# THDA ECONOMIC IMPACT: CALENDAR YEAR 2023



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### **ECONOMIC IMPACT OF THDA**

Calendar Year 2023

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## **EXECUTIVE SUMMARY**

The benefits of affordable housing programs administered by Tennessee Housing Development Agency (THDA) extend beyond providing individuals and families the opportunity to live in safe and affordable homes. Money spent through THDA programs has a "ripple" effect on the broader economy, which is measured using an economic multiplier. This multiplier effect quantifies the creation of additional jobs, income, and spending in the local economy as a result of THDA programs. Ultimately, the additional economic activity induced by THDA programs adds to state and local revenues.

In this study, we develop a framework to estimate the economic impact of THDA activities in providing safe and affordable housing options to low- and moderate-income households. We review THDA programs, including loans and grants, to determine the scope and monetary flows of each program's activities. Affordable housing programs include those such as the Low-Income Housing Credit (LIHC) Program. In addition to subsidy programs, THDA also administers affordable housing programs that reduce housing-related expenses and provide sound mortgage products to low- and moderate-income households, such as the Low-Income Home Energy Assistance Program (LIHEAP) and the Great Choice Loan Program, respectively.

This study does not assume that THDA was the sole provider of financial resources in those programs administered during 2023. However, THDA plays a critical role in providing scarce resources to programs that help low- and moderate-income households and increase economic activity in the local economies.

#### Economic Impact of THDA-Related Activities in 2023

The total economic impact described in this report is the sum of direct THDA spending, indirect business to business transactions in Tennessee's economy, and additional employee spending.

<u>Business Revenue</u>: The total contribution of THDA-related activities to Tennessee's economy in 2023 is estimated at \$2.7 billion. Of this total, THDA-related activities were responsible for a direct infusion of \$1.4 billion into the economy. Every \$100 of THDA-related activities generated an additional \$100 in business revenues.

<u>Personal Income</u>: THDA-related activities generated \$1.2 billion in wages and salaries in 2023. Every \$100 of personal income produced an additional \$61 of wages and salaries in the local economy.

<u>Employment / Job Creation</u>: THDA-related activities created 18,204 jobs in 2023. Every 100 jobs created by THDA-related activities, primarily in the construction sector, generated 62 additional jobs throughout the local economy.

<u>State and Local Taxes</u>: THDA-related activities accounted for \$94 million in state and local taxes in 2023.

### **OVERVIEW OF THE THDA PROGRAMS AND ACTIVITIES, 2023**

One of the primary ways THDA assists Tennesseans is by offering fixed-rate mortgage loans for low- and moderateincome homebuyers.<sup>1</sup> In addition to helping homebuyers, THDA administers several other housing programs to help low- and moderate-income households in Tennessee. A comprehensive account of THDA's programs and activities included in this economic impact analysis can be found in <u>THDA Investments and Impacts</u>. Furthermore, accompanying interactive <u>maps</u> provide views of THDA activities and economic impacts at various geographic levels including by county, congressional district and metropolitan statistical area (MSA). Detailed information about each program is also available at <u>www.thda.org</u>.

### **ECONOMIC IMPACT RESULTS**

We use the IMPLAN input-output model to calculate the ripple effects of THDA-related activities on the Tennessee economy. The IMPLAN model calculates total business revenues, personal incomes, and total employment. For each of these categories, the IMPLAN model provides direct, the indirect, and the induced impacts:

- Direct impact calculates the dollar amount of the initial spending as a result of THDA programs and grants. We also report the corresponding direct personal income and employment figures.
- Indirect impact calculates the dollar amount of the subsequent rounds of business-to-business transactions in Tennessee's economy as a result of each program. For example, a grantee who receives a grant to repair a critical structural problem for an elderly homeowner may buy materials from a supplier who would then purchase additional material, labor, etc. from other businesses. The initial spending creates additional rounds of spending in local and regional economies.
- Induced impact calculates the economic impact generated through employee spending in the economy. A portion of the direct and indirect program spending goes to individuals as wages and salaries. Depending on consumption preferences and patterns, individuals spend these wages and salaries on various sectors of the economy. Therefore, each round of spending creates additional ripple effects in the economy.

We also provide the impact of THDA-related activities on business revenue, personal income, employment and state and local taxes.

- Business revenue is the total economic activity generated by THDA programs and grants spending in the economy.
- Personal income is the income that people in the economy receive because of spending associated with THDA programs and grants.
- Employment is the number of jobs generated by THDA programs and grants spending in the economy.
- Estimated state and local taxes are derived from the IMPLAN model.

The construction of new homes and the rehabilitation of existing homes through THDA-related activities increase employment in the construction industry and in the industries with forward and backward linkages to construction. For every dollar spent in the economy through related activities, business revenue and personal income increase by more than one dollar of direct spending because of indirect and induced effects.

The social impact of programs is excluded from this analysis. Social impacts encompass the individual and collective effects of a program that are not captured through direct investment. For example, a beneficiary of the Home Modification and Ramps Program may experience several benefits, including the avoidance of unnecessary health care costs, prevention of relocation to a nursing home, as well as the joy of increased independence and longevity.

<sup>&</sup>lt;sup>1</sup> THDA homeownership programs generally serve first-time homebuyers (those who have not owned their principal residence within the last three years), but serve all eligible homebuyers who are buying in federally targeted areas and who are veterans.

Similarly, even though reduced energy consumption has both individual and regional impacts, environmentally and financially, the energy cost savings produced by weatherization are also not considered in this analysis. Other social impacts excluded from this analysis include situations in which a household avoids homelessness because of the Emergency Solutions Grant. While each of these social impacts may have financial gains associated with them, because they do not contribute to direct investments, they are not included in this economic impact analysis.

Several THDA programs assisted households to pay their utility, rent, or mortgage. These programs were the Low Income Home Energy Assistance (LIHEAP), Low Income Housing Water Assistance Program (LIHWAP), Section 8 Rental Assistance (tenant-based and housing choice voucher), Emergency Rental Assistance (ERA) and Homeowner Assistance Fund (HAF). They helped households stay in their homes and continue paying their energy bills while injecting these funds to the economy. However, in the absence of more information about how these assistance funds influenced recipient households' spending patterns, we excluded them from the economic impact calculations in 2023. Therefore, these economic impact results are conservative in nature.

The following table represents the direct, indirect, induced, and total impact of THDA-related activities on the Tennessee economy in 2023 for three categories: employment, labor income, and output (business revenue). In addition, we also provide the total impact and the multiplier (when applicable).

|--|

|                            | Direct | Indirect | Induced | Total  | Multiplier* |
|----------------------------|--------|----------|---------|--------|-------------|
| Business Revenue           | \$1.4B | \$548    | \$804   | \$2.7B | 2.00        |
| Personal Income            | \$741  | \$183    | \$269   | \$1.2B | 1.61        |
| Employment                 | 11,248 | 2,692    | 4,264   | 18,204 | 1.62        |
| State and Local<br>Taxes** | NA     | NA       | NA      | \$94   | NA          |

\*Multipliers are calculated by dividing total impact by direct impact

\*\*State and Local taxes are estimated from the model.

The economic impact of THDA programs and grants was quite substantial. In 2023, for every \$100 in direct industrial output created through THDA-related activities, an additional \$100 in business revenue was generated.

THDA-related activities injected a total of \$1,354,937,431 into the economy via demand for regionally supplied construction, real estate services, and financial and other services inputs (reflected in the table as 'direct' impact on business revenues). To meet this demand, impacted firms in these industries provided 11,248 jobs (fulltime equivalent or FTE) with a collective \$740,815,221 in wages and salaries. These figures represent direct impacts of 2023 THDA-related activities.

Next, to satisfy these firms' required supplies and raw materials, purchasing inputs totaled \$548,208,809 from the local economy, which further stimulated 2,692 jobs and \$183,113,524 in personal income. When workers in direct and indirect sectors converted their paychecks into household spending, they induced \$804,134,143 in industrial output from industries that served these households, yielding 4,264 more jobs making \$269,306,473 in wages and salaries. Added together, in 2023, THDA-related activities supported \$2.7 billion in area industrial output, \$1.2 billion in labor income and 18,367 jobs, which were not significantly different from the total contribution of THDA-related activities in 2022.

THDA-related activities also generated sizable tax revenues for state and local governments, estimated at \$94 million.

#### 2023 Impact by County, Congressional District and MSA

This analysis also calculates the economic impact of THDA-related activities at the county, Congressional District<sup>2</sup> and Metropolitan Statistical Area (MSA) levels, in addition to statewide analysis. All THDA activities were separated by county, Congressional District and MSA, and these activities were used as inputs for the county and regional models that were created in IMPLAN. The economic impact results by county, Congressional Districts and MSAs are shown in the Appendix B.

