State of Our Counties Dashboard

2nd Edition

Technical Appendix

Revised: 2026-03-25

The 2nd Edition of the State of Our Counties Dashboard examines economic well-being and opportunity county by county, featuring more than 92,000 data points across 132 indicators and nine issue areas: (1) Economic Opportunity, (2) County Economy, (3) Elections & Civic Life, (4) Criminal Justice & Courts, (5) Housing, (6) Transportation & Infrastructure, (7) Education, (8) Health, and (9) Energy & Environment. The dashboard equips communities and policymakers with the data they need to understand where progress is happening and where support is needed.

What is in the State of Our Counties Dashboard?

The State of Our Counties Dashboard is accessible through a variety of visualizations and reports. For each indicator, Think *Tennessee* provides the following:

- The value and ranking for all 95 Tennessee counties, viewable in both an interactive map and bar chart, allowing for county-to-county comparisons.
- County and regional data, including 9 Regional Development Districts and 18 Commuting Zones.
- Longitudinal data covering the five most recent years available, to illustrate how counties have changed over time.
- Disaggregated data by gender, age, and disability status, where available.
- Prepopulated reports, including:
  - **County Summaries:** Features 15 Metrics that Matter Most, industry-level employment and wages, and each county's best performing metrics and room for improvement.
  - **One County – All Metrics:** Includes all 132 indicators for a single county.
  - **One Metric – All Counties:** Includes rankings and values for all counties on a single indicator.
- A description for each indicator and additional notes on methodology, when necessary.
- The source name and a link to the source's website.
- The year of the most recent data available for a given indicator.

Metric Selection Criteria

Metrics were selected for inclusion based on five criteria:

1. Policy relevance

The chosen metrics are directly related to Think *Tennessee*'s policy priorities and can inform decision-making processes at state and local levels.

2. Validity

The metrics selected are well accepted in the research and policy fields as valid measures and predictors of policy inputs or outcomes, both overall and across different social groups.

3. Availability

The metrics selected and their sources are available widely and publicly nationwide. Where possible, Think *Tennessee* favored U.S. Federal Government data over other data sources. In a handful of instances, third-party analysis of federal data was used. Direct links to the sources are included in the detailed views of all metrics for users to explore and engage with the data further.

4. Frequency and consistency

The chosen metrics are consistently collected, measured, and reported over time and across geographic units, allowing for longitudinal analyses and comparisons within and across states.

5. Structural coverage and disaggregation

Selected metrics provide comprehensive coverage of different inputs and outputs related to each issue area and can be disaggregated by demographic groups or sub-categories, when available, to help identify the disparities and lived experiences of people and groups.

In most instances, the dashboard includes all available disaggregation levels for a given metric. A demographic subgroup is included only if data are available for at least 85% of Tennessee counties (i.e., at least 81 of 95). When this threshold is not met, the subgroup is not included for that metric.

Geographic Selection Criteria & County Classifications

Counties

Tennessee's 95 counties range from communities of roughly 5,000 residents to populations exceeding 900,000. Counties are the primary unit of analysis in the dashboard because they capture local economic and social conditions while remaining large enough to support meaningful policy conclusions. They also serve as the administrative unit through which most state and federal social programs are delivered.

Commuting Zones

Commuting Zones (CZs) are labor market areas developed by USDA's Economic Research Service that cluster counties based on commuting patterns. Tennessee has 18 CZs as of 2020.[1] CZs are particularly valuable for capturing rural labor markets that county boundaries often miss — a point illustrated by 2022 data showing that roughly 1.3M Tennesseans work outside their county of residence.[2]

Regional Development Districts

Tennessee's nine Regional Development Districts (RDDs) are regional planning organizations owned and operated by local governments.[3] They coordinate state and federal investment in infrastructure, housing, and economic development across the state, making them a useful lens for understanding regional trends.

ARC Status

The Appalachian Regional Commission (ARC) classifies counties into five economic status tiers — distressed, at risk, transitional, competitive, and attainment — based on poverty rates, unemployment, and per capita income relative to national averages.[4] In Tennessee, 11 counties are currently classified as distressed and 24 as at risk. More than half of Tennessee's counties carry an Appalachian designation, making ARC status an important dimension of statewide economic analysis.[5]

Rural-Urban Classification

Under Tennessee Department of Economic and Community Development (TNECD) policy, a county is considered rural if less than 50% of its population lives in an area designated as urban by the 2020 Census (defined as having at least 2,000 housing units or a population of 5,000 or more) with at least 50,000 residents.[6] By this definition, 78 Tennessee counties are rural and 17 are urban.

