Tennessee Housing Development Agency

Andrew Jackson Building,
502 Deaderick St., Third Floor Nashville, TN 37243; (615) 815-2200

Impact THDA:
The Economic Impact of THDA Activities on the Tennessee Economy
2020

Prepared by

Hulya Arik, Ph.D.
Tennessee Housing Development Agency
Nashville, TN

DIVISION OF RESEARCH AND PLANNING

EXECUTIVE SUMMARY

Affordable housing's benefits expand beyond those individuals and families who can live in safe, sound, affordable homes thanks to the programs administered by Tennessee Housing Development Agency (THDA). In addition to benefiting individuals and families, THDA's affordable housing programs impact all industries in the economy. Money spent through THDA programs has an economic multiplier effect, or "ripple[1]" effect, that goes far beyond the specific neighborhood or housing unit. The multiplier effect results in the creation of additional jobs, income, and spending in the local economy. The additional economic activity induced by THDA adds to state and local revenues.

In this study, we used a comprehensive framework to estimate the economic impact of THDA activities in providing safe, sound, affordable housing options to households of low- and moderate-income. To this end, we reviewed THDA programs, both loans and grants, to determine the scope and the monetary flows of each program's activities. Affordable housing programs are not limited to subsidies that bring housing costs down to levels low- and moderate-income households can afford. In this economic impact analysis, in addition to subsidy programs such as the Low-Income Housing Credit (LIHC) Program and the Section 8 Rental Housing Programs, we also considered the impacts of programs and policies that reduced housing-related expenses (such as energy costs) and programs that provided sound mortgage products to low- and moderate-income households, programs that provided shelter for homeless and the programs that helped current homeowners keep their homes (such as mortgage assistance and repair/rehab programs).

This study does not assume that THDA was the sole provider of financial resources in those programs administered during 2020. However, THDA plays a critical role in leveraging scarce resources to the programs to help low- and moderate-income households and to increase economic activity in the local economies.

[1] We used the IMPLAN input-output model to calculate these "ripple" effects.

Economic Impact of THDA-Related Activities in 2020

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

Business Revenue

The total contribution of THDA-related activities to Tennessee's economy was estimated at $1.7 billion in 2020.

- Of this total, $848 million was directly injected into the economy by THDA-related activities. Every $100 of THDA-related activities generated an additional $95 in business revenues.

Personal Income

THDA-related activities generated $740 million in wages and salaries in 2020.

- Every $100 of personal income produced an additional $62 of wages and salaries in the local economy.

Employment / Job Creation

THDA-related activities created 12,582 jobs in 2020.

- Every 100 jobs created by THDA-related activities, primarily in the construction sector, generated 67 additional jobs throughout the local economy.

State and Local Taxes

THDA-related activities accounted for $57 million in state and local taxes in 2020.

I. Overview of the THDA Programs and Activities for the Calendar Year 2020

One of the primary ways THDA assists Tennesseans is by offering fixed-rate mortgage loans for low- and moderate-income homebuyers. [2] In addition to helping homebuyers, THDA administers several other housing programs to help Tennessee families who are low- and moderate-income. An overview of the programs included in the economic impact analysis is provided in the THDA Investments and Impacts: 2020, which also provide a comprehensive account of THDA's programs and activities during the calendar year. Furthermore, accompanying interactive maps make it possible to view THDA activities and economic impacts at different geographic levels such as county, congressional district and metropolitan statistical areas (MSAs). Detailed information about each program is also available at www.thda.org.

II. Economic Impact Results

We used 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 the direct, the indirect, and the induced impacts:

- Direct impact is the dollar amount of the initial spending because of the THDA programs and grants. We also report the corresponding direct personal income and employment figures.
- Indirect impact is the economic impact that is generated because of the subsequent rounds of business-to-business transactions in Tennessee's economy. For example, a grantee who receives a grant to repair a critical structural problem for an elderly homeowner buys materials from a supplier who would in turn

[2] 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.

purchase additional material, labor, etc. from other businesses. This spending will create additional rounds of spending in the local and regional economies.

- Induced impact is the economic impact that is generated through employee spending in the economy. A portion of the direct and indirect program spending goes to individuals as wages and salaries. Then, these individuals spend these wages and salaries in the economy depending on their consumption patterns. Each round of spending creates ripple effects in the economy.

We 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 the 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.

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

In this analysis, the social impacts that derive a financial gain for the family and the community are not considered in the economic impact calculation. For example, the health care costs avoided by a beneficiary of the Home Modifications and Ramps program and the resulting value of not having to relocate to a nursing home, increased independence and longevity are not found in these calculations. 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. Similarly, a household that avoids moving into homelessness because of the

Emergency Solutions Grant has an economic impact that may not be easily quantifiable and is not captured by this analysis. Keeping this in mind, with these impacts not included, the estimates presented here are just of direct investments, without looking at the public good by-product of these THDA efforts.

Results

The following table represents the direct, indirect, induced and total impact of THDA-related activities on the Tennessee economy in 2020. The impacts are provided for the employment, labor income and output (business revenue). For each of the economic impact categories, we present the direct, the indirect and the induced impacts, in addition to the total impact and the multiplier (when applicable).

As presented in Table 1, the economic impact of THDA programs and grants was quite substantial. For each of the economic impact categories, we present the direct, the indirect and the induced impacts, in addition to the total impact and the multiplier (when applicable). Total multipliers[3] are also listed in the table. These are calculated by dividing the total impact by the direct effect. In 2020, for every $100 in direct industrial output created through THDA-related activities, an additional $95 in business revenues were generated.

Table 1: The Economic Impact of THDA-Related Activities on Tennessee Economy, 2020 (Dollar figures in millions)

	Direct	Indirect	Induced	Total	Multiplier*
Business Revenue	$848	$326	$483	$1,657	1.95
Personal Income	$456	$114	$170	$740	1.62
Employment	7,540	1,989	3,052	12,582	1.67
State and Local Taxes**	NA	NA	NA	$57	NA

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

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

In 2020, THDA-related activities injected into the economy a total of $848,069,025 in 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

[3] Multipliers are explained in the methodology section of this report in more detail.

this demand, impacted firms in these industries provided 7,540 jobs (fulltime equivalent or FTE) with a collective $455,818,974 in wages and salaries. These figures represent direct impacts of 2020 THDA-related activities.