Every year, changes in the volume and scope of the administered activities affect the resulting additional economic activity and jobs created in different regions (counties, metro areas and congressional districts). In 2023, THDA-related economic impacts were highest in Davidson County in terms of personal income, business revenue, and employment impact. In Davidson County, THDA programs directly infused approximately \$520 million into the economy, causing nearly \$345 million indirect and induced impact. For every \$100 of THDA-related business revenue, an additional \$66 of business revenue was created in the county. In the following table, the five counties with the highest economic impact (in terms of output, employment, and income) are listed. Compared to the previous year, the top five counties changed slightly. While Hamilton moved down the list of counties with the highest economic impact, Bradley moved to the top five. Additionally, Knox and Shelby Counties change places in the top five list.

| County     | Employment | Income        | Business Revenue |
|------------|------------|---------------|------------------|
| Davidson   | 5,413      | \$480,022,126 | \$863,591,630    |
| Knox       | 2,998      | \$183,370,260 | \$401,275,774    |
| Shelby     | 1,920      | \$116,485,642 | \$297,908,652    |
| Bradley    | 835        | \$41,710,712  | \$108,425,064    |
| Rutherford | 612        | \$36,309,900  | \$81,022,312     |

#### Table 2: Five Counties with the Highest Total Economic Impact in All Categories, 2023

Among the counties, Benton and Henry Counties had the highest multipliers in each category even though THDA investment and total economic impact in these counties were low. Among the MSAs, the Nashville MSA had the highest business revenue multiplier followed by Knoxville and Memphis MSAs. In the Nashville MSA, THDA-related activities created 8,670 jobs and generated nearly \$700 million in wages and salaries and \$1.4 billion in business revenue. Every \$100 of THDA-related activities generated an additional \$101 in business revenues across the MSA.

### **METHODOLOGY**

When THDA helps a low- or moderate-income borrower buy a home or provides some relief to a cost-burdened renter, individuals and the broader community experience the compounding effects in several ways.<sup>3</sup> In addition to the benefits reaped by individuals and society, spending to provide affordable housing generates business revenues, incomes, and jobs in affected communities.<sup>4</sup>

<sup>&</sup>lt;sup>2</sup> Congressional district boundaries for 2023 are based on the 118<sup>th</sup> session of the U.S. Congress. Economic impact calculations include an entire county's data for all counties represented in the district, not just the portion of the county in the district. Some counties may be included in more than one congressional district, which means the state total cannot be determined by summing the district totals.

<sup>&</sup>lt;sup>3</sup> For more information about health benefits of affordable housing see: Maqbool, N., Viveiros, J., and Ault, M. (2015). "The Impacts of Affordable Housing on Health: A Research Summary," *Center for Housing Policy* and for more information about education benefits of affordable housing see: Brennan, M., Reed, P., and Sturtevant, L.A. (2014). "The Impacts of Affordable Housing on Education: A Research Summary," *Center for Housing Policy*. See, also Newman, S. (2008). "Does Housing Matter for Poor Families? A Critical Summary of Research and Issues Still to be Resolved," Journal of Policy Analysis and Management, vol. 27, no. 4, pp. 895-925.

<sup>&</sup>lt;sup>4</sup> To learn more about the economic impact of affordable housing, see, for example, "<u>Beyond Units: Economic Benefits of Federal Home Loan Bank (FHLB) of Atlanta's</u> <u>Affordable Housing Program</u>," (2010). The Hendrickson Company in conjunction with The Shimberg Center for Housing Studies, University of Florida, on behalf of FHLB of Atlanta; <u>Economic Impact Of Affordable Housing programs in Utah - 2012</u>, Prepared by James Wood on behalf of Utah Housing Coalition; <u>The Economic and Social</u> <u>Benefits of Affordable Housing Development - Examining the Impact of Movin' Out in Southcentral Wisconsin</u>; and <u>Assessing the Economic Benefits of Public Housing</u>, Econsult Corporation.

In economic impact models, multipliers measure the secondary effects of initial spending on local economies. The Low-Income Housing Credit program, for example, illustrates the broader impacts of affordable housing. One additional low-income housing unit built with the incentives created through the tax credit program will house a low-income household. This is an important contribution to the well-being of that family as they will be able to afford their rent. This reduces the cost burden of renters and frees up personal funds for other necessities or discretionary items. The money a developer spends to build that additional rental unit will generate incomes and jobs for Tennesseans through rounds of spending. One dollar spent in the local and regional economies will support more than that one dollar in the region, by creating business revenue and income for other people in the region. In the process, some leakage may occur such that some money may be allocated towards savings, taxes and fees, or to vendors outside the local economy, rather than consumption in the local economy. However, the portion that stays within the local economy will continue to circulate and support additional rounds of spending until exhausted. The sum of these rounds of spending is represented by an "economic multiplier."

During the construction of a new house or rehabilitation of an existing one, for example, the local economy benefits directly from the money spent on the production factors such as materials and labor. The builder/developer purchases cement, lumber, windows, doors, and other construction-related material from local suppliers. The indirect impact of this spending occurs when the suppliers spend money on additional materials and hire new workers to complete the orders from builders/developers. Finally, employees in construction companies and in related industries may spend a portion of their wages at the local grocery store or shopping mall, which demonstrates induced effects. Taken together, the indirect and induced impacts of housing construction on the local economy are often called "ripple" or "multiplier" effects.

Multipliers are estimated by dividing the total impact (the sum of direct, indirect and induced impacts) by the initial direct spending in the economy. The income multiplier, for example, represents a change in total income (employee compensation and proprietary income) for every dollar change in income in any given sector. The employment multiplier represents the total change in employment resulting from the change in employment in any given sector. An income multiplier of 1.90, for example, means that every \$1 of personal income generates an additional \$0.90 of wages and salaries in the local economy.

The size of multipliers depends on the propensity of businesses and households to purchase goods and services from within the region rather than from outside sources. Imports<sup>5</sup> are spills or leakages from the local economy that occur when income is spent on outside sources rather than allowing it to recirculate within the region's economy. The region will have a larger multiplier if it has large and diversified economies producing a variety of goods and services, allowing for households and business to find most of the goods and services they need locally. The size of the region also impacts the size of the multiplier. In a large geographic region, transportation costs are high enough to prevent imports so businesses and consumers will spend more locally. A region that serves as a central hub for the surrounding regions will also have higher multipliers than more isolated counties.

The size of the multiplier also depends on the nature of the economic sectors under consideration, which includes whether the available industries in the region use labor intensive or capital intensive techniques in the production of industry output and each sector's propensity to buy goods and services from within the region. Rehabilitation/remodeling activities, for example, are more labor intensive than new construction activities. As such, they rely more on locally available labor forces rather than capital, which is mostly imported from neighboring regions. New construction is more capital intensive resulting in lower induced impacts than rehabilitation.

Another factor that impacts the size of the multiplier is whether the multiplier is reported for specific sectors or on average. When a single or average multiplier is reported for a region aiming to capture all of the spending in different sectors, it represents an average value across many sectors. It is possible that a small county, where a large portion of

<sup>&</sup>lt;sup>5</sup> Import, as used here, does not necessarily mean purchasing goods and services from another country. For the purpose of economic impact modelling, any purchase from outside the "region" defined in the IMPLAN Model is considered as import.

initial spending is made in an industry with a high multiplier, can have a larger aggregate spending multiplier than a larger county in which the additional initial spending is disbursed across different sectors with varying multiplier values. In this case, even with a lower industrial base, the small county may have a larger multiplier than a large county. For example, the Low-Income Housing Credit (LIHC) contributes to the economy through the construction sector, which has a very high employment multiplier. When the total economic impact of THDA activities is calculated, the employment multiplier in the county with large LIHC spending is higher than other counties with a relatively larger and more diversified industry base in which THDA administered several different programs with varying multiplier values.

### CONCLUSION

THDA programs provide significant investments in each of the 95 counties of Tennessee. THDA's affordable housing programs provide opportunities for low- and moderate-income individuals and families to live in safe, quality housing. While THDA's programs are helping to fill the housing needs and gaps in communities across the state, the additional benefits associated with construction, real estate, and programmatic investments are felt throughout the local, regional and state economies. The total contribution of THDA-related activities to Tennessee's economy was estimated at \$2.7 billion in 2023. For every \$100 spent by THDA and the grantees, an additional \$100 in business revenues was generated in Tennessee economy. State and local governments also benefit financially from THDA-related activities through sales tax on building materials, income taxes on construction workers and fees collected before and during construction. THDA-related activities accounted for nearly \$95 million in state and local taxes in 2023.

