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**Economic Impact of THDA Activities in Calendar Year 2008
on the Tennessee Economy**

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EXECUTIVE SUMMARY

Identified as one of the basic human needs, housing has a profound impact, both social and economic, on individuals and communities. Safe, sound, affordable housing is essential to a healthy home, educational achievement, successful employment, and the stability and safety of the neighborhood. Both housing rehabilitation and the construction of new homes generate jobs and income in the community and produce additional tax revenue.

Economic Impact of THDA Activities in 2008

Business revenue

- ✓ Total contribution of the THDA-related activities to Tennessee's economy was estimated at \$1.173 billion* in 2008
 - Of this total, \$653 million was directly injected into the economy by THDA-related activities
 - Every \$100 of the THDA-related activities generated an additional \$80 in business revenues

Personal income

- ✓ THDA-related activities generated \$422 million* in wages and salaries in 2008
 - Every \$100 of personal income produced an additional \$67 in personal income in the local economy

Employment / Job Creation

- ✓ THDA-related activities created 11,174 jobs* in 2008
 - Every 100 jobs created by THDA-related activities, primarily in the construction sector, generated 64 additional jobs throughout the local economy

State and local taxes

THDA-related activities accounted for \$37.2 million in state and local taxes in 2008.

In this study, we developed a comprehensive framework to estimate the *economic* impact of Tennessee Housing Development Agency (THDA) activities in providing safe, sound, affordable housing options to low- and moderate-income households. To this end, we reviewed THDA programs, both loans and grants, to determine the scope and the monetary flows of each program's activities.

*Direct, indirect and induced

THDA programs' accomplishments in 2008 included in this study are as follows¹

- ✓ Mortgage production reached over \$302 million. As a result, 2,885 low- to moderate-income families and individuals achieved the dream of homeownership.
- ✓ Low Income Housing Tax Credit 2008 allocations in the amount of \$17.9 million will create an additional 2,762 rental units*.
- ✓ Multifamily Tax-Exempt Bond Authority 2008 allocation in the amount of \$50.3 million will create and renovate 1,248 rental apartments*.
- ✓ HOME grants, which include American Dream Downpayment Initiative (ADDI), in the amount of \$17.8 million helped 372 households in 2008.
- ✓ Section 8 Rental Assistance Programs helped 37,735 households pay reasonable rent by providing \$159 million in rent subsidies. Of this, tenant-based assistance of \$29 million aided 7,231 households across Tennessee and project-based assistance of \$130 million helped 30,504 families.
- ✓ BUILD provided \$650,000 in low interest, short term loans to eligible non-profits, to assist 29 households with homeownership and home repair.
- ✓ Lenders received Community Investment Tax Credit (CITC) on \$35.6 million in below market loans made to eligible non-profits to help 949 households in homeownership, home repair and rental housing.
- ✓ The THDA Housing Trust Fund funded four affordable housing programs. The Competitive Round awarded non-profits, local communities, and regional organizations \$2.4 million to help 275 families. RAMPS provided \$118,348 to make 148 homes wheelchair accessible. Rural Housing Repair supplemented USDA's rural repair program, providing \$611,706 additional repair dollars for 138 families. \$1.6 million of Emergency Repair Program (ERP) helped 308 elderly households.
- ✓ The foreclosure Prevention Program assisted 3,082 homeowners in preventing foreclosure and mitigating the impact of foreclosure.
- ✓ The emergency Shelter Grant Program awarded \$1.6 million to non-profits serving Tennessee counties to help homeless and domestic violence shelters.

Because of the economic multipliers or “ripple” effect, our affordable housing programs impact all industries in the economy, going far beyond the specific unit or neighborhood in which THDA program money is spent. We used the IMPLANpro input-output model to calculate these “ripple” effects of 2008 program accomplishments on the Tennessee economy.

¹ Due to data limitations some housing-related expenditures, though important, are not incorporated in this study including: Homebuyer education program, benefits of accumulated home equity, and interest earnings throughout the life of mortgages generated by THDA homeownership programs. Additionally, no attempt was made to measure the social impact of affordable housing.

* Some multi-family developments receive funding through both the LIHTC and the Multi-Family Bond programs. For these developments, units are counted in the totals for both programs.

I. Introduction

What role does housing play in the lives of people and communities? Identified as one of the basic human needs, affordable housing has profound impacts on individuals and communities. These impacts range from allowing people to succeed in jobs, education, or even in raising a healthy, happy family, to creating income, jobs, and taxes through construction and rehabilitation activities. A review of the literature on economic and business conditions suggests that the availability of affordable housing in a community is an important factor for business attraction and retention.

