. Knoxville, Chattanooga, Clarksville, and Murfreesboro have collectively added over 37,000 new residents since 2020. Their combined 5.3 percent increase has outpaced the state's overall rate of population growth. This contrasts with their larger kin (Nashville and Memphis) which together have experienced recent population declines, down 1.4 percent from their 2020 levels.

Large suburban cities and towns – primarily those bordering Nashville, Knoxville and Chattanooga – were the second fastest gaining group. They added 19,420 people for a 3 percent increase. While that overall rate of growth was just slightly higher than the state's 2.9 percent, there were some standouts that grew substantially faster. These include Gallatin (12.3 percent), Smyrna (7.3 percent) and Mount Juliet (8.1 percent) in the Nashville area. Knoxville suburbs including Alcoa (21.7 percent), Farragut (8.5 percent) and Lenoir City (16 percent) were tops in the eastern third of the state.

The third fastest gaining locale type is one of the more unique patterns to emerge from the research. "Town – Fringe", is made up of cities at the edge of large urban areas. It's a smaller group of communities but they have grown four times faster than the state and added over 17,000 residents since 2020.

City or Town	2022	2023	Change	Percent
Nashville - Davidson	682,130	687,788	5,658	0.8%
Clarksville	176,747	180,716	3,969	2.2%
Lebanon	44,166	48,112	3,946	8.9%
Murfreesboro	162,402	165,430	3,028	1.9%
Chattanooga	184,038	187,030	2,992	1.6%
Gallatin	48,180	50,355	2,175	4.5%
Columbia	45,742	47,445	1,703	3.7%
Alcoa	11,684	13,349	1,665	14.3%
Spring Hill	56,006	57,637	1,631	2.9%
Knoxville	196,748	198,162	1,414	0.7%

This year's top 10 also includes three East Tennessee communities—Chattanooga (#5), Alcoa (#8), and Knoxville (#10)—along with three other Nashville metro municipalities: Gallatin (#6), Columbia (#7), and Spring Hill (#9).

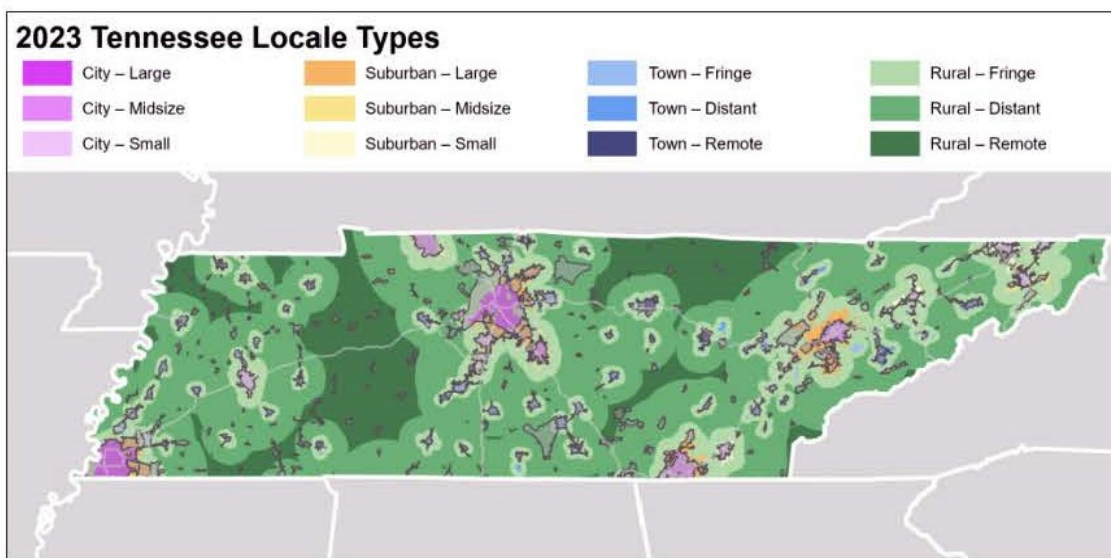
Their combined 12.6 percent increase is driven mainly by the white-hot growth of outlying municipalities near Nashville. This category includes Lebanon (23.7%), Columbia (12.7%), and White House (17.3%). All three are close enough to benefit from the amenities of larger cities nearby but maintain a distinct identity, degree of affordability and ample land to support the construction of new housing.

Growth in Some Remote Municipalities Slows

Generally, the decade’s population change in Tennessee is best described as widespread increases. March numbers showed that 90 of 95 counties logged population gains in 2023, the most since 1997. This marks a significant change compared to last decade when 30 counties lost population between the 2010 and 2020 Censuses. 29 of those counties were considered rural by the state’s Department of Economic and Community Development.

If this analysis identifies any general weakness in this decade’s municipal numbers, it might be found in the most remote and rural parts of the state where population fell slightly for the group (-102 people).

About two-thirds of municipalities situated in “Rural-Remote” locales have grown more slowly than the state’s overall increase of 2.4 percent for all municipalities. But only a handful of them have lost population so far this decade. However, if those statewide increases slow – as recently released Boyd Center projections indicate could happen later this decade – it will likely bring additional focus on the state’s more isolated communities, especially in the western third of the state. By 2030, projections show the trend of population decreases in rural areas of the state could return with 35 counties expected to see a decline that year.



When looking across the locale types, it’s clear that the largest communities in closest proximity to urban centers are adding the most population, but the analysis also revealed some interesting exceptions.

<p>Residents in TN Cities and Towns</p> <p>4.3 million</p> <p>+100,000 since 2020</p>	<p>Share of Total TN Population</p> <p>60.3%</p> <p>↓ from 60.6 in 2020</p>	<p>Municipal Population Change</p> <p>+2.4%</p> <p>Since 2020</p>
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