### **APPENDICES**

#### A. Assumptions

THDA programs include increasing affordable housing stock by creating new rental and ownership units, renovating existing units, helping individuals become first time homeowners, and helping households afford their rent. When entering the spending from each THDA program into our economic impact model, we made expenditure and sector assumptions appropriate to the nature of the program. Some activities receive funding from multiple THDA programs. For example, a developer that receives Low Income Housing Credits (LIHC) to create or preserve affordable rental housing for low income Tennesseans might also borrow funds from a financial institution that receives Community Investment Tax Credits (CITC). The total costs of a development are considered in calculating the economic impact of LIHC investment, rather than costs by program. This prevents the double counting of these investments. In the following section, we explain the assumptions that were made for each 2023 program to calculate its economic impact.<sup>6</sup>

#### Single Family Mortgage Loan Program

Modeling the single-family mortgage loan program in IMPLAN depends on whether THDA borrowers purchased a new or an existing home. The construction and sale of new homes contribute directly to the regional economy, based on the cost of the construction. While it is possible that new home construction is stimulated when individuals purchase homes using THDA's mortgage program, we did not make such assumptions in our calculations.

Unlike the purchase of land for new home construction, the purchase of an existing home does not create a multiplier effect because the transaction does not represent a new production.<sup>7</sup> However, fees and commissions paid in the home purchase process are included in the impact analysis. We look at the mortgages funded through THDA to find out the fees and commission paid by an average THDA borrower as related to the purchase price. Based on these data, we distribute the fees, commissions and expenditures among the financial sector, real estate sector and state and local government (some of the fees and all of the property taxes paid at the closing are paid to government) for new and existing home purchases.

Individuals and families who purchased a home through the THDA Single Family Mortgage Loan Program are almost exclusively first-time homeowners. Yet, they may not be new to the region and therefore may not bring new spending to the region. Therefore, to employ a conservative estimate of the impact of the program, we do not add their spending as new homeowners to the local economy. Furthermore, homeowners' spending patterns are different from those of renters. For example, a homeowner might spend more money for home improvement or renovation projects than a renter household, or when they are moving to their newly purchased home, they will spend money for moving expenses and, sometimes, even for new furniture. All these expenses will happen in the region after the family purchases the home. However, we did not make any assumption to estimate the economic impact of different spending patterns of new homeowners.

#### Foreclosure Rehabilitation Program

In 2022, THDA's Volunteer Mortgage Loan Servicing (VMLS) division launched a new real estate owned (REO) rehabilitation program to place the foreclosure properties that reverted to THDA at their foreclosure sale back into the hands of first-time homeowners. All foreclosure properties undergo a full renovation to ensure the property is safe, clean, has a reliable roof, foundation, HVAC, and appliances, and ready for a family to move in. THDA lists the properties for sale with a local realtor and requires an attestation of owner occupancy and first-time homeownership. The rehabilitation and renovation spending for these properties is used as input in the IMPLAN model.

<sup>&</sup>lt;sup>6</sup> For more information about description of THDA Programs administered during 2023, please see Investments and Impacts.

<sup>&</sup>lt;sup>7</sup> It might lead to the construction of new homes in subsequent rounds if those people who sold their homes to THDA borrowers purchase a new home, but we did not make any assumption to quantify this.

Affordable Housing Credit and Multifamily Bond Authority In the LIHC program, developers leverage additional funds to complete the projects. We assume that in the absence of the tax credit allocation, the property would not be built. Therefore, to calculate the economic impact of constructing multifamily housing units with LIHC, we use the total cost of construction rather than the tax credit allocations developers receive. Furthermore, because of the lag between the allocation of the Low Income Housing Credit and the start-up of the housing developments, we cannot use the LIHC allocations made in 2023 to determine the impact of 2023 activities.

Most spending related to the development of affordable housing occurs during construction or rehabilitation. At that point, developers inject a significant amount of money into the state economy. Nearly all developers utilizing competitive LIHC "carryover" their allocations to a placed in service deadline two years after the year of the allocation. Generally, it is the experience of THDA that approximately 80 percent of LIHC induced spending occurs during the first year of the carryover period and the remaining 20 percent occurs during the second year. Therefore, we used 80 percent of 2021 allocations and 20 percent of 2022 allocations for the LIHC developments' economic impact.<sup>8</sup> Multifamily bond authority deals can apply for noncompetitive LIHC, and their impact is calculated similar to LIHC deals. We assume, similar to the LIHC developments, that without multifamily bonds these properties would not be built. For the Multifamily Tax Exempt Bond Authority, the developers have one year for the rehabilitation and the acquisition of projects to be completed and placed in service; for new construction projects, developers have two years. To allow for this timeline, we use the 2022 allocations to determine the economic impact of the multifamily bond authority developments.

#### Community Investment Tax Credit (CITC)

The investment amount for each project is used as input for the economic impact model. We assume that the loans would not be made in the absence of CITC. The CITC projects could take multiple years to complete. However, in our modeling, we did not address this possibility. The activities for CITC projects include new construction and rehabilitation of rental and ownership units and the acquisition of buildings for rehabilitation. New construction and rehabilitation spending are distributed into the appropriate sectors of the economy in the model. Some LIHC deals also receive Community Investment Tax Credits. Since we include entire construction cost while calculating the economic impact of the LIHC program, we exclude these CITC recipients from the economic impact of CITC program.

#### Tennessee's Housing Trust Fund

THDA's Housing Trust Fund grants require matching funds from the grantees, which can come from different sources. We assume that without THDA involvement, those funds would not be available to complete those projects. Therefore, for any grant that requires matching funds to complete the project, the total cost of the project is used as the input for IMPLAN instead of the amount of grant received from the Housing Trust Fund. The Emergency Repair Program, the Home Modifications and Ramps Program, and Habitat for Humanity of Tennessee grants are spent in the same year they are awarded, while the Challenge Grant, Competitive Grant and Rebuild and Recovery Program recipients have multiple years to spend the awarded grants. For multi-year grants, we use the amount of money allocated in the year for these grants as input for the economic impact model.

#### National Housing Trust Fund (NHTF)

The investment amount for each project is used as input for the economic impact model.

#### The Emergency Solutions Grant (ESG) Program

The HUD funds given to THDA for this program are distributed into the appropriate sectors in the economic impact model.

#### Homebuyer Education Initiative

The money paid to area agencies by THDA on behalf of homebuyers who received homebuyer education and then a THDA loan is distributed into the appropriate sectors in the economic impact model.

#### The Weatherization Assistance Program (WAP)

The WAP provides grants for repairs, renovations and retrofits based on a home's energy consumption, technical assistance, and information tools to states for their energy programs. The total allocated amount is included in the model as rectification spending in the construction sector. The subsequent energy savings that produce additional funds for a household's spending on other necessities is not included in the calculation. The LIHEAP Weatherization Program provides weatherization and energy-related minor home repairs.