As important as the availability of affordable housing is the condition of existing housing in a community. Having a house does not always mean that the shelter needs of a household have been met satisfactorily. There are many households who, though they are not considered “homeless,” still have serious housing problems. These families live in substandard housing; or they spend large portions of their income for housing; or they are forced to live in overcrowded houses.

These housing conditions may affect people’s life in many different ways². Substandard conditions, such as lack of kitchen or plumbing facilities, may cause chronic health problems. High rent translates into less money for other basic necessities of life. Frequent moves disrupt children’s education and might cause serious learning problems. Remedying these housing problems may create a substantial positive impact on both individuals and society.

Established in 1973, Tennessee Housing Development Agency (THDA) addresses the aforementioned housing problems by³

- ✓ promoting the production of more affordable new housing units for very low-, low- and moderate-income individuals and families in the state,
- ✓ promoting the preservation and rehabilitation of existing housing units for such persons, and
- ✓ bringing greater stability to the residential construction industry and related industries so as to assure a steady flow of production of new housing units.

This study develops a comprehensive framework to estimate the economic impact of Tennessee Housing Development Agency (THDA) activities in terms of providing safe, sound, affordable housing options to low- and moderate-income households. To this end, this study reviews several THDA programs to determine the scope of each program’s activities as well as the monetary flows.

² For a more detailed discussion see “Social Benefits of Homeownership and Stable Housing” (January 2006), *National Association of Realtors, Research Division*, and Galster, Quercia & Cortez, 2000, “Identifying Neighborhood Thresholds: An Empirical Investigation”, *Housing Policy Debate*, V.11, No.3, pp.701-32

³ Stated in “THDA Strategic Plan, 2007-2009” – Tennessee General Assembly, TCA §13-23-101, et seq.

The rest of the study is organized as follows: the second section offers a brief review of THDA activities in the calendar year 2008. The third section provides a conceptual framework, methodological issues, and study assumptions. The fourth section deals with economic impact results. The last section concludes the study.

II. Overview of THDA Programs and Activities for Calendar Year 2008

One of the primary ways THDA assists people is by offering fixed-rate mortgages for first-time homebuyers, at below conventional market interest rates. In addition to helping homebuyers, THDA also administers several other housing programs to help low-income families throughout Tennessee such as low income housing tax credit, HOME, BUILD, MultiFamily Tax-Exempt Bond Authority. A brief overview of programs included in this analysis is provided below. Detailed information about each program is available at www.thda.org.

The THDA programs

- ✓ THDA Homeownership Programs: Designed for low- and moderate-income borrowers, THDA mortgage programs offer fixed-rate below market interest rate loans for first time homebuyers. Borrowers have to meet certain income and credit requirements, and acquisition cost limits apply for new and existing homes.
- ✓ Low-Income Housing Tax Credit (LIHTC): THDA administers the Low-Income Housing Tax Credit program in Tennessee. The program is intended to encourage the construction and rehabilitation of rental housing for low-income individuals and families. The LIHTC provides an incentive for developers to create affordable rental housing. The incentive is a credit against federal income tax liability each year for 10 years for owners and investors in low-income rental housing. The amount of tax credit is based on reasonable costs of development, as determined by THDA, and the number of qualified low-income units.
- ✓ Multi Family Tax-Exempt Bond Authority: THDA makes Multifamily Tax-Exempt Bond Authority available to local issuers for permanent financing of multifamily housing units in Tennessee. The Multifamily Tax-Exempt Bond Authority is not intended for short-term financing, construction financing, “bridge” financing, or any other financing which is not the permanent financing for the development, and it can be used for new construction of affordable rental housing units, for conversion of existing properties through adaptive reuse, or for acquisition and rehabilitation of rental units.
- ✓ HOME: The US Department of Housing and Urban Development provides federal funds to Tennessee and to local participating jurisdictions⁴ to carry out

⁴ Local participating jurisdictions (PJs) are those local governments in Tennessee that receive HOME funds directly from the Department of Housing and Urban Development. The Local PJs are Clarksville, Chattanooga, Jackson, Knoxville, Memphis, Nashville-Davidson County, Knox County, Shelby County

multi-year housing strategies through acquisition, rehabilitation, and new construction of housing units. The purpose of the program is to expand the supply of decent, safe, sanitary and affordable housing for low and very low-income households. THDA's HOME program focuses more on homeowner rehabilitation projects, homeownership activities, and acquisition, rehabilitation and/or new construction of rental housing projects. THDA, on behalf of the State of Tennessee operates the HOME program through local governments and non-profit organizations. Eligible activities under the HOME program include rehabilitation, conversion, reconstruction, new construction, and acquisition and rehabilitation.