Next, these same firms required supplies and raw materials, purchasing inputs totaling $326,448,933 from the local economy, which further stimulated 1,989 jobs and $113,989,836 in personal income. When the workers in the direct and indirect sectors converted their paychecks into household spending, they induced $482,555,873 in industrial output from industries that served these households, yielding 3,052 more jobs making $169,882,133 in wages and salaries. Added together, THDA-related activities supported $1.7 billion in area industrial output, $740 million in labor income and 12,582 jobs.

The THDA-related activities also generated sizable tax revenues for state and local governments. The model estimated tax revenues resulting from THDA-related activities at $57 million.

2020 Economic Impact by County, Congressional District and MSA

This analysis also calculates the economic impact of THDA-related activities at the county, Congressional District[4] and Metropolitan Statistical Area (MSA) level, in addition to the 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 results are the estimated impact of THDA activities in those jurisdictions. The economic impact results by county, Congressional District and MSA are shown in the Appendix II.

Every year, economic impact results are driven by the volume and scope of THDA's housing-related activities in various parts of the state that change over time. The changes in the volume and scope of the administered activities during the year change the resulting additional economic activity and jobs created in different regions (counties, metro areas and congressional districts). In 2020, THDA-related economic impacts were

[4] Congressional district boundaries for 2019 are based on the 113th 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.

highest in Davidson County in terms of personal income and business revenue, while Knox County ranked number one in total employment impact. In Davidson County, THDA programs directly injected nearly $253 million into the economy. For every $100 of THDA-related business revenue, an additional $67 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 stayed similar. Sullivan County was the exception, moving from fifth place in all three categories in 2019, to falling out of the top five counties in 2020, while Hamilton County moved to third overall, up from 10th place (in business revenue impact) last year. Although Davidson County lost its first place in total employment impact among counties, the total impacts in all three categories (employment, personal income and business revenue) in 2020 were higher than 2019.

Table 2: Five Counties with the Highest Total Economic Impact in All Categories, 2020

County	Total Employment Impact	Rank	Total Income Impact	Rank	Total Business Revenue Impact	Rank
Knox	3,137	1	$168,804,565	2	$371,107,632	2
Davidson	2,968	2	$234,230,665	1	$421,475,170	1
Hamilton	1,079	3	$58,906,872	3	$139,198,275	3
Shelby	936	4	$50,377,495	4	$115,350,033	4
Rutherford	400	5	$25,814,344	5	$57,565,146	5

THDA's employment multiplier was highest in Sumner County, with 85 jobs being created for every 100 employees directly employed from THDA expenditures. The business revenue multiplier was highest in Knox County, where an additional $92 of economic activity was generated for every $100 of THDA-related economic activities.

In the Nashville MSA, THDA-related activities created 4,348 jobs and generated nearly $330 million in wages and salaries. Every $100 of THDA-related activities generated an additional $93 in business revenues across the MSA.

III. Methodology

When THDA helps a low- or moderate-income borrower buy a home or provides some relief to a cost-burdened renter, this affects the life of that person and overall society in several ways.[5] In addition to the benefits reaped by individuals and society, spending in the process of providing affordable housing generates business revenues, incomes and jobs in the communities.[6]

The Low-Income Housing Credit program, for example, illustrates the broader impacts of affordable housing. One additional low-income housing unit built with the incentive created through the tax credit will house a low-income household. This is an important contribution to the well-being of that family who will be paying less for housing. This reduces the cost burden to renters and frees up 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, creating business revenue and income for other people in the region. In the process, there will be some leakage. That is, some money will go to savings instead of being spent, some will go to taxes and fees, some will go to the vendors located outside the local economy, and so on. However, the portion staying in the local economy will continue to circulate and support additional rounds of spending until there is no more.

The sum of all these rounds of spending is represented by an "economic multiplier." In economic impact models, multipliers measure the secondary effects of initial spending on local economies. Initial new spending in a local economy creates

[5] For more information about health benefits of affordable housing see: Cohen, R. (2011). "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. (2011). "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.

[6] To learn more about the economic impact of affordable housing, see, for example, Beyond Units: Economic Benefits of Federal Home Loan Bank (FHLB) of Atlanta's Affordable Housing Program (2010). The Hendrickson Company in conjunction with The Shimberg Center for Housing Studies, University of Florida, on behalf of FHLB of Atlanta; The Metro Area Impact of Home Building in Shelby County, TN: Income, Jobs and Taxes Generated. (2010), National Association of Homebuilders; Wood, J. A. (2004), Economic Impact Of Affordable Housing: New Construction, Rehabilitation And Assistance Programs, Retrieved March 2010, from Utah Housing Coalition website: http://www.utahhousing.org/documents/Econ_impact_study05.pdf ; and Assessing the Economic Benefits of Public Housing, Econsult Corporation, Retrieved March 2010, from The Council of Large Public Housing Authorities website: http://www.clpha.org/uploads/final_report_1.pdf

many rounds of subsequent spending within the region's economy and multipliers capture those rounds of spending.

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. Indirect impact occurs when the suppliers spend money on additional materials and hire new workers to complete the orders from the builders/developers. Finally, the employees in construction companies and in the industries related to the construction sector 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 versus from outside sources. Imports[7] are spills/leakages from the local economy as income is sent outside rather than recirculating 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 because households and business can 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

[7] 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.

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. Those are the factors such as 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 and relies more on locally available labor force than capital, which is mostly imported from neighboring regions. New construction is more capital intensive. Therefore rehabilitation activities will have larger induced impacts than new construction.

Another factor that will impact the size of the multiplier is whether the sector specific multipliers are reported or an average multiplier is reported. When a single multiplier is reported for a region for all 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 initial spending is made in an industry with a high multiplier, can have a larger aggregate spending multiplier than another larger county in which the additional initial spending is disbursed across different sectors with varying multiplier values. In this case, the small county with a relatively low industrial base might have a larger multiplier than the large county. For example, in 2020, 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 in the county is calculated, the employment multiplier 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.