#### B. Economic Impact Results, 2023

|                     |               |               | Business Re   | evenue        |      |            |      |
|---------------------|---------------|---------------|---------------|---------------|------|------------|------|
| County/District/MSA | Direct        | Indirect      | Induced       | Total Impact  | Rank | Multiplier | Rank |
| Anderson            | \$14,562,498  | \$4,228,844   | \$1,721,515   | \$20,512,857  | 12   | 1.41       | 71   |
| Bedford             | \$2,796,844   | \$993,818     | \$621,397     | \$4,412,058   | 24   | 1.58       | 34   |
| Benton              | \$79,525      | \$72,819      | \$7,628       | \$159,973     | 87   | 2.01       | 1    |
| Bledsoe             | \$838,912     | \$163,483     | \$83,153      | \$1,085,548   | 60   | 1.29       | 92   |
| Blount              | \$2,008,712   | \$520,006     | \$577,139     | \$3,105,857   | 33   | 1.55       | 40   |
| Bradley             | \$70,294,364  | \$19,166,834  | \$18,963,866  | \$108,425,064 | 4    | 1.54       | 42   |
| Campbell            | \$1,511,148   | \$561,953     | \$221,985     | \$2,295,086   | 40   | 1.52       | 50   |
| Cannon              | \$443,065     | \$164,505     | \$54,409      | \$661,980     | 71   | 1.49       | 60   |
| Carroll             | \$158,651     | \$93,823      | \$19,389      | \$271,862     | 75   | 1.71       | 12   |
| Carter              | \$450,336     | \$196,973     | \$53,153      | \$700,462     | 68   | 1.56       | 38   |
| Cheatham            | \$15,302,462  | \$1,593,438   | \$3,173,472   | \$20,069,372  | 13   | 1.31       | 90   |
| Chester             | \$705,777     | \$131,993     | \$115,874     | \$953,644     | 62   | 1.35       | 85   |
| Claiborne           | \$609,058     | \$259,393     | \$83,902      | \$952,354     | 63   | 1.56       | 35   |
| Clay                | \$228,490     | \$81,648      | \$20,146      | \$330,283     | 74   | 1.45       | 68   |
| Cocke               | \$1,328,861   | \$530,131     | \$201,897     | \$2,060,889   | 44   | 1.55       | 39   |
| Coffee              | \$14,386,141  | \$4,789,064   | \$2,694,540   | \$21,869,745  | 11   | 1.52       | 48   |
| Crockett            | \$132,709     | \$57,938      | \$13,101      | \$203,748     | 83   | 1.54       | 43   |
| Cumberland          | \$772,265     | \$358,795     | \$175,094     | \$1,306,154   | 52   | 1.69       | 15   |
| Davidson            | \$520,981,770 | \$150,501,890 | \$192,107,970 | \$863,591,630 | 1    | 1.66       | 20   |
| Decatur             | \$1,736,812   | \$533,115     | \$192,389     | \$2,462,316   | 38   | 1.42       | 70   |
| DeKalb              | \$977,159     | \$397,787     | \$113,430     | \$1,488,376   | 49   | 1.52       | 45   |
| Dickson             | \$4,255,719   | \$1,308,790   | \$1,081,178   | \$6,645,687   | 21   | 1.56       | 36   |
| Dyer                | \$1,105,632   | \$484,614     | \$185,369     | \$1,775,616   | 47   | 1.61       | 30   |
| Fayette             | \$7,711,204   | \$1,626,120   | \$1,411,320   | \$10,748,645  | 18   | 1.39       | 74   |
| Fentress            | \$540,406     | \$202,072     | \$120,417     | \$862,895     | 65   | 1.60       | 31   |
| Franklin            | \$2,211,885   | \$760,010     | \$471,128     | \$3,443,022   | 32   | 1.56       | 37   |
| Gibson              | \$943,540     | \$545,888     | \$149,700     | \$1,639,128   | 48   | 1.74       | 11   |
| Giles               | \$145,151     | \$97,361      | \$19,408      | \$261,920     | 77   | 1.80       | 9    |
| Grainger            | \$636,379     | \$186,627     | \$50,756      | \$873,763     | 64   | 1.37       | 78   |
| Greene              | \$1,224,844   | \$538,285     | \$231,709     | \$1,994,838   | 45   | 1.63       | 24   |
| Grundy              | \$79,925      | \$61,361      | \$7,158       | \$148,444     | 89   | 1.86       | 4    |
| Hamblen             | \$1,628,252   | \$715,618     | \$298,001     | \$2,641,871   | 37   | 1.62       | 27   |
| Hamilton            | \$27,823,801  | \$6,923,971   | \$12,060,614  | \$46,808,386  | 7    | 1.68       | 16   |
| Hancock             | \$502,824     | \$142,403     | \$42,772      | \$688,000     | 69   | 1.37       | 79   |
| Hardeman            | \$1,495,833   | \$478,745     | \$171,529     | \$2,146,107   | 43   | 1.43       | 69   |
| Hardin              | \$158,811     | \$80,210      | \$25,417      | \$264,438     | 76   | 1.67       | 18   |
| Hawkins             | \$908,880     | \$331,661     | \$91,180      | \$1,331,720   | 51   | 1.47       | 64   |
| Haywood             | \$856,447     | \$263,716     | \$83,082      | \$1,203,245   | 56   | 1.40       | 73   |
| Henderson           | \$1,775,849   | \$562,397     | \$328,031     | \$2,666,277   | 36   | 1.50       | 56   |
| Henry               | \$106,117     | \$83,279      | \$18,210      | \$207,606     | 82   | 1.96       | 2    |
| Hickman             | \$2,549,361   | \$610,579     | \$308,444     | \$3,468,384   | 31   | 1.36       | 83   |

<sup>&</sup>lt;sup>8</sup> We have detailed cost data including the land value, site work, architectural and engineering fees, and financing fee expenses for rental developments built with LIHC allocations. Actual total spending in these sectors are used as input in IMPLAN model.

|                     |               |              | Business Re   | evenue        |          |            |          |
|---------------------|---------------|--------------|---------------|---------------|----------|------------|----------|
| County/District/MSA | Direct        | Indirect     | Induced       | Total Impact  | Rank     | Multiplier | Rank     |
| Houston             | \$92,796      | \$45,488     | \$12,223      | \$150,507     | 88       | 1.62       | 28       |
| Humphreys           | \$3,450,484   | \$705,154    | \$496,906     | \$4,652,544   | 22       | 1.35       | 87       |
| Jackson             | \$2,964,056   | \$586,861    | \$318,898     | \$3,869,814   | 29       | 1.31       | 91       |
| Jefferson           | \$3,134,569   | \$1,064,424  | \$390,977     | \$4,589,971   | 23       | 1.46       | 65       |
| Johnson             | \$12,400      | \$2,824      | \$1,672       | \$16,897      | 94       | 1.36       | 82       |
| Кпох                | \$214,781,325 | \$79,265,052 | \$107,229,397 | \$401,275,774 | 2        | 1.87       | 3        |
| Lake                | \$2,967,613   | \$590,595    | \$211,605     | \$3,769,813   | 30       | 1.27       | 93       |
| Lauderdale          | \$6,289,759   | \$1,732,298  | \$824,761     | \$8,846,818   | 19       | 1.41       | 72       |
| Lawrence            | \$1,071,734   | \$543,444    | \$211,379     | \$1,826,556   | 46       | 1.70       | 13       |
| Lewis               | \$2,783,643   | \$738,332    | \$707,509     | \$4,229,484   | 26       | 1.52       | 49       |
| Lincoln             | \$493,625     | \$238,542    | \$75,610      | \$807,777     | 66       | 1.64       | 23       |
| Loudon              | \$9,473,765   | \$2,667,557  | \$1,669,577   | \$13,810,898  | 17       | 1.46       | 66       |
| Macon               | \$2,821,445   | \$1,113,091  | \$386,763     | \$4,321,298   | 25       | 1.53       | 44       |
| Madison             | \$2,473,777   | \$988,298    | \$558,627     | \$4,020,702   | 28       | 1.63       | 26       |
| Marion              | \$94,915      | \$56,561     | \$9,724       | \$161,201     | 86       | 1.70       | 14       |
| Marshall            | \$1,952,456   | \$674,913    | \$303,150     | \$2,930,519   | 34       | 1.50       | 57       |
| Maury               | \$2,652,826   | \$814,147    | \$561,822     | \$4,028,795   | 27       | 1.52       | 51       |
| McMinn              | \$13,306,823  | \$4,316,301  | \$2,325,072   | \$19,948,196  | 15       | 1.50       | 58       |
| McNairy             | \$143,772     | \$59,126     | \$14,861      | \$217,759     | 80       | 1.51       | 53       |
| Meigs               | \$151,548     | \$50,116     | \$8,717       | \$210,381     | 81       | 1.39       | 75       |
| Monroe              | \$1,907,956   | \$571,167    | \$318,521     | \$2,797,644   | 35       | 1.37       | 63       |
|                     |               |              |               |               |          |            |          |
| Montgomery          | \$24,180,793  | \$9,261,658  | \$7,009,773   | \$40,452,224  | 8        | 1.67       | 17       |
| Moore               | \$52,070      | \$15,948     | \$3,136       | \$71,154      | 92       | 1.37       | 81       |
| Morgan              | \$162,339     | \$74,911     | \$7,948       | \$245,198     | 78       | 1.51       | 54       |
| Obion               | \$265,118     | \$175,507    | \$41,834      | \$482,458     | 72       | 1.82       | 8        |
| Overton             | \$9,898,889   | \$2,144,677  | \$2,531,450   | \$14,575,016  | 16       | 1.47       | 62       |
| Perry               | \$0           | \$0          | \$0           | \$0           | 95       | 0.00       | 95       |
| Pickett             | \$14,956      | \$3,616      | \$1,715       | \$20,287      | 93       | 1.36       | 84       |
| Polk                | \$77,370      | \$22,630     | \$4,413       | \$104,412     | 91       | 1.35       | 86       |
| Putnam              | \$12,577,872  | \$2,803,820  | \$4,604,993   | \$19,986,685  | 14       | 1.59       | 32       |
| Rhea                | \$815,057     | \$192,015    | \$106,900     | \$1,113,973   | 58       | 1.37       | 80       |
| Roane               | \$1,440,809   | \$542,339    | \$186,816     | \$2,169,964   | 42       | 1.51       | 55       |
| Robertson           | \$5,316,215   | \$1,346,547  | \$1,050,996   | \$7,713,758   | 20       | 1.45       | 67       |
| Rutherford          | \$48,845,211  | \$13,979,119 | \$18,197,982  | \$81,022,312  | 5        | 1.66       | 19       |
| Scott               | \$163,262     | \$61,571     | \$19,149      | \$243,982     | 79       | 1.49       | 59       |
| Sequatchie          | \$111,207     | \$72,160     | \$10,701      | \$194,068     | 84       | 1.75       | 10       |
| Sevier              | \$715,210     | \$289,607    | \$126,873     | \$1,131,690   | 57       | 1.58       | 33       |
| Shelby              | \$162,867,360 | \$71,479,372 | \$63,561,920  | \$297,908,652 | 3        | 1.83       | 7        |
| Smith               | \$667,994     | \$211,943    | \$108,974     | \$988,911     | 61       | 1.48       | 61       |
| Stewart             | \$106,267     | \$34,301     | \$6,506       | \$147,074     | 90       | 1.38       | 77       |
| Sullivan            | \$1,221,435   | \$778,836    | \$264,254     | \$2,264,525   | 41       | 1.85       | 5        |
| Sumner              | \$49,129,145  | \$14,361,414 | \$15,909,881  | \$79,400,440  | 6        | 1.62       | 29       |
| Tipton              | \$704,533     | \$300,934    | \$81,477      | \$1,086,944   | 59       | 1.54       | 41       |
| Trousdale           | \$879,754     | \$188,506    | \$150,874     | \$1,219,133   | 55       | 1.39       | 76       |
| Unicoi              | \$945,266     | \$260,962    | \$62,865      | \$1,269,093   | 54       | 1.34       | 88       |
|                     | -             | •            |               | •             |          |            |          |
| Union<br>Van Ruron  | \$1,034,459   | \$264,815    | \$84,241      | \$1,383,515   | 50<br>70 | 1.34       | 89<br>94 |
| Van Buren           | \$560,427     | \$76,434     | \$37,986      | \$674,847     | 70       | 1.20       |          |
| Warren              | \$1,394,283   | \$617,162    | \$293,155     | \$2,304,600   | 39       | 1.65       | 22       |
| Washington          | \$413,962     | \$262,236    | \$83,101      | \$759,298     | 67       | 1.83       | 6        |
| Wayne               | \$102,734     | \$55,172     | \$12,090      | \$169,995     | 85       | 1.65       | 21       |
| Weakley             | \$269,136     | \$126,792    | \$41,950      | \$437,879     | 73       | 1.63       | 25       |
| White               | \$844,470     | \$283,298    | \$153,446     | \$1,281,214   | 53       | 1.52       | 52       |
| Williamson          | \$23,795,298  | \$4,530,990  | \$7,848,148   | \$36,174,437  | 9        | 1.52       | 47       |
| Wilson              | \$19,945,848  | \$4,729,156  | \$5,678,841   | \$30,353,844  | 10       | 1.52       | 46       |