- ✓ Section 8 (tenant-based rental assistance programs and project-based contract administration): The Housing Choice Voucher program provides monthly rental assistance for participants who want to rent from a private landlord but can not afford the full monthly rental payment⁵. Additionally, THDA oversees properties with Section 8 Housing Assistance Payment Contracts.
- ✓ BUILD: The purpose of the BUILD Loan Program is to promote the production, preservation, and rehabilitation of housing for low and very low income households by making low interest short term loans available to eligible nonprofit organizations. Those are the organizations that help meet the housing needs of low and very low income households in Tennessee by engaging in eligible low income housing activities. Eligible activities may include: development of single and multi-family units for homeownership or rental, construction, land acquisition, site preparation, pre-development, operating and program expenses. The loans may be secured or unsecured depending on the proposed activity.
- ✓ Community Investment Tax Credit (CITC): Financial institutions may obtain a onetime credit against the sum total of taxes imposed by the Franchise and Excise Tax Laws when qualified loans, qualified investments, grants or contributions are extended to eligible housing entities for engaging in eligible low income housing activities. The amount of the credit will be based on the total amount of the loan, investment, grant, or contribution; or the credit may be applied annually for qualified loans and qualified low rate loans and will be based on the unpaid principal balance of the loan. The program is administered in cooperation with the Tennessee Department of Revenue. THDA will certify the housing entity and activity as eligible to receive the tax credits. Eligible activities include those that create or preserve affordable housing for low income Tennesseans, that assist low income Tennesseans in obtaining safe and affordable housing, that build the capacity of an eligible non-profit organization to provide housing opportunities

and the Northeast Tennessee/Virginia Consortium (the cities of Bristol, Kingsport, Johnson City, Bluff City, and Sullivan and Washington counties).

⁵ THDA administers Section 8 Rental Assistance program in 75 out of 95 counties in the State. Remaining counties (Bledsoe, Bradley, Carter, Davidson, Dickson, Greene, Grundy, Hamilton, Hancock, Hawkins, Johnson, Knox, Marion, McMinn, Meigs, Polk, Rhea, Sequatchie, Sullivan, Unicoi, and Washington) have their own Section 8 program.

for low-income Tennesseans, and any other low-income housing related activity approved by the THDA Executive Director and the Commissioner of Revenue.

- ✓ The THDA Housing Trust Fund addresses the housing needs of the very low-income, the very low income elderly and the very low income special needs populations of Tennessee with four affordable housing programs:
 - *Competitive Round*: The annual Competitive HTF program supports activities for persons of very low income including the chronically homeless, persons with mental retardation or mental illness, citizens with developmental disabilities, single mothers recovering from substance addiction or physical abuse, veterans with multiple needs and ex-offenders re-entering society.
 - *Emergency Repair Program (ERP) for the Elderly*: The program provides grants (not loans) to low income, elderly homeowners who are 60 years or older to correct, repair, or replace an essential system and/or a critical structural problem. The purpose of the program is to stabilize the elderly homeowner's residence by making rapid, essential repairs to make the home livable.
 - *Rural Repair Program (RHS)* A joint program with USDA Rural Housing Service to deliver a house repair program for very low-income homeowners residing in rural counties.
 - *The RAMPS Program*, a partnership with United Cerebral Palsy, provides grants to construct ramps for persons with disabilities to allow access to their home.
- ✓ Foreclosure Prevention Program: THDA has received \$1,329,700 to support foreclosure prevention counseling efforts. This program provides counseling to the State's homeowners in danger of foreclosure. All Tennesseans can access the foreclosure counseling services available through the program.
- ✓ Emergency Shelter Grant (ESG) Program: THDA administers the federally- HUD funded ESG Program to increase the number and quality of emergency shelters and transitional housing facilities for homeless individuals and families, to operate these facilities and provide essential social services, and to help prevent homelessness.

