The Economic Impact of Low-Income Housing Tax Credits in Georgia

Anne Sweaney

Professor and Head of the Department of Housing and Consumer Economics & Director, HDRC

Jeffrey H. Dorfman

Professor, Department of Agricultural and Applied Economics. College of Agriculture and Environmental Sciences

Jorge Atiles

Associate Professor & Associate Dean for Outreach and Extension, College of Family and Consumer Sciences

Warren P. Kriesel

Associate Professor, Department of Agricultural and Applied Economics. College of Agriculture and Environmental Sciences

Tom Rodgers

Professor & Director of Housing, HDRC

Karen Tinsley

Associate Director of Research, HDRC

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and the Department of Agricultural and Applied Economics
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Executive Summary

The Low-Income Housing Tax Credit (LIHTC) program is designed to create affordable, workforce housing through the use of incentives to private developers. Georgia implemented a state LIHTC program in 2000 to complement the existing federal LIHTC program and to specifically enable construction of affordable housing in areas of the state outside the Atlanta metropolitan area where incomes are lower and the federal LIHTC program alone was not sufficient to finance the needed workforce housing. The state LIHTC also allowed projects that use tax exempt bonds, which carry 4% federal credits, to be economically feasible and thus significantly increased the total workforce housing that could be constructed.[1] This study documents the return on investment generated by the state LIHTC and specifically addresses the investment in non-metro Atlanta, which potentially would not have occurred without the state LIHTC.

The Georgia Low-Income Housing Tax Credit program has been responsible for the direct creation of numerous high quality, multi-family workforce housing units in Georgia, allowing the "working poor" to move out of dilapidated and often unsafe and/or unhealthy housing. Studies have demonstrated that unhealthy and unsafe housing are a major obstacle to enabling the working poor to move up the economic ladder. LIHTC investment is a significant catalyst for neighborhood revitalization and community redevelopment which results in improved economic opportunities for local residents. The state LIHTC program has increased affordable rental housing production outside of the Atlanta MSA, where additional financing is particularly needed.

This study specifically analyzed the expenditures made in the development and construction of 15 LIHTC properties throughout the state of Georgia. [See Figure 1] Eleven of these properties are outside the Atlanta metropolitan area. The study also considered the ongoing incremental economic impact of the operation of these properties on an annual basis. The specific economic impact varied from one property to another, but on average, each net dollar of state income tax lost through the state LIHTC program created $8.36 of incremental economic activity. The range of economic impact per dollar of state LIHTC was from $3.00 on a project in Toombs County to $24.73 on a project in Fulton County.

State credits issued to projects for the years 2001 to 2003 enabled the construction of a total of 25,007 units of affordable housing. Using the average economic impact multiplier (the "multiplier" represents the economic impact per dollar of total investment rather than per dollar of state credit) of 1.6, the construction of this workforce housing created (or will create over the life of these projects) a total economic impact of $4.47 billion for the state. Furthermore, 12,000 new Jobs were created due to this program. That is, if this program were eliminated, the state would lose 12,000 jobs. This total includes construction and construction related impacts of $3.4 billion in those three years plus an additional $1.1 billion which is the present value of the economic impact from 20 years of operating these projects.

The state LIHTC program has substantially increased the number of affordable rental units for the workforce in non-metropolitan Georgia. Over the 4-year period from 1997 to 2000, 86 housing properties were funded using the LIHTC (9% tax credits), with a total of 8,611 units. Of this total, just over one-half, or 46 properties representing 3,531 units (41% of the total), were constructed outside the Atlanta metropolitan area. With the passage of the state LIHTC program, over the next 4-year period the number of properties and units constructed outside of the Atlanta metropolitan area expanded significantly. From 2001 through 2004, 127 workforce housing properties were funded using the federal credits allocated to the state (9%

tax credit projects) for construction of a total of 11,154 units. Of this total, almost two-thirds, or 82 properties representing 5,689 units (51% of the total) were funded for construction outside the Atlanta metropolitan area [Figure 2]. See Figures 4 and 5 for a geographic distribution comparison between 1997-2000 (pre-state LIHTC) and 2001-2004 (with state LIHTC). In addition, there were 29,886 units built using funding provided by the federal tax exempt bond program which also includes federal tax credits (4%), which do not count against the states normal cap , resulting in a grand total of 41,040 units built during the 2001 – 2004 period using the LIHTC program [Figure 3].