|                          |                 |               | Business Re   | evenue          |      |            |      |
|--------------------------|-----------------|---------------|---------------|-----------------|------|------------|------|
| County/District/MSA      | Direct          | Indirect      | Induced       | Total Impact    | Rank | Multiplier | Rank |
| State                    | \$1,354,937,431 | \$548,208,809 | \$804,134,143 | \$2,707,280,383 | -    | 2.00       | -    |
|                          |                 |               |               |                 |      |            |      |
| Congressional District 1 | \$12,486,838    | \$5,886,766   | \$3,261,001   | \$21,634,606    | 9    | 1.73       | 2    |
| Congressional District 2 | \$233,189,416   | \$77,372,359  | \$84,469,751  | \$395,031,525   | 4    | 1.69       | 3    |
| Congressional District 3 | \$139,015,077   | \$40,733,548  | \$34,387,746  | \$214,136,371   | 7    | 1.54       | 4    |
| Congressional District 4 | \$72,492,613    | \$15,478,504  | \$12,791,048  | \$100,762,165   | 8    | 1.39       | 5    |
| Congressional District 5 | \$572,111,842   | \$49,572,592  | \$41,551,477  | \$663,235,911   | 3    | 1.16       | 9    |
| Congressional District 6 | \$625,810,541   | \$97,244,145  | \$106,334,796 | \$829,389,482   | 1    | 1.33       | 8    |
| Congressional District 7 | \$601,950,225   | \$101,018,886 | \$98,429,658  | \$801,398,769   | 2    | 1.33       | 7    |
| Congressional District 8 | \$191,225,242   | \$46,678,745  | \$27,616,435  | \$265,520,423   | 6    | 1.39       | 6    |
| Congressional District 9 | \$162,867,360   | \$71,479,372  | \$63,561,920  | \$297,908,652   | 5    | 1.83       | 1    |
| Chattanaaga MSA          | ¢00 000 002     | ¢7 150 201    | ¢12 414 107   | ¢ 40 700 254    | F    | 1 72       | F    |
| Chattanooga, MSA         | \$28,029,923    | \$7,158,304   | \$13,414,127  | \$48,602,354    | 5    | 1.73       | 5    |
| Clarksville, MSA         | \$24,180,793    | \$9,261,658   | \$7,009,773   | \$40,452,224    | 6    | 1.67       | 8    |
| Cleveland, MSA           | \$70,371,734    | \$19,347,808  | \$19,395,845  | \$109,115,386   | 4    | 1.55       | 10   |
| Jackson, MSA             | \$4,255,802     | \$1,837,400   | \$1,105,362   | \$7,198,564     | 8    | 1.69       | 7    |
| Johnson City, MSA        | \$1,809,563     | \$879,229     | \$440,183     | \$3,128,975     | 10   | 1.73       | 6    |
| Kingsport-Bristol, MSA   | \$2,130,314     | \$1,213,365   | \$491,602     | \$3,835,282     | 9    | 1.80       | 4    |
| Knoxville, MSA           | \$252,739,762   | \$99,320,685  | \$139,476,045 | \$491,536,491   | 2    | 1.94       | 2    |
| Memphis, MSA             | \$171,283,098   | \$77,874,507  | \$83,156,338  | \$332,313,942   | 3    | 1.94       | 3    |
| Morristown, MSA          | \$5,399,200     | \$2,182,421   | \$1,030,232   | \$8,611,853     | 7    | 1.60       | 9    |
| Nashville, MSA           | \$695,036,740   | \$245,409,715 | \$457,401,284 | \$1,397,847,739 | 1    | 2.01       | I    |