III. Methodology and Study Assumptions

Concept of economic impact. When THDA helps a low-income borrower buy his/her first house or provides some relief to a cost-burdened renter, this affects the life of that person and overall society in several ways. Societal benefits of affordable housing are well documented in literature. 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.

The Low-Income Housing Tax Credit program, for example, vividly illustrates the broader impacts of affordable housing. One additional low-income unit built with the incentives created through the tax credit will house a low-income family, and this is an important contribution to the well-being of that family, paying less than or equal to 30 percent of area median income for housing. In addition to societal benefits, the money a developer spends to build that additional rental unit will generate incomes and jobs for individuals through rounds of spending. One dollar spent in the local economy will support more than that one dollar creating income for other people in the region. In the process, there will be some leakages: some money will go to savings instead of being spent, government will take some of it as taxes and fees, some of it will go to 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.” For example, a multiplier of 1.5 means that \$100 of initial spending will create an additional \$50 in the local economy. The size of the multiplier depends on the type of the initial spending, mostly related to the sector of the economy in which it is spent, and the strength of the local economy. For example, the spending in construction sector supports a larger multiplier than initial spending in finance sector. The more self-sufficient the local economy, the higher the multiplier will be. If many things are not produced locally and the region (i.e. state) depends on other outlying regions, the value of the multiplier will be smaller.

Modeling approach and definitions. The economic impact of THDA activities goes beyond the sectors in which program money is spent. Through the impact multipliers or “ripple” effect, the THDA programs and grants affect all industries in the economy. THDA used the IMPLANpro input-output model to calculate these “ripple” effects on Tennessee’s economy. The IMPLAN model calculates total business revenues, personal income, and total employment. For each of these categories, the IMPLAN model provides direct, indirect, and induced impacts. Here is a brief description of each of these concepts:

1. *Business revenue.* Total economic activity generated by the THDA programs and grants spending in the economy.

2. *Personal income.* Income people in the economy receive because of the spending associated with the THDA programs and grants.
3. *Employment.* Number of jobs generated because of the administration of the THDA programs and grants in the economy.

Each of these impact categories is further broken down into three sub groups:

1. *Direct impact.* Dollar amount of direct spending because of the THDA's various affordable housing programs. THDA also reports corresponding direct personal income and employment figures.
2. *Indirect impact.* Economic impact that is generated because of the subsequent rounds of business to business transactions in Tennessee's economy.
3. *Induced impact.* Economic impact that is generated through the employee spending in the economy. A portion of the program spending goes to individuals as wages and salaries. Then, individuals spend these wages and salaries in the economy according to their consumption patterns. Each round of spending creates ripple effects in the economy.

Conceptual framework. As explained throughout this study, the THDA programs and grants impact many aspects of the communities. THDA programs and grants have tangible economic impacts through several programs labeled as "inputs to communities." In addition, these programs have several benefits to society, which are difficult to measure. These intangible benefits labeled as "community outputs" represent the dynamic impact of affordable housing. The cumulative impacts of the THDA activities mean business revenues, employment, taxes, income, business attraction and retention, and successful communities.

Study assumptions and data. Critical to any economic impact analysis is to assemble and process the required data. This requires extensive cooperation among different units administering programs and grants as well as generating program and grant data. After completing this process, we develop several assumptions to subgroup general data categories into appropriate sectors that are suitable for IMPLAN analysis. Furthermore, modeling such as shifts in consumer expenditure when some households change their status from renters to homeowners requires a multi-stage approach.

Some of the THDA programs and grants involve THDA fund allocations as well as leveraged funds from either industry or other grant funds. We briefly lay out assumptions by program area below.

(1). *Rural Housing Services.* In 2008, THDA allocated \$611,706, which leveraged an additional \$943,941 from other grant funds. A total of \$1.556 million is modeled as maintenance and repair spending.

(2). *LIHTC program.* We estimated that \$190.2 million is spent in 2008 for construction of new multifamily units, of which \$17.9 million is from THDA allocation and \$170 million is leveraged from industry.

(3). *Homeownership program.* In 2008, more than \$59.1 million was spent for construction of new homes, of which \$10.6 million was modeled as land acquisition and \$48.5 million for construction spending. A total of \$35.6 million of closing costs was associated with 2,885 mortgages that included both new and existing home purchases. The closing cost data were further distributed to appropriate sectors for modeling purposes. In addition to construction and closing costs, we attempted to capture the economic impact of shifts in spending pattern of households when their status changed from renters to homeowners. The estimates of shift in spending pattern involve multiple stages. First, we obtained Consumer Expenditure Survey (2005) data to identify the spending patterns of both renters and homeowners. Table 1 presents the fraction of income spent for each major expenditure category by ownership status.