By every measure of tangible economic return, this program is successful. Additionally, affordable workforce housing is being built in greater volumes and is being built outside the metropolitan Atlanta area where economic development is so desperately needed. Quality of life is being improved for many of Georgia's more vulnerable residents and thousands of jobs are being created. The program has clearly met the goals and objectives that were desired for the program when the legislature initially established the Georgia LIHTC.

[1] *The 9% federal tax credits are designed to finance approximately 60% of the total cost of a project. Another program that can be used to finance affordable housing development is the federal tax exempt bond program, which carry 4% tax credits. These 4% tax credits are designed to finance approximately 25% of the total cost of a project and do not count against the limited amount of 9% tax credits allocated to the state.*

Figure 1
Location of Low-Income Housing Tax Credit Properties Used in the Analysis

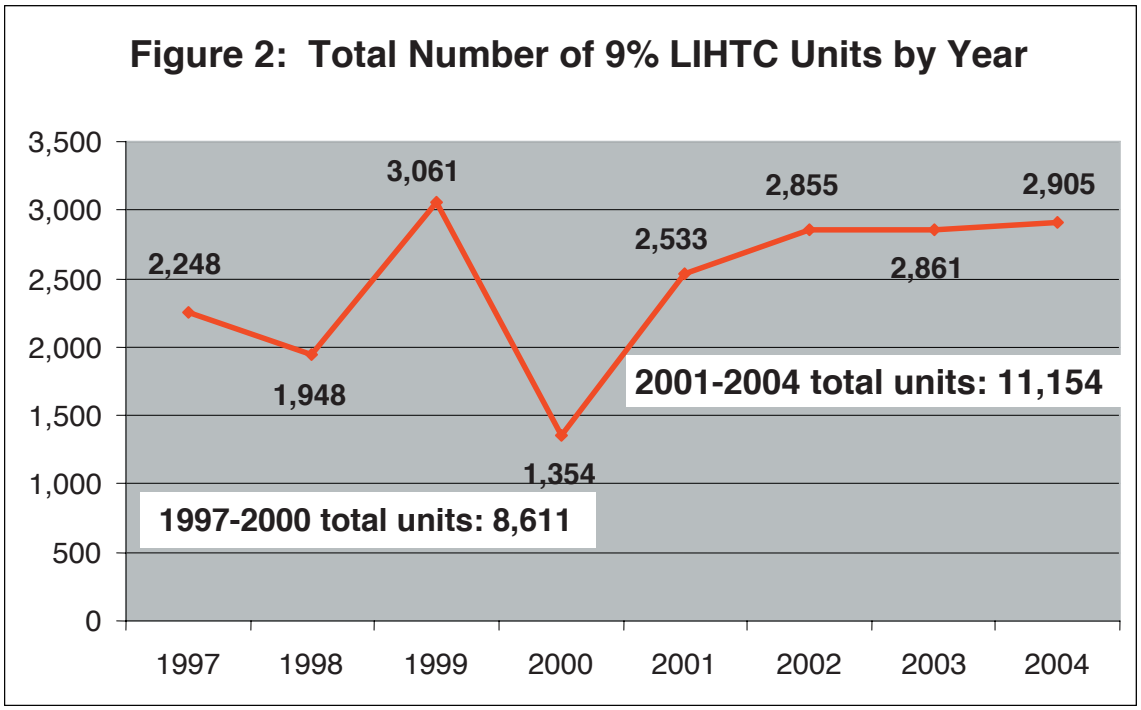


Figure 2: Total Number of 9% LIHTC Units by Year
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,248
1,948
3,061
1,354
2,533
2,855
2,861
2,905
1997-2000 total units: 8,611
2001-2004 total units: 11,154
1997
1998
1999
2000
2001
2002
2003
2004