|                     |               |                         | Personal     | Income        |      |              |          |
|---------------------|---------------|-------------------------|--------------|---------------|------|--------------|----------|
| County/District/MSA | Direct        | Indirect                | Induced      | Total Impact  | Rank | Multiplier   | Rank     |
| Anderson            | \$4,514,776   | \$1,409,891             | \$546,069    | \$6,470,736   | 15   | 1.43         | 46       |
| Bedford             | \$1,179,646   | \$251,372               | \$163,926    | \$1,594,945   | 24   | 1.35         | 65       |
| Benton              | \$11,180      | \$10,673                | \$1,689      | \$23,542      | 90   | 2.11         | 1        |
| Bledsoe             | \$324,041     | \$41,202                | \$15,357     | \$380,600     | 53   | 1.17         | 91       |
| Blount              | \$1,092,038   | \$157,098               | \$182,148    | \$1,431,284   | 26   | 1.31         | 74       |
| Bradley             | \$30,159,137  | \$5,854,692             | \$5,696,883  | \$41,710,712  | 4    | 1.38         | 54       |
| Campbell            | \$401,904     | \$146,368               | \$56,035     | \$604,307     | 42   | 1.50         | 29       |
| Cannon              | \$140,470     | \$34,871                | \$12,752     | \$188,092     | 68   | 1.34         | 70       |
| Carroll             | \$32,383      | \$19,309                | \$5,020      | \$56,712      | 76   | 1.75         | 10       |
| Carter              | \$100,355     | \$44,747                | \$13,630     | \$158,733     | 70   | 1.58         | 17       |
| Cheatham            | \$10,226,776  | \$464,866               | \$769,535    | \$11,461,177  | 11   | 1.12         | 94       |
| Chester             | \$285,172     | \$41,519                | \$26,767     | \$353,458     | 54   | 1.24         | 86       |
|                     | \$136,572     | \$62,229                | \$22,128     | \$220,929     | 65   | 1.62         | 15       |
| Claiborne           |               |                         |              |               |      |              |          |
| Clay                | \$43,351      | \$18,938                | \$3,785      | \$66,073      | 74   | 1.52         | 27       |
| Cocke               | \$350,254     | \$123,020               | \$50,723     | \$523,997     | 45   | 1.50         | 32       |
| Coffee              | \$4,701,769   | \$1,463,481             | \$789,501    | \$6,954,751   | 13   | 1.48         | 35       |
| Crockett            | \$31,361      | \$12,589                | \$4,058      | \$48,008      | 80   | 1.53         | 25       |
| Cumberland          | \$245,609     | \$89,804                | \$46,291     | \$381,704     | 52   | 1.55         | 21       |
| Davidson            | \$349,049,051 | \$58,350,432            | \$72,622,643 | \$480,022,126 | 1    | 1.38         | 59       |
| Decatur             | \$502,873     | \$128,777               | \$42,580     | \$674,229     | 39   | 1.34         | 69       |
| DeKalb              | \$221,675     | \$83,595                | \$31,301     | \$336,570     | 55   | 1.52         | 28       |
| Dickson             | \$1,865,363   | \$370,541               | \$327,127    | \$2,563,030   | 20   | 1.37         | 60       |
| Dyer                | \$327,004     | \$130,488               | \$54,439     | \$511,931     | 46   | 1.57         | 19       |
| Fayette             | \$4,454,954   | \$461,261               | \$315,206    | \$5,231,421   | 18   | 1.17         | 92       |
| Fentress            | \$192,928     | \$54,044                | \$32,078     | \$279,050     | 62   | 1.45         | 44       |
| Franklin            | \$803,750     | \$198,387               | \$127,459    | \$1,129,596   | 31   | 1.41         | 51       |
| Gibson              | \$258,420     | \$116,367               | \$38,461     | \$413,249     | 50   | 1.60         | 16       |
| Giles               | \$29,708      | \$19,328                | \$5,023      | \$54,059      | 77   | 1.82         | 8        |
| Grainger            | \$156,250     | \$40,794                | \$9,797      | \$206,841     | 67   | 1.32         | 71       |
| Greene              | \$365,092     | \$123,090               | \$60,499     | \$548,681     | 44   | 1.50         | 30       |
| Grundy              | \$12,860      | \$9,858                 | \$1,418      | \$24,136      | 89   | 1.88         | 7        |
| Hamblen             | \$493,794     | \$177,794               | \$96,658     | \$768,246     | 37   | 1.56         | 20       |
|                     | \$17,409,788  |                         | \$3,845,341  | \$23,667,394  | 7    |              |          |
| Hamilton<br>Hancock | \$123,518     | \$2,412,264<br>\$24,911 | \$7,789      | \$156,218     | 71   | 1.36<br>1.26 | 64<br>82 |
|                     | •             |                         |              | •             |      |              |          |
| Hardeman            | \$426,707     | \$120,065               | \$35,128     | \$581,901     | 43   | 1.36         | 63       |
| Hardin              | \$38,773      | \$18,945                | \$6,805      | \$64,524      | 75   | 1.66         | 12       |
| Hawkins             | \$222,109     | \$75,620                | \$21,028     | \$318,758     | 58   | 1.44         | 45       |
| Haywood             | \$183,806     | \$71,135                | \$19,474     | \$274,415     | 63   | 1.49         | 33       |
| Henderson           | \$592,035     | \$153,080               | \$91,181     | \$836,296     | 36   | 1.41         | 49       |
| Henry               | \$24,262      | \$16,815                | \$5,263      | \$46,340      | 81   | 1.91         | 6        |
| Hickman             | \$794,784     | \$170,681               | \$72,083     | \$1,037,548   | 32   | 1.31         | 75       |
| Houston             | \$29,400      | \$9,297                 | \$2,987      | \$41,684      | 84   | 1.42         | 48       |
| Humphreys           | \$1,307,779   | \$202,946               | \$123,922    | \$1,634,646   | 23   | 1.25         | 85       |
| Jackson             | \$1,050,112   | \$146,018               | \$62,586     | \$1,258,716   | 28   | 1.20         | 90       |
| Jefferson           | \$830,706     | \$286,258               | \$105,198    | \$1,222,162   | 29   | 1.47         | 38       |
| Johnson             | \$3,639       | \$622                   | \$355        | \$4,616       | 94   | 1.27         | 81       |
| Кпох                | \$118,329,497 | \$28,519,481            | \$36,521,282 | \$183,370,260 | 2    | 1.55         | 22       |
| Lake                | \$995,029     | \$160,498               | \$44,192     | \$1,199,719   | 30   | 1.21         | 89       |
| Lauderdale          | \$1,842,418   | \$503,866               | \$199,820    | \$2,546,105   | 21   | 1.38         | 56       |
| Lawrence            | \$313,464     | \$104,526               | \$51,053     | \$469,043     | 47   | 1.50         | 31       |
| Lewis               | \$1,291,812   | \$202,871               | \$171,561    | \$1,666,244   | 22   | 1.29         | 77       |
| Lincoln             | \$138,349     | \$53,990                | \$18,751     | \$211,090     | 66   | 1.53         | 26       |
| Loudon              | \$4,067,559   | \$833,246               | \$462,933    | \$5,363,738   | 17   | 1.33         | 20<br>73 |
| Macon               |               |                         | \$100,050    |               | 34   | 1.52         | 11       |
|                     | \$554,012     | \$293,863               | •            | \$947,925     |      |              |          |
| Madison             | \$937,932     | \$266,607               | \$164,070    | \$1,368,609   | 27   | 1.46         | 40       |