Table 1: THDA Homeownership Program: Impact of Shift in Spending Pattern from Renter to Home Owner

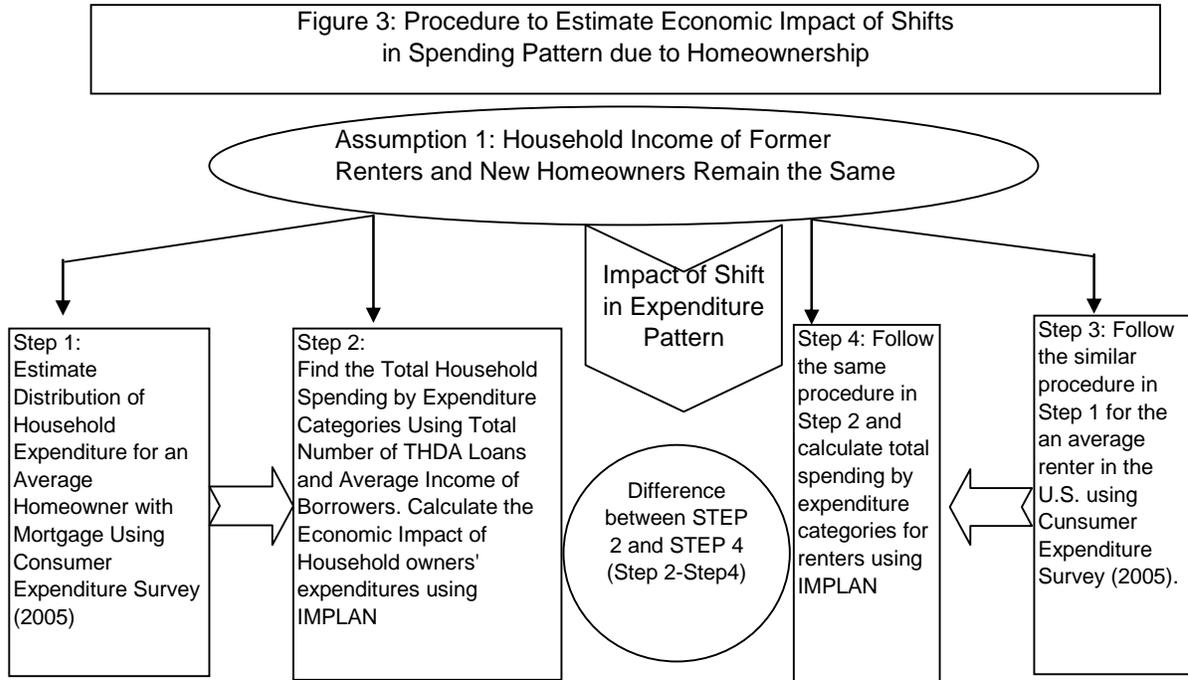
Major Spending Categories	Distribution by Type of Ownership		
	Homeowner	Renter	% Point Shift (Owner--Renter)
Groceries	7.085%	10.578%	-3.493%
Restaurants/ Beverages	7.100%	9.400%	-2.300%
Property Taxes	4.516%	0.103%	4.413%
Maintenance/ Repairs	3.050%	0.090%	2.960%
Hotels/ Motels	1.279%	0.607%	0.672%
Utilities	5.000%	5.000%	0.000%
Telephone Services	2.353%	3.620%	-1.267%
Personal Services	0.955%	0.868%	0.088%
Other Household Expenses	2.300%	1.900%	0.400%
Laundry and Cleaning Supplies	0.295%	0.402%	-0.107%
Household Textiles	0.324%	0.312%	0.012%
Furniture	1.241%	1.039%	0.202%
Floor Coverings	0.172%	0.047%	0.125%
Major Appliances	0.900%	0.600%	0.300%
Miscellaneous (House)	1.945%	1.483%	0.462%
Apparel	4.294%	6.479%	-2.185%
Transportation/ Vehicle	20.416%	23.003%	-2.586%
Healthcare	5.599%	5.616%	-0.017%
Entertainment	6.186%	5.496%	0.690%
Personal Care Products	1.253%	1.569%	-0.315%
Education	2.700%	3.100%	-0.400%
Miscellaneous (All Other)	2.500%	3.700%	-1.200%
Insurance/ Pension (All Types)	18.500%	14.900%	3.600%

Source: Consumer Expenditure Survey (2005)

Note 1: Only major spending categories are reported in this table.