IV. Conclusion

THDA programs provide significant investments in each of the 95 counties of Tennessee. THDA's affordable housing programs provide low- and moderate-income individuals and families services ranging from single-family mortgage loans to Low Income Housing Credits that create new or renovate existing multifamily housing units and provide rental subsidies. Additionally, THDA helps to improve housing costs and conditions by reducing the housing-related expenses such as energy costs and home modifications. In this economic impact analysis, we included all available programs during the year.

THDA's programs are not only helping to fill the housing needs and gaps in communities across the state; the construction, real estate and programmatic investments provide true investments that multiply their benefit throughout the local, regional and state economies. The total contribution of THDA-related activities to Tennessee's economy was estimated at $1.7 billion in 2020. For every $100 spent by THDA and the grantees, an additional $95 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 $57 million in state and local taxes in 2020.

APPENDIX I

ASSUMPTIONS

THDA programs vary in nature from increasing the affordable housing stock by creating new rental and ownership units, to renovating the existing units, to helping individuals become first time homeowners, and to helping households pay an affordable 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 development 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.

This section explains the assumptions made for each 2020 program in calculation of economic impacts.[8]

Single Family Mortgage Loan Program

THDA mortgages can be used to purchase a new or an existing home. 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 make a direct contribution to the regional economy, based on the cost of the construction. Therefore, we input the construction cost of building those new homes into the model. The cost of land acquisition is removed from the final price of the house because land costs are not part of the construction spending, and it does not create a multiplier effect like construction spending. For IMPLAN, the purchase of land for building a new home is an asset exchange. There will not be a net change in the economy. To determine the average value of land in home prices for single-family homes, we used the home sales price data, which THDA annually compiles from the Comptroller's Office. Using these data, we determined the land value, on average, as percent of total sales price in each county. Then we applied this percent to the average price of new homes purchased by THDA borrowers in each county.

[8] For more information about description of THDA Programs administered during 2020, please see Investments and Impacts

Like the purchase of land for new home construction, the purchase of an existing home does not create a multiplier effect either because the transaction does not represent a new production.[9] However, the fees and commissions paid in the home purchase process are included in the impact analysis. We looked 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). This is done for all mortgages whether it is for a new or an existing home purchase.

Individuals and families who purchased a home through the THDA Single Family Mortgage Loan Program are almost exclusively new homeowners, but they may not be new to the region. In many cases, they will not bring new spending to the region that was not there before. Therefore, to conservatively estimate the impact of the program, we do not add their spending as new homeowners to the local economy. However, homeowners' spending patterns are different than renters' spending. To address the differences in spending patterns, we subtracted the new homeowners' spending when they were renters and added to the sectors they would spend as homeowners. The Bureau of Labor Statistics (BLS) surveys individuals to determine their spending habits and those are published regularly in the Consumer Expenditure Survey (CES). The aggregate tables provide spending patterns of renter and homeowners (with and without mortgage payments). To determine the change in the spending pattern of THDA borrowers after they became new homeowners, we used these consumer expenditure surveys. We determined the sectors in which homeowners and renters spend their income, excluding the housing related expenditures from both groups. For the income, we used the average income of the THDA borrowers in all homeownership programs.

Low Income Housing Credit (LIHC) and Multifamily Bond Authority

[9] 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.

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 used the total cost of construction rather than the tax credit allocations developers receive.

There is a lag time between the allocation of the Low Income Housing Credit and the start-up of the housing developments. Therefore, to determine the impact of 2020 activities, we cannot use the 2020 LIHC allocations.

Most spending related to 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.

In 2019, THDA "exchanged" 2017 and 2018 tax credit allocations for 2019 allocations. This technique allowed developers to extend the carryover period and further delay their placed in service deadlines in order to take advantage of more favorable market conditions for syndication of the tax credit. These transactions are now considered to be 2019 transactions. The initial 20 percent of costs for several developments originally receiving allocations in 2017 were already included in 2018 economic impact calculations. Since our economic impact calculations are for a single year, and not cumulative, carryovers will not change THDA's economic impact in 2020, and we will wait until 2021 and count the remaining 20 percent of their total development cost. There were also several 2018 original deals that exchanged for 2019 allocation. They were not included in any economic impact calculations yet. We included 20 percent of their development cost in 2020 and, the remaining 80 percent will be part of 2021 economic impact.

We have detailed cost data such as the land value, the site work, the architectural and engineering fees, and the financing fee expenses for the rental developments built

with the LIHC allocations. The rest of the spending related to building multifamily units is distributed into the appropriate sectors in IMPLAN.

Multifamily bond authority deals can apply for noncompetitive LIHC and their impact is calculated the same as LIHC deals. We assume, similar to the LIHC developments, that without the 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 projects to complete the project and place in service, while for the new construction projects, they have two years. Therefore, we used the 2019 allocations for the multifamily tax exempt bond authority developments.

Section 8 Rental Assistance

Both the tenant-based housing choice vouchers and project-based rental assistance help renters pay affordable rent. The rent savings are treated as an increase in disposable income. We assume that renters spend the money for the consumption of goods and services that they would otherwise use for paying rent. Money is distributed among the sectors based on household spending patterns in the IMPLAN model.

The economic impact of the rental assistance programs presented here is a conservative figure, including only an estimate of the household spending impacts related to the rental assistance benefits. To determine the impact the rental subsidy has on household spending, this analysis estimates the annual difference between the income available after paying gross rent without a rental subsidy and the income available after paying gross rent with a rental subsidy. The gross rent that would be paid by THDA rental assistance participants if they did not receive a rental subsidy was estimated by using the most recent Bureau of Labor Statistics U.S. Consumer Expenditure Survey for shelter and select utilities. This percent was applied to the average gross income of rental assistance participants in 2020.

The gross rent with rental subsidy was calculated by using the average statewide total tenant payment after subsidy for the two programs. The estimated difference was then multiplied by the number of participants in the programs during 2019. This method

of calculating rent saving through the rental assistance program is similar to the 2011 City of Norfolk HCV Economic Impact study.[10]

Community Investment Tax Credit (CITC)

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

Tennessee's Housing Trust Fund

THDA's Housing Trust Fund grants require matching funds from the grantees. Those matching funds can come from different sources. The assumption is made 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. To address the multi-year grants, we used 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

[10] City of Norfolk Economic Impacts of the NRHA Housing Choice Voucher Program. (2011), Retrieved on March 2015 from Norfolk Redevelopment and Housing Authority website: http://www.nrha.us/sites/default/files/Study-2-HCV.pdf

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 was 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.