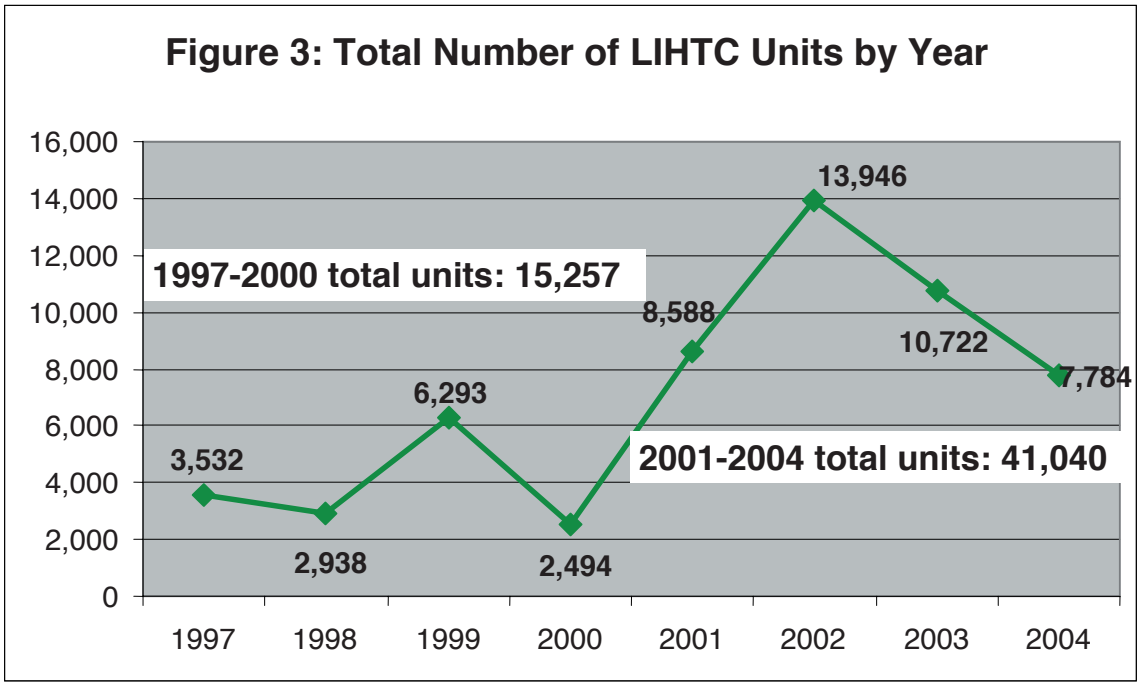


Figure 3: Total Number of LIHTC Units by Year
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
3,532
2,938
6,293
2,494
8,588
13,946
10,722
7,784
1997-2000 total units: 15,257
2001-2004 total units: 41,040
1997
1998
1999
2000
2001
2002
2003
2004