|                          |               |               | Personal      | Income          |      |            |      |
|--------------------------|---------------|---------------|---------------|-----------------|------|------------|------|
| County/District/MSA      | Direct        | Indirect      | Induced       | Total Impact    | Rank | Multiplier | Rank |
| Marion                   | \$16,619      | \$10,765      | \$2,214       | \$29,598        | 88   | 1.78       | 9    |
| Marshall                 | \$788,561     | \$156,835     | \$68,849      | \$1,014,244     | 33   | 1.29       | 78   |
| Maury                    | \$1,066,532   | \$229,694     | \$160,130     | \$1,456,356     | 25   | 1.37       | 61   |
| McMinn                   | \$4,075,948   | \$1,253,665   | \$625,740     | \$5,955,354     | 16   | 1.46       | 39   |
| McNairy                  | \$31,227      | \$11,342      | \$3,387       | \$45,956        | 82   | 1.47       | 37   |
| Meigs                    | \$36,872      | \$11,033      | \$1,680       | \$49,585        | 79   | 1.34       | 68   |
| Monroe                   | \$620,694     | \$156,044     | \$81,310      | \$858,047       | 35   | 1.38       | 55   |
| Montgomery               | \$10,358,243  | \$2,473,363   | \$1,937,523   | \$14,769,129    | 10   | 1.43       | 47   |
| Moore                    | \$11,558      | \$3,946       | \$630         | \$16,135        | 92   | 1.40       | 52   |
| Morgan                   | \$22,978      | \$13,229      | \$1,600       | \$37,806        | 85   | 1.65       | 13   |
| Obion                    | \$53,879      | \$38,991      | \$11,697      | \$104,567       | 73   | 1.94       | 3    |
|                          |               |               |               |                 |      |            |      |
| Overton                  | \$5,353,836   | \$547,574     | \$669,778     | \$6,571,188     | 14   | 1.23       | 88   |
| Perry                    | \$0           | \$0           | \$0           | \$0             | 95   | 0.00       | 95   |
| Pickett                  | \$3,723       | \$1,165       | \$503         | \$5,391         | 93   | 1.45       | 43   |
| Polk                     | \$15,106      | \$4,459       | \$852         | \$20,417        | 91   | 1.35       | 66   |
| Putnam                   | \$7,705,169   | \$847,931     | \$1,387,143   | \$9,940,243     | 12   | 1.29       | 76   |
| Rhea                     | \$312,818     | \$49,243      | \$23,550      | \$385,611       | 51   | 1.23       | 87   |
| Roane                    | \$471,358     | \$144,285     | \$48,755      | \$664,399       | 40   | 1.41       | 50   |
| Robertson                | \$2,397,268   | \$370,356     | \$262,278     | \$3,029,901     | 19   | 1.26       | 83   |
| Rutherford               | \$26,964,839  | \$4,194,993   | \$5,150,069   | \$36,309,900    | 5    | 1.35       | 67   |
| Scott                    | \$34,132      | \$11,895      | \$4,553       | \$50,581        | 78   | 1.48       | 34   |
| Sequatchie               | \$18,380      | \$14,710      | \$2,340       | \$35,431        | 86   | 1.93       | 4    |
| Sevier                   | \$213,843     | \$80,133      | \$36,200      | \$330,176       | 56   | 1.54       | 23   |
| Shelby                   | \$71,901,071  | \$23,463,065  | \$21,121,506  | \$116,485,642   | 3    | 1.62       | 14   |
| Smith                    | \$233,976     | \$59,634      | \$28,856      | \$322,466       | 57   | 1.38       | 57   |
| Stewart                  | \$22,349      | \$7,446       | \$1,209       | \$31,003        | 87   | 1.39       | 53   |
| Sullivan                 | \$320,748     | \$206,794     | \$85,748      | \$613,289       | 41   | 1.91       | 5    |
| Sumner                   | \$25,707,205  | \$4,546,161   | \$4,807,109   | \$35,060,475    | 6    | 1.36       | 62   |
|                          | \$192,397     |               | \$19,757      |                 | 61   | 1.38       | 41   |
| Tipton                   |               | \$67,312      |               | \$279,466       |      |            |      |
| Trousdale                | \$358,379     | \$52,573      | \$40,170      | \$451,121       | 48   | 1.26       | 84   |
| Unicoi                   | \$197,417     | \$73,291      | \$15,772      | \$286,480       | 60   | 1.45       | 42   |
| Union                    | \$234,006     | \$60,125      | \$15,598      | \$309,728       | 59   | 1.32       | 72   |
| Van Buren                | \$196,929     | \$18,008      | \$7,380       | \$222,317       | 64   | 1.13       | 93   |
| Warren                   | \$439,686     | \$149,942     | \$85,042      | \$674,670       | 38   | 1.53       | 24   |
| Washington               | \$92,164      | \$66,845      | \$27,073      | \$186,083       | 69   | 2.02       | 2    |
| Wayne                    | \$30,749      | \$11,310      | \$3,338       | \$45,398        | 83   | 1.48       | 36   |
| Weakley                  | \$67,737      | \$28,651      | \$10,731      | \$107,118       | 72   | 1.58       | 18   |
| White                    | \$304,140     | \$68,383      | \$46,608      | \$419,132       | 49   | 1.38       | 58   |
| Williamson               | \$17,114,015  | \$1,814,028   | \$3,050,311   | \$21,978,353    | 8    | 1.28       | 79   |
| Wilson                   | \$11,740,742  | \$1,555,115   | \$1,628,163   | \$14,924,020    | 9    | 1.27       | 80   |
| State                    | \$740,815,221 | \$183,113,524 | \$269,306,473 | \$1,193,235,218 |      | 1.61       |      |
| Congressional District 1 | \$3,713,612   | \$1,569,830   | \$1,019,632   | \$6,303,074     | 9    | 1.70       | 1    |
| Congressional District 2 | \$123,158,363 | \$27,171,803  | \$28,350,184  | \$178,680,350   | 4    | 1.45       | 3    |
| Congressional District 3 | \$65,405,272  | \$13,332,064  | \$10,600,523  | \$89,337,859    | 7    | 1.37       | 4    |
| Congressional District 4 | \$35,070,714  | \$4,523,738   | \$3,425,369   | \$43,019,822    | 8    | 1.23       | 6    |
| Congressional District 5 | \$372,802,543 | \$17,955,479  | \$14,660,905  | \$405,418,927   | 3    | 1.09       | 9    |
| Congressional District 6 | \$383,987,440 | \$32,698,718  | \$33,565,861  | \$450,252,020   | 2    | 1.17       | 8    |
| Congressional District 7 | \$383,128,504 | \$35,982,052  | \$36,339,288  | \$455,449,844   | 1    | 1.17       | 7    |
| Congressional District 8 | \$81,710,947  | \$13,830,748  | \$8,360,678   | \$103,902,372   | 6    | 1.17       | 5    |
| Congressional District 9 |               | •             |               |                 |      | 1.62       | 2    |
| -                        | \$71,901,071  | \$23,463,065  | \$21,121,506  | \$116,485,642   | 5    |            |      |
| Chattanooga, MSA         | \$16,829,399  | \$2,379,599   | \$4,148,215   | \$23,357,213    | 5    | 1.39       | 10   |
| Clarksville, MSA         | \$10,358,243  | \$2,473,363   | \$1,937,523   | \$14,769,129    | 6    | 1.43       | 8    |

|                        |               | Personal Income |               |               |      |            |      |
|------------------------|---------------|-----------------|---------------|---------------|------|------------|------|
| County/District/MSA    | Direct        | Indirect        | Induced       | Total Impact  | Rank | Multiplier | Rank |
| Cleveland, MSA         | \$29,739,417  | \$5,858,234     | \$5,736,202   | \$41,333,853  | 4    | 1.39       | 9    |
| Jackson, MSA           | \$1,499,638   | \$486,184       | \$326,765     | \$2,312,586   | 8    | 1.54       | 7    |
| Johnson City, MSA      | \$480,927     | \$240,557       | \$140,131     | \$861,616     | 10   | 1.79       | 2    |
| Kingsport-Bristol, MSA | \$528,416     | \$312,393       | \$148,046     | \$988,855     | 9    | 1.87       | 1    |
| Knoxville, MSA         | \$131,771,947 | \$34,429,525    | \$46,217,340  | \$212,418,812 | 2    | 1.61       | 4    |
| Memphis, MSA           | \$75,226,685  | \$24,294,962    | \$26,789,674  | \$126,311,321 | 3    | 1.68       | 3    |
| Morristown, MSA        | \$1,562,057   | \$564,140       | \$314,817     | \$2,441,014   | 7    | 1.56       | 6    |
| Nashville, MSA         | \$445,212,094 | \$87,301,925    | \$164,092,037 | \$696,606,056 | 1    | 1.56       | 5    |

| County/Congressional | <u> </u> |          |         | Employment   |          |            |         |
|----------------------|----------|----------|---------|--------------|----------|------------|---------|
| District/MSA         | Direct   | Indirect | Induced | Total Impact | Rank     | Multiplier | Rank    |
| Anderson             | 70       | 24       | 10      | 104          | 16       | 1.49       | 39      |
| Bedford              | 16       | 6        | 4       | 26           | 29       | 1.56       | 25      |
| Benton               | 0        | 0        | 0       | 1            | 86       | 1.94       | 2       |
| Bledsoe              | 6        | 1        | 0       | 7            | 57       | 1.26       | 84      |
| Blount               | 19       | 3        | 3       | 26           | 28       | 1.32       | 78      |
| Bradley              | 577      | 131      | 127     | 835          | 4        | 1.45       | 50      |
| Campbell             | 10       | 3        | 1       | 15           | 40       | 1.48       | 41      |
| Cannon               | 3        | 1        | 0       | 4            | 70       | 1.40       | 62      |
| Carroll              | 1        | 1        | 0       | 1            | 77       | 1.76       | 8       |
| Carter               | 3        | 1        | 0       | 4            | 69       | 1.55       | 27      |
| Cheatham             | 143      | 10       | 18      | 171          | 11       | 1.33       | 92      |
| Chester              | 5        |          |         |              | 61       | 1.20       | 72      |
|                      |          | 1        | 1       | 6            |          |            |         |
| Claiborne            | 4        | 2        | 1       | 6            | 63       | 1.56       | 24      |
| Clay                 | 2        | 0        | 0       | 3            | 72       | 1.29       | 81      |
| Cocke                | 8        | 3        | 1       | 12           | 44       | 1.60       | 16      |
| Coffee               | 107      | 29       | 17      | 153          | 13       | 1.42       | 54      |
| Crockett             | 1        | 0        | 0       | 1            | 85       | 1.52       | 29      |
| Cumberland           | 5        | 2        | 1       | 8            | 54       | 1.67       | 12      |
| Davidson             | 3,858    | 671      | 884     | 5,413        | 1        | 1.40       | 61      |
| Decatur              | 14       | 4        | 1       | 18           | 36       | 1.35       | 74      |
| DeKalb               | 7        | 2        | 1       | 10           | 48       | 1.44       | 51      |
| Dickson              | 27       | 8        | 7       | 41           | 22       | 1.53       | 28      |
| Dyer                 | 7        | 3        | 1       | 10           | 47       | 1.58       | 20      |
| Fayette              | 74       | 9        | 8       | 91           | 18       | 1.23       | 89      |
| Fentress             | 4        | 1        | 1       | 6            | 64       | 1.45       | 47      |
| Franklin             | 15       | 4        | 3       | 22           | 31       | 1.47       | 42      |
| Gibson               | 5        | 3        | 1       | 9            | 50       | 1.71       | 9       |
| Giles                | 1        | 1        | 0       | 1            | 77       | 1.78       | 7       |
| Grainger             | 4        | 1        | 0       | 5            | 66       | 1.41       | ,<br>58 |
| Greene               | 9        | 3        | 2       | 13           | 43       | 1.52       | 30      |
| Grundy               | 0        | 0        | 0       | 10           | 89       | 1.88       | 3       |
| Hamblen              | 10       | 4        | 2       | 16           | 38       | 1.59       | 18      |
| Hamilton             | 230      |          | 69      | 335          | 7        |            |         |
|                      |          | 37       |         |              |          | 1.46       | 43      |
| Hancock              | 4        | 1        | 0       | 5            | 65       | 1.32       | 76      |
| Hardeman             | 9        | 3        | 1       | 14           | 41       | 1.45       | 49      |
| Hardin               | 1        | 0        | 0       | 1            | 80       | 1.69       | 10      |
| Hawkins              | 5        | 2        | 1       | 8            | 53       | 1.49       | 37      |
| Haywood              | 6        | 2        | 1       | 8            | 54       | 1.41       | 60      |
| Henderson            | 14       | 3        | 2       | 20           | 35       | 1.37       | 72      |
| Henry                | 1        | 0        | 0       | 1            | 83       | 2.00       | 1       |
| Hickman              | 14       | 4        | 2       | 20           | 34       | 1.39       | 64      |
| Houston              | 1        | 0        | 0       | 1            | 87       | 1.48       | 40      |
| Humphreys            | 30       | 5        | 3       | 38           | 23       | 1.25       | 86      |
| Jackson              | 26       | 4        | 2       | 32           | 26       | 1.23       | 88      |
| Jefferson            | 23       | 7        | 2       | 32           | 27       | 1.41       | 59      |
| Johnson              | 0        | 0        | 0       | 0            | 94       | 1.43       | 53      |
| Knox                 | 1,992    | 424      | 582     | 2,998        | 2        | 1.51       | 35      |
| Lake                 | 28       | 4        | 1       | 33           | 25       | 1.19       | 93      |
| Lauderdale           | 59       | 10       | 5       | 75           | 19       | 1.25       | 85      |
| Lawrence             | 7        | 3        | 1       | 12           | 46       | 1.23       | 15      |
|                      | 37       | 5        | 4       | 46           | 46<br>21 | 1.61       | 90      |
| Lewis                |          |          |         | 46<br>5      |          |            |         |
| Lincoln              | 3        | 1        | 0       |              | 68       | 1.58       | 19      |
| Loudon               | 74       | 16       | 10      | 100          | 17       | 1.35       | 73      |
| Macon                | 27       | 6        | 2       | 36           | 24       | 1.31       | 79      |
| Madison              | 13       | 5        | 4       | 22           | 32       | 1.66       | 13      |