The Low Income Home Energy Assistance Program (LIHEAP)

The LIHEAP provides assistance to the families by paying their energy bill. The calculations are based on the assumption that the energy assistance helps them heat and cool their homes while freeing their energy budget to spend on other necessities like food, rent, education, health and so on. Therefore, we distributed the assistance amount provided into the sectors related to those consumption goods and services.

APPENDIX II

ECONOMIC IMPACT RESULTS

2020

	Business Revenue[11]						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Anderson	$11,529,417	$3,360,359	$2,548,061	$17,437,837	10	1.51	36
Bedford	$2,056,661	$682,120	$458,244	$3,197,025	27	1.55	23
Benton	$217,815	$62,218	$32,163	$312,196	79	1.43	58
Bledsoe	$119,221	$31,045	$8,085	$158,351	90	1.33	79
Blount	$1,615,935	$704,524	$407,260	$2,727,718	33	1.69	7
Bradley	$11,078,075	$2,741,412	$4,092,970	$17,912,456	9	1.62	16
Campbell	$1,974,324	$523,914	$416,928	$2,915,165	31	1.48	44
Cannon	$2,490,242	$466,976	$349,588	$3,306,806	26	1.33	80
Carroll	$308,721	$69,039	$53,857	$431,617	72	1.40	66
Carter	$529,301	$155,435	$85,985	$770,721	63	1.46	48
Cheatham	$1,375,077	$296,912	$231,350	$1,903,339	37	1.38	67
Chester	$165,335	$44,479	$23,669	$233,483	86	1.41	64
Claiborne	$2,107,045	$632,558	$357,375	$3,096,977	28	1.47	46
Clay	$204,035	$32,575	$20,397	$257,006	84	1.26	90
Cocke	$2,790,641	$711,438	$524,081	$4,026,160	23	1.44	55
Coffee	$1,168,890	$386,067	$280,579	$1,835,537	39	1.57	21
Crockett	$171,978	$50,962	$22,367	$245,307	85	1.43	62
Cumberland	$938,143	$374,955	$238,473	$1,551,571	43	1.65	10
Davidson	$252,970,073	$65,815,631	$102,689,465	$421,475,170	1	1.67	9
Decatur	$104,068	$21,988	$13,049	$139,106	92	1.34	77
DeKalb	$1,359,451	$289,883	$224,451	$1,873,785	38	1.38	68
Dickson	$2,472,666	$629,152	$745,319	$3,847,137	24	1.56	22
Dyer	$680,439	$194,022	$140,634	$1,015,096	56	1.49	42
Fayette	$760,955	$213,599	$124,084	$1,098,637	53	1.44	54
Fentress	$3,250,419	$1,063,820	$519,891	$4,834,130	20	1.49	43

[11] Footnote: THDA spending in the programs administered in each county during the year that led to these impacts can be found at THDA Investments and Impacts: 2020 and Investments and Impacts: Interactive Map

	Business Revenue[11]						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Franklin	$773,810	$227,240	$196,626	$1,197,676	52	1.55	25
Gibson	$1,826,991	$632,402	$356,254	$2,815,646	32	1.54	29
Giles	$594,808	$205,734	$121,421	$921,964	58	1.55	24
Grainger	$1,039,876	$195,419	$107,569	$1,342,863	46	1.29	89
Greene	$5,896,370	$1,954,856	$1,240,925	$9,092,151	15	1.54	28
Grundy	$778,975	$177,215	$96,535	$1,052,725	54	1.35	72
Hamblen	$2,181,867	$834,620	$487,640	$3,504,127	25	1.61	17
Hamilton	$78,538,114	$30,334,543	$30,325,619	$139,198,275	3	1.77	3
Hancock	$252,451	$66,427	$18,743	$337,621	77	1.34	76
Hardeman	$251,532	$56,769	$29,950	$338,251	76	1.34	73
Hardin	$1,128,952	$408,515	$181,970	$1,719,437	41	1.52	33
Hawkins	$947,454	$232,941	$150,830	$1,331,225	47	1.41	65
Haywood	$305,820	$117,052	$21,996	$444,868	71	1.45	49
Henderson	$282,287	$94,393	$49,731	$426,411	74	1.51	38
Henry	$1,052,772	$328,499	$210,293	$1,591,565	42	1.51	37
Hickman	$778,494	$172,216	$93,496	$1,044,206	55	1.34	74
Houston	$77,868	$18,063	$8,421	$104,351	94	1.34	75
Humphreys	$540,309	$123,270	$79,418	$742,997	64	1.38	69
Jackson	$639,026	$133,953	$57,151	$830,130	61	1.30	87
Jefferson	$2,821,061	$755,139	$663,321	$4,239,521	22	1.50	39
Johnson	$2,322,144	$507,141	$222,584	$3,051,869	29	1.31	83
Knox	$193,763,094	$70,737,645	$106,606,893	$371,107,632	2	1.92	1
Lake	$226,502	$51,121	$22,959	$300,582	81	1.33	81
Lauderdale	$432,819	$188,504	$70,383	$691,707	65	1.60	18
Lawrence	$921,996	$265,787	$214,002	$1,401,785	45	1.52	34
Lewis	$952,182	$326,343	$143,514	$1,422,039	44	1.49	41
Lincoln	$439,098	$133,915	$57,835	$630,848	69	1.44	57