Interpreting the Data

Important Note: Any relationship observed between two metrics in the State of Our Counties Dashboard should be interpreted as an association only. No causal relationship should be inferred between any two metrics or between a given metric and any specific policy outcome.

- An average of all counties is provided with each metric as a point of reference for whether an individual county performs above or below average. However, the average of all 95 counties is not inherently a benchmark for success — if all counties perform poorly on a given metric, the average would be equally poor and unrepresentative of an ideal policy outcome.
- For metrics that use a rate as the unit of measurement, data may not be available for all 95 counties. When the numerator used to compute a rate is very small, the estimate is considered statistically unstable and liable to misinterpretation, and is therefore suppressed.
- Certain election metrics use the Citizen Voting-Age Population (CVAP) — an estimate of the number of voting-age citizens provided by the U.S. Census Bureau — as the denominator when computing rates. As a result, some counties may report an active CVAP registration rate of 100% or more, because ineligible voters can take up to two full election cycles to be removed from voter registration rolls. CVAP estimates also do not account for felony status, meaning the denominator includes citizens who are ineligible to vote in Tennessee under state law.
- Map color scales are calibrated individually for each metric to best communicate the variation within that metric's range of values.
- For the sake of consistency, rankings are computed so that lower numbers always reflect better outcomes — being ranked 1st is better than being ranked 95th. For a small number of metrics where rank does not clearly indicate good or poor performance, rankings are omitted.

Sources Used During Data Collection

The data presented in the State of Our Counties Dashboard is sourced from a variety of reputable organizations and government agencies. Table 1 captures the list of primary sources used for data collection:

Table 1. Data Sources

Administrative Office of the U.S. Courts	Opportunity Insights	U.S. Census Bureau
Board of Governors of the Federal Reserve System	Tennessee Bureau of Investigation	U.S. Department of Agriculture
Bureau of Economic Analysis	Tennessee Department of Corrections	U.S. Department of Energy, EAGLE-I
Center for Neighborhood Technology	Tennessee Department of Education	U.S. Department of Labor
Centers for Disease Control and Prevention	Tennessee Department of Health	U.S. Department of Transportation
Economic Policy Institute	Tennessee Department of Human Services	U.S. Election Assistance Commission
Federal Emergency Management Agency	Tennessee Department of Revenue	U.S. Federal Communications Commission
Federal Reserve Bank of St. Louis	Tennessee Department of Safety and Homeland Security	United Way of Northern New Jersey
Feeding America	Tennessee Department of Transportation	University of Wisconsin Population Health Institute
Internal Revenue Service	Tennessee Higher Education Commission	Urban Institute
National Low Income Housing Coalition	Tennessee Housing Development Agency	
National Renewable Energy Laboratory	U.S. Bureau of Labor Statistics	

Levels at Which the Metrics Are Displayed

The State of Our Counties Dashboard includes disaggregated metrics that provide a comprehensive view of Tennessee counties' performance across different demographic groups and categories. This approach allows for a more nuanced understanding of each county's progress and challenges across different socio-economic groups. Where available, metrics were disaggregated at different levels, some of which include the demographic groups illustrated in Table 2:

Table 2. Demographic Groups with Data Available in the Dashboard

Black or African American	Male	Homeowners
Hispanic or Latino	Female	Renters
Non-Hispanic White	With a Disability	With a High School Degree or Higher
Other Race	Age Groups	Parental Socioeconomic Status

Data Processing Methods

Inflation Adjustment

All dollar-denominated metrics are adjusted to 2025 dollars using the Consumer Price Index for All Urban Consumers (CPI-U), non-seasonally adjusted, retrieved from the Federal Reserve Economic Data (FRED) service via the `cpiget` R package (github.com/chriscandelaria/cpiget). When the underlying financial data are reported on a calendar year basis, the calendar year annual average CPI is used; when reported on a fiscal year basis, the fiscal year CPI is used instead. This approach follows the methodology described in Shores & Candelaria (2020).

For metrics derived from the American Community Survey (ACS) 5-year estimates, the CPI value used corresponds to the **final year of the estimate period**. For example, dollar amounts from the 2015–2019 ACS are treated as 2019 dollars and then converted to 2025 dollars using the ratio of the 2025 CPI to the 2019 CPI.

Inflation adjustment uses the following formula:

$$\text{Real Value} = \text{Nominal Value} \times \frac{\text{CPI}_{2025}}{\text{CPI}_{t}}$$

where t is the reference year for a given estimate.

Percent Change (Growth) Metrics

Growth metrics are calculated as simple percent change between two time periods, following the convention of comparing year t with year $t - 5$.