Note 2: Total may not be equal to 100 percent due to rounding.

Second, distribution of the same household income to expenditure categories by renters and homeowners was calculated separately. Third, we ran the IMPLAN model for each group and obtained their economic impacts. Finally, we subtracted renters' economic impact from homeowners' economic impact to calculate the shift. Figure 3 below summarizes those stages.



(4). *HOME program*. In 2008, total spending for new units was estimated at \$3.7 million (both residential and rental). An estimated \$10.7 million was spent for rehabilitation within the framework of this program. \$80,000 worth of *ADDI* is given to 16 households, which is assumed to be used to pay closing cost expenses.

(5). *Direct rental assistance*. This program provides direct rental assistance to low income renters and thereby frees up their income (rent saving) to spend on other goods and services such as health care, childcare, food, clothing, and transportation. With the direct rental assistance, being able to pay lower than market rate increases residents' "net disposable income." Therefore, not only are low-income families benefiting from residing in permanent, affordable housing, but also they are contributing to a diverse local economy through their additional spending power. Table 2 below provides assumptions for how this additional spending power is distributed across major expenditure categories. In 2008, rental savings were estimated at more than \$155 million.

Table 2: Detailed Distribution of Rent Savings due to Rental Assistance to Detailed Expenditure Categories

Detailed Expenditure Categories	Distribution	Detailed Expenditure Categories	Distribution
Cereals and bakery products	0.019	Household furnishing and equipment	0.045
Meats, poultry, fish, and eggs	0.034	Apparel and services	0.086
Dairy Products	0.015	Gasoline and motor oil	0.078
fruits and vegetables	0.024	Vehicle finance charges	0.010
Other food at home	0.048	Maintenance and repairs	0.025
Food away from home	0.104	Vehicle insurance	0.034
Alcoholic beverages	0.020	Vehicle rental, leases, and licenses	0.015
Owned dwellings	0.005	Public transportation	0.016
Mortgage interest and charges	0.002	Healthcare	0.074
Property taxes	0.001	Entertainment	0.073
Maintenance, repairs, insurance, other expenses	0.001	Personal care products and service	0.021
Other lodging	0.008	Reading	0.004
Utilities, fuels, and public services	0.114	Education	0.037
Household operations	0.022	Tobacco products and smoking supplies	0.021
Housekeeping supplies	0.019	Miscellaneous	0.028

Source: Consumer Expenditure Survey (2005)

(6). *Multifamily Tax Exempt Bond Authority*. We estimated that \$206 million is spent in 2008 for rehabilitation of multifamily units.

(7). *BUILD Loan Program*. In 2008, \$650,000 in loans is given to those eligible non-profit organizations with varying terms and conditions and purposes.

(8). *Community Investment Tax Credit (CITC)*. It is a credit against the sum total of taxes imposed by the Franchise and Excise Tax Laws when qualified loans, qualified investments, grants or contributions are extended to eligible housing entities for engaging in eligible low income housing activities. The program is administered in cooperation with The Tennessee Department of Revenue (TDOR), and leveraged \$35.8 million investment in 2008.

(9). *Emergency Repair Program (ERP)*. In 2008, \$2.6 million, of which \$1 million were matching funds, is used to stabilize the elderly homeowner's residence by making rapid, essential repairs to make the home livable.

(10). *Housing Trust Fund Competitive Grants*. In 2008, \$2.4 million of THDA funds supported over \$5.8 million construction related spending in various activities, such as new construction and acquisition and rehabilitation.

(11). *Emergency Shelter Grant Program (ESG)* awarded \$1.6 million to non-profits serving Tennessee counties to help homeless and domestic violence shelters.

(12). *RAMPS* provided \$118,348 to make 148 homes wheelchair accessible.

(13). *Foreclosure Prevention Grant* used to train the counselors.

IV. Economic Impact Results

As presented in Table 3, the economic impact of the THDA programs and grants is quite significant. For each of the economic impact categories, we present direct, indirect and induced impacts.

Business revenue. In 2008, the THDA-related activities injected into the economy a total of \$652,983,443. This spending generated an additional economic impact of \$520,310,340 (indirect and induced) through business revenue multipliers. Total contribution of the THDA-related activities to the Tennessee’s economy is estimated at \$1,173,293,777.