	Business Revenue[11]						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Loudon	$1,399,250	$502,885	$309,476	$2,211,611	36	1.58	20
Macon	$1,163,692	$392,524	$226,774	$1,782,990	40	1.53	31
Madison	$2,997,082	$1,183,012	$679,311	$4,859,404	19	1.62	15
Marion	$456,487	$132,601	$74,829	$663,916	67	1.45	50
Marshall	$9,694,036	$2,761,948	$1,602,139	$14,058,123	13	1.45	51
Maury	$10,045,223	$1,977,322	$3,432,163	$15,454,707	11	1.54	30
McMinn	$591,896	$206,762	$117,044	$915,702	59	1.55	26
McNairy	$230,382	$49,191	$28,221	$307,794	80	1.34	78
Meigs	$508,181	$78,075	$46,051	$632,307	68	1.24	92
Monroe	$531,049	$176,154	$90,112	$797,314	62	1.50	40
Montgomery	$15,975,033	$4,448,525	$5,871,766	$26,295,325	6	1.65	12
Moore	$1,111,920	$117,525	$96,599	$1,326,044	48	1.19	94
Morgan	$129,102	$30,897	$9,323	$169,322	88	1.31	85
Obion	$895,986	$276,334	$124,403	$1,296,723	51	1.45	53
Overton	$1,827,507	$484,436	$323,982	$2,635,925	34	1.44	56
Perry	$107,648	$18,772	$14,884	$141,304	91	1.31	84
Pickett	$1,710,025	$349,649	$284,682	$2,344,357	35	1.37	71
Polk	$1,021,485	$200,732	$101,381	$1,323,598	49	1.30	88
Putnam	$11,245,079	$4,010,540	$3,052,392	$18,308,011	8	1.63	14
Rhea	$464,263	$133,689	$67,311	$665,263	66	1.43	59
Roane	$636,015	$244,327	$91,853	$972,195	57	1.53	32
Robertson	$8,818,315	$1,998,006	$2,192,724	$13,009,045	14	1.48	45
Rutherford	$35,163,361	$8,293,830	$14,107,956	$57,565,146	5	1.64	13
Scott	$260,024	$49,921	$34,720	$344,665	75	1.33	82
Sequatchie	$220,969	$66,128	$33,243	$320,340	78	1.45	52
Sevier	$14,416,292	$3,242,065	$5,163,271	$22,821,628	7	1.58	19
Shelby	$63,728,235	$23,865,051	$27,756,747	$115,350,033	4	1.81	2

	Business Revenue[11]						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Smith	$181,425	$58,748	$25,518	$265,691	83	1.46	47
Stewart	$85,526	$25,641	$6,387	$117,554	93	1.37	70
Sullivan	$2,789,389	$1,139,579	$899,335	$4,828,303	21	1.73	5
Sumner	$8,561,921	$3,189,852	$3,196,210	$14,947,982	12	1.75	4
Tipton	$577,455	$216,273	$82,885	$876,613	60	1.52	35
Trousdale	$299,808	$91,535	$38,168	$429,512	73	1.43	60
Unicoi	$225,836	$43,033	$26,567	$295,436	82	1.31	86
Union	$138,299	$15,594	$14,100	$167,992	89	1.21	93
Van Buren	$69,708	$10,115	$3,139	$82,962	95	1.19	95
Warren	$1,945,087	$655,321	$406,736	$3,007,144	30	1.55	27
Washington	$3,861,583	$1,183,177	$1,549,287	$6,594,046	17	1.71	6
Wayne	$172,240	$24,217	$17,985	$214,442	87	1.25	91
Weakley	$368,744	$96,284	$59,525	$524,553	70	1.42	63
White	$917,082	$245,181	$146,411	$1,308,673	50	1.43	61
Williamson	$4,779,833	$1,494,444	$1,717,171	$7,991,449	16	1.67	8
Wilson	$3,392,575	$1,253,779	$961,429	$5,607,784	18	1.65	11
State	$848,069,025	$326,448,933	$482,555,873	$1,657,073,831		1.95	
Congressional District 1	$42,406,138	$13,791,526	$15,928,616	$72,126,280	8	1.70	5
Congressional District 2	$202,489,141	$76,275,028	$112,769,399	$391,533,569	2	1.93	1
Congressional District 3	$102,665,554	$37,238,553	$36,891,851	$176,795,958	3	1.72	4
Congressional District 4	$76,680,237	$19,151,076	$26,216,692	$122,048,004	5	1.59	9
Congressional District 5	$254,976,861	$66,764,615	$108,918,821	$430,660,296	1	1.69	6
Congressional District 6	$48,600,618	$15,667,727	$15,064,513	$79,332,858	7	1.63	8
Congressional District 7	$39,283,004	$11,147,578	$14,766,264	$65,196,846	9	1.66	7
Congressional District 8	$77,086,708	$28,944,329	$33,371,198	$139,402,235	4	1.81	3

	Business Revenue[11]						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Congressional District 9	$63,728,235	$23,865,051	$27,756,747	$115,350,033	6	1.81	2
Chattanooga, MSA	$78,573,984	$30,602,252	$30,529,318	$139,705,554	3	1.78	4
Clarksville, MSA	$15,975,033	$4,448,525	$5,871,766	$26,295,325	5	1.65	6
Cleveland, MSA	$12,061,222	$2,906,108	$4,296,548	$19,263,878	6	1.60	7
Jackson, MSA	$4,775,628	$1,539,665	$1,287,167	$7,602,460	9	1.59	9
Johnson City, MSA	$4,889,363	$1,370,994	$1,800,628	$8,060,985	8	1.65	5
Kingsport-Bristol, MSA	$3,772,115	$1,139,185	$1,094,817	$6,006,117	10	1.59	8
Knoxville, MSA	$211,950,487	$83,367,138	$116,687,200	$412,004,825	2	1.94	1
Memphis, MSA	$65,614,386	$24,329,038	$30,234,046	$120,177,470	4	1.83	3
Morristown, MSA	$6,185,477	$1,659,674	$1,587,851	$9,433,003	7	1.53	10
Nashville, MSA	$331,691,081	$105,851,621	$202,407,115	$639,949,817	1	1.93	2