For ACS 5-year estimates, Think *Tennessee* follows Census Bureau guidance by comparing **non-overlapping periods** to avoid the statistical complications that arise from shared survey samples. The standard pairings used are:

Current Period	**Comparison Period**
ACS 5yr 2020–2024	ACS 5yr 2015–2019
ACS 5yr 2019–2023	ACS 5yr 2014–2018

Current Period	Comparison Period
ACS 5yr 2018–2022	ACS 5yr 2013–2017
ACS 5yr 2017–2021	ACS 5yr 2012–2016
ACS 5yr 2016–2020	ACS 5yr 2011–2015

Margins of error for percent change calculations across non-overlapping periods are computed using the `moe_ratio()` function from the `tidycensus` package, following the methodology described in the ACS General Handbook (Chapter 8).

Note: Overlapping period comparisons (e.g., 2018–2022 vs. 2019–2023) are avoided because shared sample overlap dampens apparent change, requiring very large real changes to produce statistically detectable differences.

Geographic Aggregation Methods

County-level data is aggregated to Regional Development Districts (RDDs) and Commuting Zones (CZs) using one of the following three methods, depending on the type of measure.

Ratio and Per-Capita Measures (Weighted Average)

For ratio or per-capita measures (e.g., unemployment rate, spending per capita), the regional value is computed as a population-weighted average of county values:

$$\bar{R}_{\text{regional}} = \frac{\sum_{i=1}^{n} R_i \cdot D_i}{\sum_{i=1}^{n} D_i}$$

where R_i is the county ratio and D_i is the denominator quantity (e.g., population, labor force). This is mathematically equivalent to computing the ratio of aggregate totals directly:

$$R_{\text{aggregate}} = \frac{\sum_{i=1}^{n} N_i}{\sum_{i=1}^{n} D_i}$$

The equivalence holds because the weighting variable matches the denominator of the ratio. The weighted average method is used in the pipeline as it operates on already-computed county ratios.

In some cases, the true denominator is not available at the county level, and a proxy weight is used instead (e.g., total population).

For index measures (e.g., composite scores or rankings), a simple average across counties is used, which is equivalent to assigning uniform weights to each county.

Count and Total Measures (Summation)

For count or total measures (e.g., total employment, number of households), the regional value is simply the sum of county values:

$$\text{Total}_{\text{regional}} = \sum_{i=1}^{n} \text{Value}_i$$

Five-Year Percent Changes

For five-year percent change metrics, the regional percent change is computed as a weighted average of county percent changes, where each county is weighted by its base-period value:

$$g_{\text{regional}} = \frac{\sum_{i=1}^{n} \text{Value}_{i,t-5} \cdot g_i}{\sum_{i=1}^{n} \text{Value}_{i,t-5}} \times 100\%$$

where g_i is the county percent change and $\text{Value}_{i,t-5}$ is the county's base-period value. This is mathematically equivalent to the aggregate percent change:

$$g_{\text{regional}} = \left(\frac{\sum_{i=1}^{n} \text{Value}_{i,t}}{\sum_{i=1}^{n} \text{Value}_{i,t-5}} - 1 \right) \times 100\%$$

Note: A simple (unweighted) average of county percent changes would be incorrect, as it treats each county equally regardless of size.

Threshold of Inclusion for Demographic Subgroups

A demographic subgroup is included for a given metric only if data are available for **at least 85% of counties** (i.e., at least 81 of 95 Tennessee counties).

Where multiple subgroups are evaluated, coverage is assessed jointly: all subgroups included for a given metric must meet the 85% threshold within the **same set of counties**. For example, if Asian and Native American subgroups each independently meet the 85% threshold but do not have overlapping county coverage, only those counties where both subgroups have data are counted toward the threshold. This joint coverage requirement is documented in the indicator definitions.

Questions & Feedback

Think *Tennessee* is committed to collecting, analyzing, and disseminating data that is essential for identifying, understanding, and providing solutions to the challenges facing the working families of Tennessee. If you have any questions or suggestions about the dashboard or the work of Think *Tennessee*, please email info@thinktn.org.

Footnotes

1. https://www.ers.usda.gov/data-products/commuting-zones-and-labor-market-areas ↩
2. https://www.tn.gov/workforce/tennessee-economic-data-/commute-patterns/commuter-data-county.html ↩

3. https://www.tndistricts.com/ ↩
4. https://www.arc.gov/distressed-designation-and-county-economic-status-classification-system/ ↩
5. https://www.arc.gov/appalachian-counties-served-by-arc/ ↩
6. https://tnsdc.utk.edu/2023/09/28/2023-tennessee-county-geographic-classifier-reference-file/ ↩