Personal income. The IMPLAN model also calculates personal income associated with the THDA-related spending. In 2008, individuals received \$253,314,381 in wages and salaries through THDA programs. Additional personal income generated through the ripple effect is \$168,998,239. Total personal income generated by the THDA-related activities is \$422,312,606.

Employment (jobs). The THDA-related activities provided employment opportunities for many individuals. The direct total employment impact is 6,835 jobs, primarily in the construction sector. In addition, 4,339 jobs are created through the ripple effect. Total employment impact is estimated at 11,174 jobs.

State and local taxes. The THDA-related activities also generate sizable tax revenues for state and local governments. The model estimated tax revenues due to the THDA-related activities were \$37,138,230.

Table 3: Economic Impact of THDA Programs on the Tennessee Economy in 2008 (Dollar Figures in Millions)

Type	Direct	Indirect	Induced	Total	Multiplier*
Business Revenue (Million \$)	\$652.983	\$220.201	\$300.109	\$1,173.294	1.80
Personal Income (Million \$)	\$253.314	\$71.924	\$97.074	\$422.313	1.67
Employment (Jobs)	6,835	1,773	2,567	11,174	1.63
Estimated State and Local Taxes (Million \$)**	n/a	n/a		\$37.138	n/a

*Multipliers are IMPLAN SAM Multipliers and calculated by dividing total impact by the direct impact.

**Estimated state and local taxes is derived from the model.

Impact by major industries. Even though the THDA-related spending takes place primarily in the construction sector, that spending affects all industries through the ripple effect. Table 4 shows the economic impact of the THDA-related spending by major industries. According to Table 4, the largest impact is in the construction sector with \$479,350,624 in business revenues, \$202,172,304 in personal income, and 5,125 jobs. Other major sectors that substantially benefit from the THDA-related spending are manufacturing, retail trade, finance and insurance, real estate, professional services, health and social services, and government. “All others” represent the following major industries: agriculture, mining, utilities, wholesale trade, transportation, information,

management of companies, administrative and waste services, educational services, arts, entertainment and recreation, accommodation and food, and other services.

Table 4: Impact of THDA Programs on the Tennessee Economy By Major Sectors in 2008 (in Million Dollars)

Major Sectors	Business Revenue (in 2008 dollars)	Personal Income (in 2008 dollars)	Employment (Jobs)
Construction	\$479.351	\$202.172	5,125
Manufacturing	\$92.384	\$17.917	379
Retail Trade	\$94.345	\$36.364	1,319
Finance and Insurance	\$51.565	\$17.471	266
Real Estate	\$49.327	\$9.223	248
Professional Services	\$38.463	\$15.663	271
Health and Social Services	\$59.710	\$32.946	633
Government	\$53.728	\$9.275	156
All Others	\$254.421	\$81.282	2,776
TOTAL	\$1,173.294	\$422.313	11,174

V. Conclusion

The THDA-related activities have substantial economic impact on the Tennessee's economy. To summarize,

- ✓ For every dollar of business revenue, resulting from THDA Programs, an additional \$0.80 of business revenue is created throughout the economy.
- ✓ For every dollar of personal income, related to THDA programs, an additional \$0.67 of personal income is generated throughout the economy.
- ✓ For every 100 jobs, related to THDA programs, an additional 64 jobs are created throughout the economy.

The limitations of the study. This study did not take into account several areas due to data limitations. Therefore, this impact assessment of the THDA-related activities is conservative. The following areas were not treated in this study:

1. Homebuyer education: THDA requires homebuyer education for all Great Start and Great Advantage loan applicants and encourages it for all consumers considering homeownership. THDA's purpose not only is to assist people with

purchasing homes, but also to help them become long-term, successful homeowners. Education and training aim to prepare consumers — emotionally and financially – for the commitment and investment of buying a home. In some economic impact studies⁶ homebuyer education is also included in calculations of impact, because it helps borrowers to buy their homes more quickly than otherwise. Even though we were not able to include the value of homebuyer education in our model as an input, we acknowledge its value as making the borrowers more financially savvy and even later helping them keep their houses (not to default or go through foreclosure).