	Personal Income						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Anderson	$5,074,300	$1,285,847	$832,799	$7,192,946	10	1.42	43
Bedford	$793,716	$197,103	$134,986	$1,125,806	25	1.42	42
Benton	$61,946	$14,285	$7,951	$84,182	79	1.36	51
Bledsoe	$26,920	$6,314	$1,399	$34,633	92	1.29	77
Blount	$529,754	$207,867	$131,322	$868,944	31	1.64	2
Bradley	$6,080,478	$869,634	$1,359,565	$8,309,676	8	1.37	50
Campbell	$747,480	$142,839	$114,410	$1,004,728	28	1.34	58
Cannon	$911,272	$122,857	$74,700	$1,108,829	26	1.22	91
Carroll	$91,958	$18,388	$15,531	$125,876	72	1.37	49
Carter	$156,951	$44,531	$25,022	$226,505	62	1.44	32
Cheatham	$575,310	$84,374	$54,983	$714,668	36	1.24	89
Chester	$50,623	$9,863	$6,095	$66,580	84	1.32	68
Claiborne	$612,107	$179,622	$105,047	$896,776	30	1.47	28
Clay	$44,796	$8,074	$4,543	$57,413	87	1.28	78
Cocke	$970,526	$204,206	$141,151	$1,315,883	23	1.36	52
Coffee	$416,281	$122,997	$90,670	$629,949	39	1.51	18
Crockett	$47,767	$11,651	$6,672	$66,089	85	1.38	47
Cumberland	$305,441	$99,934	$67,701	$473,076	42	1.55	9
Davidson	$167,215,831	$26,308,324	$40,706,511	$234,230,665	1	1.40	45
Decatur	$31,844	$5,969	$3,424	$41,236	89	1.29	74
DeKalb	$466,700	$99,911	$65,124	$631,735	38	1.35	56
Dickson	$1,164,169	$196,334	$242,340	$1,602,843	22	1.38	48
Dyer	$225,149	$56,689	$44,331	$326,169	54	1.45	30
Fayette	$308,695	$61,810	$31,151	$401,657	48	1.30	73
Fentress	$787,682	$317,976	$155,823	$1,261,480	24	1.60	4

	Personal Income						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Franklin	$296,926	$64,774	$61,686	$423,385	46	1.43	36
Gibson	$572,674	$172,453	$97,813	$842,940	32	1.47	26
Giles	$196,300	$49,478	$34,226	$280,004	57	1.43	35
Grainger	$305,713	$60,060	$22,370	$388,143	49	1.27	83
Greene	$1,793,504	$578,486	$368,265	$2,740,255	16	1.53	13
Grundy	$231,065	$43,790	$20,114	$294,969	55	1.28	79
Hamblen	$692,265	$227,397	$162,849	$1,082,510	27	1.56	7
Hamilton	$36,689,777	$11,451,364	$10,765,731	$58,906,872	3	1.61	3
Hancock	$57,536	$10,467	$3,831	$71,834	83	1.25	88
Hardeman	$64,252	$13,533	$7,315	$85,099	78	1.32	66
Hardin	$264,084	$108,769	$48,665	$421,518	47	1.60	5
Hawkins	$338,409	$63,291	$39,006	$440,707	44	1.30	72
Haywood	$77,484	$26,138	$4,972	$108,594	74	1.40	44
Henderson	$88,999	$24,362	$13,223	$126,584	71	1.42	39
Henry	$342,171	$108,386	$61,432	$511,990	41	1.50	21
Hickman	$216,862	$49,072	$22,303	$288,236	56	1.33	64
Houston	$21,450	$4,605	$1,974	$28,028	93	1.31	71
Humphreys	$203,144	$33,838	$20,403	$257,386	60	1.27	84
Jackson	$157,761	$31,373	$11,277	$200,411	65	1.27	80
Jefferson	$1,207,250	$214,973	$186,350	$1,608,573	21	1.33	62
Johnson	$535,233	$129,968	$46,491	$711,692	37	1.33	63
Knox	$105,882,555	$25,961,697	$36,960,313	$168,804,565	2	1.59	6
Lake	$57,644	$12,746	$5,285	$75,675	81	1.31	69
Lauderdale	$124,098	$41,632	$18,277	$184,007	68	1.48	23
Lawrence	$329,778	$76,533	$62,008	$468,319	43	1.42	40
Lewis	$243,496	$88,928	$37,584	$370,008	52	1.52	15

	Personal Income						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Lincoln	$123,607	$37,079	$14,834	$175,521	69	1.42	41
Loudon	$519,316	$134,306	$86,107	$739,728	34	1.42	38
Macon	$407,116	$115,746	$58,410	$581,272	40	1.43	34
Madison	$1,092,447	$343,869	$213,865	$1,650,182	19	1.51	20
Marion	$148,969	$34,172	$18,525	$201,666	64	1.35	55
Marshall	$3,614,545	$806,438	$399,196	$4,820,179	14	1.33	60
Maury	$5,711,251	$631,796	$1,018,311	$7,361,358	9	1.29	75
McMinn	$171,008	$58,236	$33,879	$263,123	59	1.54	10
McNairy	$61,387	$9,982	$6,593	$77,963	80	1.27	81
Meigs	$158,272	$19,451	$9,915	$187,638	67	1.19	93
Monroe	$137,584	$45,338	$24,965	$207,887	63	1.51	19
Montgomery	$8,812,568	$1,316,476	$1,750,038	$11,879,081	6	1.35	57
Moore	$380,455	$26,924	$20,396	$427,775	45	1.12	95
Morgan	$27,341	$7,040	$1,862	$36,243	91	1.33	65
Obion	$253,968	$84,618	$35,273	$373,858	51	1.47	25
Overton	$500,208	$131,347	$94,776	$726,331	35	1.45	29
Perry	$31,208	$3,795	$4,090	$39,093	90	1.25	86
Pickett	$599,059	$113,667	$88,788	$801,515	33	1.34	59
Polk	$280,507	$49,212	$21,971	$351,690	53	1.25	85
Putnam	$4,289,185	$1,328,651	$962,519	$6,580,355	11	1.53	12
Rhea	$142,556	$34,040	$16,672	$193,268	66	1.36	53
Roane	$182,567	$67,260	$26,573	$276,400	58	1.51	17
Robertson	$4,381,361	$618,017	$563,943	$5,563,322	13	1.27	82
Rutherford	$18,508,061	$2,853,129	$4,453,155	$25,814,344	5	1.39	46
Scott	$68,230	$11,076	$8,608	$87,915	77	1.29	76
Sequatchie	$72,961	$15,225	$8,041	$96,227	76	1.32	67