| County/Congressional | _       |           |         | Employment   |          |            |          |
|----------------------|---------|-----------|---------|--------------|----------|------------|----------|
| District/MSA         | Direct  | Indirect  | Induced | Total Impact | Rank     | Multiplier | Ranl     |
| Marion               | - 1     | 0         | 0       | 1            | 87       | 1.65       | 14       |
| Marshall             | 12      | 4         | 2       | 18           | 37       | 1.45       | 46       |
| Maury                | 16      | 5         | 3       | 24           | 30       | 1.51       | 33       |
| McMinn               | 87      | 28        | 15      | 129          | 15       | 1.49       | 38       |
| McNairy              | 1       | 0         | 0       | 1            | 81       | 1.51       | 32       |
| Meigs                | 1       | 0         | 0       | 1            | 75       | 1.27       | 83       |
| Monroe               | 15      | 4         | 2       | 20           | 33       | 1.39       | 66       |
| Montgomery           | 162     | 51        | 42      | 255          | 8        | 1.58       | 21       |
| Moore                | 0       | 0         | 0       | 0            | 92       | 1.39       | 65       |
| Morgan               | 1       | 0         | 0       | 1            | 76       | 1.45       | 48       |
| Obion                | 1       | 1         | 0       | 2            | 74       | 1.86       | 5        |
| Overton              | 123     | 13        | 16      | 152          | 14       | 1.24       | 87       |
| Perry                | 0       | 0         | 0       | 0            | 95       | 0.00       | 95       |
| Pickett              | 0       | 0         | 0       | 0            | 93       | 1.20       | 91       |
| Polk                 | 0       | 0         | 0       | 1            | 91       | 1.38       | 67       |
| Putnam               | 123     | 17        | 29      | 169          | 12       | 1.30       | 67<br>71 |
| Rhea                 | 5       | 17        |         | 7            | 58       | 1.37       | 68       |
| Roane                | 5<br>10 | 3         | 1       | 14           | 58<br>42 | 1.38       | 68<br>70 |
|                      |         |           | 1       |              |          |            |          |
| Robertson            | 33      | 8         | 6       | 47           | 20       | 1.43       | 52       |
| Rutherford           | 433     | 77        | 102     | 612          | 5        | 1.41       | 57       |
| Scott                | 1       | 0         | 0       | 1            | 79       | 1.51       | 34       |
| Sequatchie           | 1       | 0         | 0       | 1            | 82       | 1.69       | 11       |
| Sevier               | 4       | 2         | 1       | 6            | 60       | 1.55       | 26       |
| Shelby               | 1,209   | 362       | 349     | 1,920        | 3        | 1.59       | 17       |
| Smith                | 4       | 1         | 1       | 6            | 62       | 1.42       | 56       |
| Stewart              | 1       | 0         | 0       | 1            | 89       | 1.42       | 55       |
| Sullivan             | 7       | 4         | 2       | 12           | 45       | 1.82       | 6        |
| Sumner               | 392     | 88        | 92      | 572          | 6        | 1.46       | 44       |
| Tipton               | 4       | 2         | 0       | 6            | 59       | 1.52       | 31       |
| Trousdale            | 6       | 1         | 1       | 8            | 56       | 1.29       | 80       |
| Unicoi               | 6       | 2         | 0       | 8            | 51       | 1.34       | 75       |
| Union                | 7       | 2         | 0       | 9            | 49       | 1.28       | 82       |
| Van Buren            | 4       | 1         | 0       | 5            | 67       | 1.18       | 94       |
| Warren               | 9       | 3         | 2       | 15           | 39       | 1.57       | 23       |
| Washington           | 2       | 1         | 1       | 4            | 71       | 1.88       | 4        |
| Wayne                | 1       | 0         | 0       | 1            | 83       | 1.50       | 36       |
| Weakley              | 2       | 1         | 0       | 3            | 73       | 1.57       | 22       |
| White                | 6       | 2         | 1       | 8            | 73<br>52 | 1.46       | 45       |
| Williamson           | 153     | 21        | 36      | 210          | 10       | 1.40       | 69       |
| Wilson               | 155     | 27        | 34      | 216          | 9        | 1.37       | 63       |
|                      | 100     | <i>L1</i> | 04      | 210          | 7        | 1.07       | 00       |
| State                | 11,248  | 2,692     | 4,264   | 18,204       |          | 1.62       |          |
| District 1           | 74      | 31        | 20      | 125          | 9        | 1.69       | 1        |
| District 2           | 2,215   | 414       | 467     | 3,096        | 4        | 1.40       | 4        |
| District 3           | 1,035   | 219       | 201     | 1,455        | 7        | 1.41       | 3        |
| District 4           | 601     | 88        | 73      | 762          | 8        | 1.27       | 6        |
| District 5           | 4,410   | 226       | 206     | 4,842        | 3        | 1.10       | 9        |
| District 6           | 5,246   | 499       | 573     | 6,319        | 1        | 1.20       | 8        |
| District 7           | 4,735   | 477       | 493     | 5,706        | 2        | 1.20       | 7        |
| District 8           | 4,735   | 246       | 165     | 1,876        | 6        | 1.21       | 5        |
|                      |         |           |         |              |          |            |          |
| District 9           | 1,209   | 362       | 349     | 1,920        | 5        | 1.59       | 2        |
| Chattanooga, MSA     | 243     | 39        | 77      | 359          | 5        | 1.48       | 9        |
| Clarksville, MSA     | 162     | 51        | 42      | 255          | 6        | 1.58       | 6        |

| County/Congressional   | Employment |          |         |              |      |            |      |
|------------------------|------------|----------|---------|--------------|------|------------|------|
| District/MSA           | Direct     | Indirect | Induced | Total Impact | Rank | Multiplier | Rank |
| Cleveland, MSA         | 587        | 133      | 129     | 849          | - 4  | 1.45       | 10   |
| Jackson, MSA           | 24         | 10       | 7       | 40           | 8    | 1.70       | 3    |
| Johnson City, MSA      | 10         | 5        | 3       | 17           | 10   | 1.74       | 2    |
| Kingsport-Bristol, MSA | 12         | 6        | 3       | 21           | 9    | 1.79       | 1    |
| Knoxville, MSA         | 2,347      | 522      | 760     | 3,629        | 2    | 1.55       | 8    |
| Memphis, MSA           | 1,323      | 402      | 467     | 2,192        | 3    | 1.66       | 4    |
| Morristown, MSA        | 35         | 13       | 6       | 54           | 7    | 1.55       | 7    |
| Nashville, MSA         | 5,319      | 1,131    | 2,220   | 8,670        | 1    | 1.63       | 5    |
|                        |            |          |         |              |      |            |      |