2. Benefits of home equity that accrue to homebuyers: when people buy their home, home price appreciation and monthly mortgage payments allow them to accumulate home equity. For many low-income homeowners this accumulated home equity represents the highest portion of their net wealth (for some it is actually the only source of wealth). Even though estimating this value is possible, it is highly speculative as it depends on factors such as price appreciation, the length of time the homebuyer keeps the home, interest rates, and down payment amount. Homeowners, as opposed to renters, can use this home equity to spend on other things, such as home improvement, education, and leisure. We acknowledge the presence of home equity building and its value to our low-income borrowers, however, we did not attempt to calculate and include it in our model.
3. Interest earning through the life of the mortgages generated with THDA homeownership programs: the flow of payments generated is realized over several years and dependent on factors such as interest rates and low terms. We did not include this in our model.
4. Because of data limitations, we did not include activities of Multifamily Bond Authority.

⁶ Collins, J.M., E.S. Belsky and M. Tripathi (1999), “ Estimating Economic Impacts of Community Lending,” Joint Center for Housing Studies, Harvard University

Appendix: Assumptions Related to Cost of Land Acquisition and Time Lag

The cost of land acquisition should be removed from the final price of the housing because it is not part of construction spending and it does not create a multiplier effect like spending on other items. For single-family housing, we used the 2005 home sales price data, which THDA annually compiles from the Comptroller's Office. According to this data, for the homes sold in 2005, the land value was estimated at about 18 percent of the sales price. Land value on rental housing is different from single family because of the higher density. In the same amount of land, more rental units can be built than single-family units. Therefore, it comprises the smaller portion of the rental housing prices. A study financed by the Council of Large Public Housing Authorities (Econsult Corporation, 2007)⁷ uses 10.4 percent of total development costs as the national estimate of land acquisition. In another study conducted by Enterprise Foundation⁸; land acquisition cost is calculated as about six (6) percent of total development costs. In this study, we used 10 percent of total building cost to represent the land acquisition.

Production period to complete the housing units. There is a lag time between allocation of tax credit, multifamily tax-exempt bond authority and HOME grants and start-up of the projects. This becomes an issue because, for example, for 2008 LIHTC allocations, developers are required to submit their initial applications for the year by late March. Developers get their allocation of Tax Credits after all units in the development are placed in service. Therefore, to determine the impact of 2008 activities, we cannot use 2008 allocations. Most probably, the developments rewarded with tax credits in 2006 and 2007 will comply with the requirements, place the units in service and receive their tax credit allocations in 2008. In terms of our model, the important stage is the time they start the new construction or rehabilitation so that they inject the money into the economy. Using the available data, it is established that developers mostly act on their LIHTC commitments in the second year after they receive their right to obtain tax credit. Based on this prior knowledge and after reviewing the data on the annual tax credit allocations we made the following assumptions:

- ✓ LIHTC allocations of 2006 and 2007 will be spent in calendar year 2008.
- ✓ We used an 80-20 percent division, which means that of total LIHTC spending in calendar year 2008, 80 percent comes from year 2006 and 20 percent from 2007 THDA tax credit allocations.
- ✓ In terms of the HOME program, we used 2007 allocations to represent HOME grant spending because of the difficulties of obtaining actual spending amounts in a certain year (i.e. 2008) and comparing the allocations and withdrawing of grant dollars. We acknowledge that grantees may choose to spend their 2007

⁷ Econsult Corporation (January, 2007), "Assessing the Economic Benefit of Public Housing", Submitted to the Council of Large Public Housing Authorities, available at:

http://www.clpha.org/uploads/final_report.pdf

⁸ Enterprise Foundation (1999), "Developing Multifamily Housing with New Construction, available at:

<http://www.practitionerresources.org/cache/documents/36615.pdf>

allocations later than 2008, but in the absence of better tracking of actual spending, this will be the way to tackle that issue.

- ✓ For multifamily tax exempt bond authority, the developers have one (1) year for *rehabilitation and acquisition* projects to complete the project and put them in service, while for *new construction projects*, they have two (2) years. Even though they are allowed to finish the project in two years, they are required to spend 10 percent (10%) of the allocated amount by the end of the first year. Therefore, we decided to use 2007 allocations for rehabilitation and acquisition projects, and only ten percent (10%) of allocated amount in calendar year 2007 for new construction projects. Although, this is a conservative estimate, considering that in 2007, only two (2) out of 19 projects were new construction, the impact is not expected to be too much different if we used a different percentage value.
- ✓ For the BUILD Loan Program, only the amount borrowed from THDA is inputted to the model, not the total project cost. We did not make any assumptions about the leverage amount from the industry. Additionally, we did not make any assumption in terms of the loan terms or interest and principle payments in the future.