	Personal Income						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Sevier	$8,337,385	$1,030,794	$1,556,366	$10,924,545	7	1.31	70
Shelby	$32,423,021	$8,302,870	$9,651,604	$50,377,495	4	1.55	8
Smith	$50,611	$16,179	$6,293	$73,084	82	1.44	31
Stewart	$19,729	$5,309	$1,270	$26,307	94	1.33	61
Sullivan	$980,236	$350,001	$298,876	$1,629,113	20	1.66	1
Sumner	$3,826,219	$1,021,321	$1,031,296	$5,878,835	12	1.54	11
Tipton	$161,016	$54,640	$21,312	$236,968	61	1.47	27
Trousdale	$78,313	$23,978	$10,447	$112,737	73	1.44	33
Unicoi	$79,461	$11,984	$6,544	$97,988	75	1.23	90
Union	$39,661	$4,927	$2,942	$47,530	88	1.20	92
Van Buren	$13,925	$1,554	$433	$15,912	95	1.14	94
Warren	$604,019	$179,599	$117,963	$901,581	29	1.49	22
Washington	$1,712,434	$382,767	$513,721	$2,608,921	17	1.52	14
Wayne	$47,134	$7,242	$4,571	$58,947	86	1.25	87
Weakley	$111,587	$23,695	$15,977	$151,259	70	1.36	54
White	$265,637	$71,224	$41,748	$378,610	50	1.43	37
Williamson	$2,554,932	$586,794	$736,089	$3,877,815	15	1.52	16
Wilson	$1,423,496	$383,460	$295,662	$2,102,618	18	1.48	24
State	$455,818,974	$113,989,836	$169,882,133	$739,690,942		1.62	
Congressional District 1	$18,635,452	$4,368,858	$5,119,885	$28,124,195	9	1.51	5
Congressional District 2	$107,175,042	$26,736,525	$38,193,422	$172,104,989	2	1.61	1
Congressional District 3	$46,615,673	$13,419,927	$12,346,408	$72,382,008	3	1.55	4
Congressional District 4	$38,564,972	$6,230,896	$7,907,094	$52,702,962	5	1.37	9
Congressional District 5	$167,820,421	$26,483,100	$42,863,722	$237,167,243	1	1.41	8

	Personal Income						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Congressional District 6	$20,227,044	$5,096,010	$4,565,919	$29,888,974	8	1.48	6
Congressional District 7	$21,249,773	$3,974,452	$5,426,983	$30,651,209	7	1.44	7
Congressional District 8	$37,172,385	$9,732,743	$11,221,272	$58,126,400	4	1.56	2
Congressional District 9	$32,423,021	$8,302,870	$9,651,604	$50,377,495	6	1.55	3
Chattanooga, MSA	$36,199,417	$11,351,562	$10,692,369	$58,243,348	3	1.61	2
Clarksville, MSA	$8,812,568	$1,316,476	$1,750,038	$11,879,081	5	1.35	10
Cleveland, MSA	$6,458,538	$941,551	$1,410,029	$8,810,117	6	1.36	9
Jackson, MSA	$1,827,121	$458,920	$404,096	$2,690,137	9	1.47	7
Johnson City, MSA	$2,084,773	$446,372	$588,248	$3,119,393	8	1.50	6
Kingsport-Bristol, MSA	$1,375,519	$368,340	$356,497	$2,100,356	10	1.53	5
Knoxville, MSA	$111,364,438	$29,583,812	$39,519,107	$180,467,357	2	1.62	1
Memphis, MSA	$33,312,428	$8,440,300	$10,452,334	$52,205,063	4	1.57	3
Morristown, MSA	$2,363,440	$502,147	$489,981	$3,355,569	7	1.42	8
Nashville, MSA	$208,685,893	$39,656,255	$77,145,547	$325,487,695	1	1.56	4

	Employment						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Anderson	118	24	18	160	10	1.36	70
Bedford	14	5	3	23	28	1.60	10
Benton	2	1	0	3	76	1.36	69
Bledsoe	1	0	0	1	91	1.43	52
Blount	12	5	3	20	32	1.65	6
Bradley	123	24	31	178	8	1.45	49
Campbell	16	5	3	24	26	1.47	40
Cannon	17	4	3	23	27	1.39	63
Carroll	3	1	0	4	72	1.33	79
Carter	5	1	1	6	61	1.39	61
Cheatham	10	2	2	13	40	1.41	56
Chester	2	0	0	2	83	1.40	58
Claiborne	14	5	3	21	31	1.52	25
Clay	2	0	0	2	83	1.24	91
Cocke	21	6	4	31	23	1.48	36
Coffee	9	3	2	14	36	1.53	23
Crockett	1	0	0	2	87	1.42	54
Cumberland	8	3	2	12	43	1.62	9
Davidson	2,038	366	565	2,968	2	1.46	47
Decatur	1	0	0	1	90	1.38	67
DeKalb	10	2	2	14	37	1.37	68
Dickson	16	5	6	27	24	1.65	5
Dyer	6	2	1	8	55	1.49	34
Fayette	6	2	1	9	54	1.39	60
Fentress	24	9	4	36	20	1.53	24

	Employment						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Franklin	6	2	1	9	51	1.53	22
Gibson	13	5	3	20	33	1.57	15
Giles	5	2	1	7	56	1.50	30
Grainger	7	2	1	10	49	1.36	71
Greene	57	16	10	83	15	1.46	44
Grundy	8	2	1	10	47	1.30	85
Hamblen	15	6	4	25	25	1.62	8
Hamilton	677	199	203	1,079	3	1.60	12
Hancock	2	1	0	3	79	1.39	62
Hardeman	2	0	0	3	78	1.33	79
Hardin	9	3	1	14	39	1.47	39
Hawkins	9	2	1	11	44	1.34	77
Haywood	2	1	0	4	73	1.46	46
Henderson	3	1	0	4	71	1.34	74
Henry	7	2	2	11	45	1.53	20
Hickman	5	1	1	7	56	1.38	65
Houston	1	0	0	1	93	1.33	78
Humphreys	4	1	1	5	65	1.35	72
Jackson	4	1	0	6	64	1.41	57
Jefferson	23	6	5	34	22	1.49	35
Johnson	17	4	2	22	30	1.33	83
Knox	1,984	452	701	3,137	1	1.58	14
Lake	2	0	0	3	79	1.25	88
Lauderdale	3	1	1	5	68	1.60	11
Lawrence	7	2	2	11	46	1.46	45

	Employment						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Lewis	7	3	1	10	48	1.55	19
Lincoln	3	1	0	5	68	1.41	55
Loudon	10	4	2	16	35	1.57	16
Macon	9	3	2	14	37	1.45	50
Madison	23	8	5	36	21	1.57	17
Marion	4	1	1	5	65	1.38	64
Marshall	76	24	12	112	12	1.47	37
Maury	89	16	26	131	11	1.46	41
McMinn	5	2	1	7	59	1.53	21
McNairy	2	0	0	3	79	1.25	88
Meigs	4	1	0	5	67	1.23	92
Monroe	4	1	1	6	62	1.46	42
Montgomery	150	31	44	225	7	1.50	32
Moore	8	1	1	10	50	1.20	94
Morgan	1	0	0	1	88	1.33	79
Obion	6	2	1	9	51	1.46	43
Overton	13	4	2	19	34	1.47	38
Perry	1	0	0	1	88	1.33	79
Pickett	9	3	2	13	40	1.51	29
Polk	11	2	1	13	42	1.22	93
Putnam	108	32	23	163	9	1.51	27
Rhea	4	1	1	6	63	1.43	53
Roane	5	2	1	7	56	1.44	51
Robertson	68	15	16	99	13	1.46	48
Rutherford	242	60	99	400	5	1.66	4

	Employment						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Scott	2	0	0	3	77	1.32	84
Sequatchie	3	1	0	3	75	1.28	87
Sevier	178	23	38	238	6	1.34	76
Shelby	601	149	185	936	4	1.56	18
Smith	1	0	0	2	85	1.38	65
Stewart	1	0	0	1	92	1.50	30
Sullivan	22	8	7	37	19	1.63	7
Sumner	52	22	22	97	14	1.85	1
Tipton	4	2	1	7	60	1.51	26
Trousdale	3	1	0	4	73	1.35	73
Unicoi	2	0	0	3	79	1.25	88
Union	1	0	0	1	94	1.40	59
Van Buren	1	0	0	1	95	1.20	94
Warren	14	5	3	22	29	1.58	13
Washington	41	9	12	61	16	1.49	33
Wayne	1	0	0	2	85	1.29	86
Weakley	4	1	1	5	70	1.34	75
White	6	2	1	9	53	1.51	28
Williamson	26	9	9	44	17	1.69	3
Wilson	22	9	7	38	18	1.72	2
State	7,540	1,989	3,052	12,582		1.67	
Congressional District 1	427	99	120	646	7	1.51	8
Congressional District 2	2,066	493	748	3,307	1	1.60	2

	Employment						
County/District/MSA	**Direct**	**Indirect**	**Induced**	**Total Impact**	**Rank**	**Multiplier**	**Rank**
Congressional District 3	921	253	252	1,425	3	1.55	5
Congressional District 4	636	147	189	972	5	1.53	7
Congressional District 5	2,067	377	608	3,052	2	1.48	9
Congressional District 6	362	116	110	588	8	1.62	1
Congressional District 7	297	69	90	456	9	1.54	6
Congressional District 8	698	184	227	1,108	4	1.59	3
Congressional District 9	601	149	185	936	6	1.56	4
Chattanooga, MSA	680	202	205	1,088	3	1.60	2
Clarksville, MSA	150	31	44	225	5	1.50	8
Cleveland, MSA	133	26	33	192	6	1.44	10
Jackson, MSA	38	11	10	59	9	1.55	5
Johnson City, MSA	50	10	14	74	8	1.47	9
Kingsport-Bristol, MSA	31	8	8	47	10	1.53	7
Knoxville, MSA	2,209	526	768	3,502	2	1.59	3
Memphis, MSA	615	153	202	970	4	1.58	4
Morristown, MSA	48	14	12	74	7	1.53	6
Nashville, MSA	2,574	609	1,164	4,348	1	1.69	1

References

Collins, J.M., Belsky, E. S. and Tripathi, M. (1999), Estimating Economic Impacts of Community Lending. *Joint Center for Housing Studies, Harvard University.* Retrieved from Joint Center for Housing Studies website: http://www.jchs.harvard.edu/publications/finance/collins_w99-7.pdf

Econsult Corporation. (January, 2007). *Assessing the Economic Benefits of Public Housing*. Retrieved from the Council of Large Public Housing Authorities website: http://www.clpha.org/uploads/final_report_1.pdf

Enterprise Foundation. (1999), "Developing Multifamily Housing with New Construction: A Complete Overview of the Skills and Finances Needed To Run a Successful Program, available at: http://www.practitionerresources.org/cache/documents/36615.pdf

The Hendrickson Company (In conjunction with the Shimberg Center for Housing Studies, the University of Florida). (2010). *Beyond Units: Economic benefits of Federal Home Loan Bank (FHLB) of Atlanta's Affordable Housing Program.* Retrieved from FHLB of Atlanta website: http://www.fhlbatl.com/multiplier/beyondunits.pdf

Galster, G. C., Roberto, G. Q., and Alveo, C. (2000). Identifying Neighborhood Thresholds: An Empirical Investigation. *Housing Policy Debate,*V.11, pp.701-32

Brennan, M. (2011). The Impacts of Affordable Housing on Education: A Research Summary. Retrieved from Center for Housing Policy website: http://www.nhc.org/media/files/Insights_HousingAndEducationBrief.pdf

Cohen, R. (2011). The Impacts of Affordable Housing on Health: A Research Summary, *Center for Housing Policy*. Retrieved from Center for Housing Policy website: http://www.nhc.org/media/files/Insights_HousingAndHealthBrief.pdf

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

National Association of Home Builders. (January 2010). *The Metro Area Economic Impact of Home Building in Shelby County, TN: Income, Jobs, and Taxes*

Generated, Washington, DC.

National Association of Realtors. (January 2006). *Social Benefits of Homeownership and Stable Housing*. Washington, DC.

Norfolk Redevelopment and Housing Authority (In conjunction with William and Mary Mason School of Business). (2011). *City of Norfolk Economic Impacts of the NRHA Housing Choice Voucher Program*. Retrieved from: http://www.nrha.us/sites/default/files/Study-2-HCV.pdf

Wood, J. A. (2004), Economic Impact of Affordable Housing: New Construction, Rehabilitation and Assistance Programs. *Utah Housing Coalition*. Retrieved March 2010, from Utah Housing Coalition website: http://www.utahhousing.org/documents/Econ_impact_study05.pdf