Figure 4

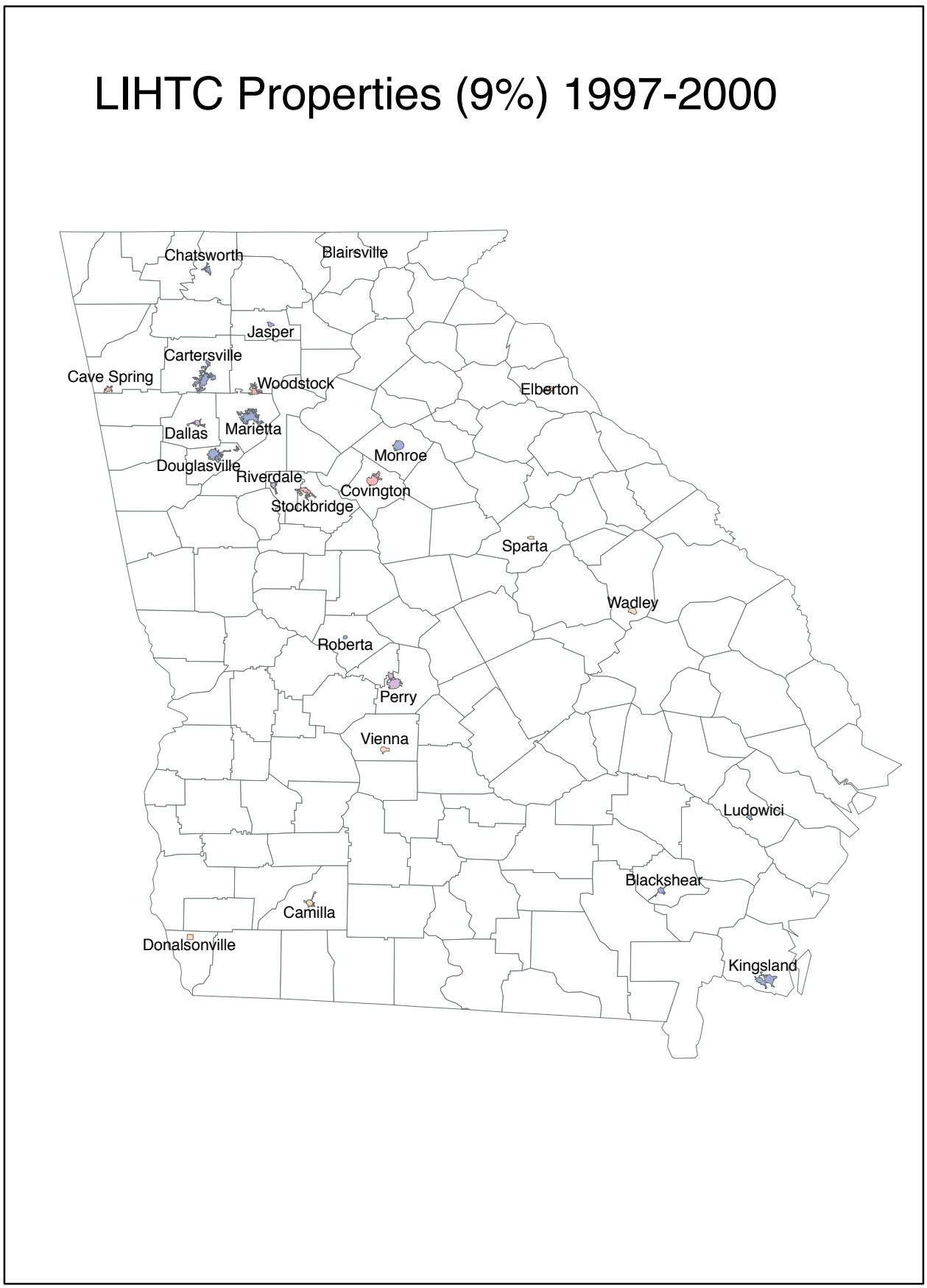
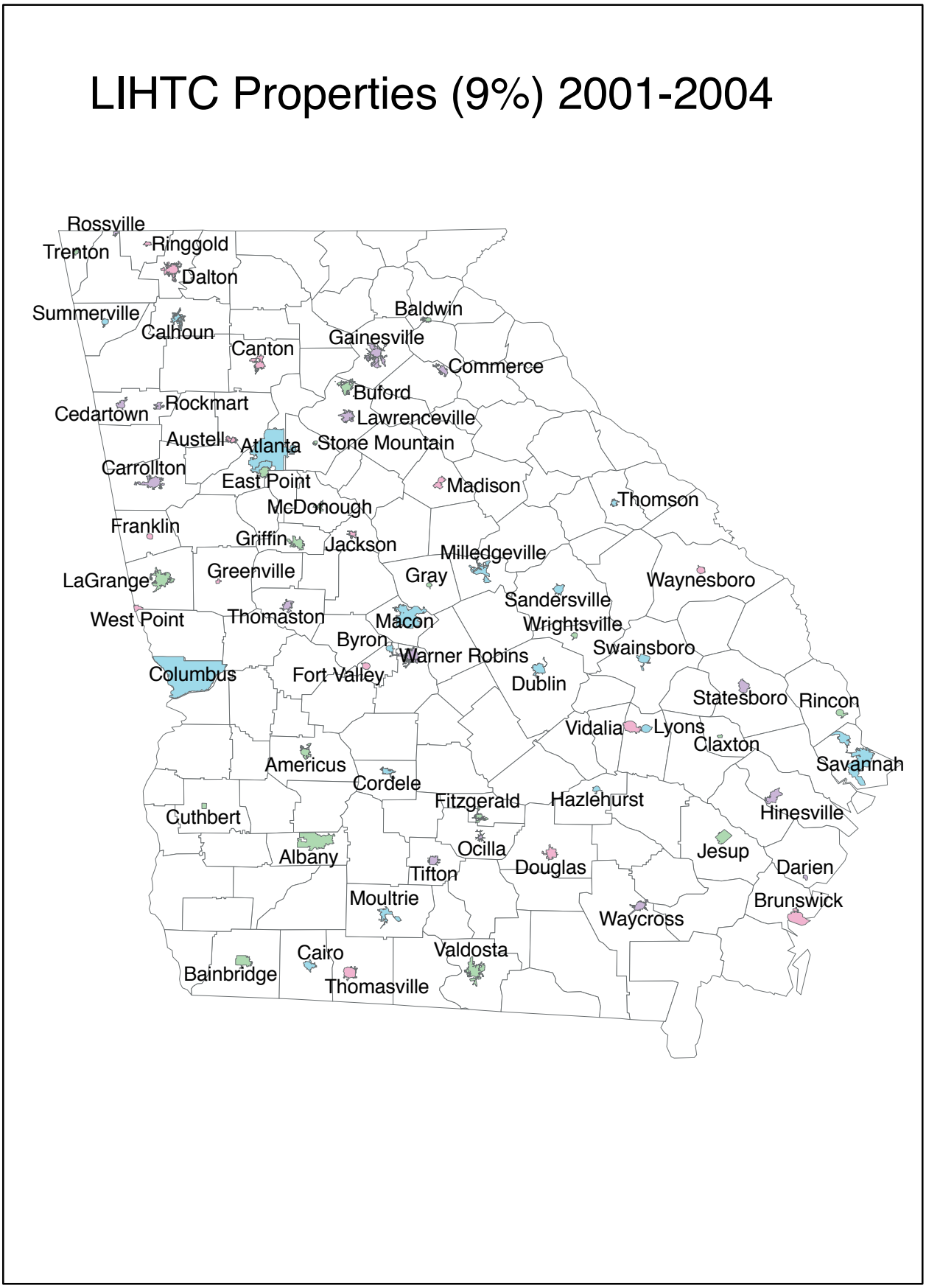

LIHTC Properties (9%) 1997-2000
Chatsworth
Blairsville
Jasper
Cartersville
Cave Spring
Woodstock
Elberton
Dallas
Marietta
Monroe
Douglasville
Riverdale
Covington
Stockbridge
Sparta
Wadley
Roberta
Perry
Vienna
Ludowici
Blackshear
Camilla
Donalsonville
Kingsland

Figure 5


LIHTC Properties (9%) 2001-2004
Rossville
Trenton
Ringgold
Dalton
Summerville
Calhoun
Canton
Baldwin
Gainesville
Commerce
Buford
Cedartown
Rockmart
Lawrenceville
Austell
Atlanta
Stone Mountain
Carrollton
East Point
Madison
Thomson
McDonough
Franklin
Griffin
Jackson
Milledgeville
Greenville
Gray
LaGrange
Waynesboro
Sandersville
West Point
Thomaston
Macon
Wrightsville
Byron
Swainsboro
Warner Robins
Columbus
Fort Valley
Dublin
Statesboro
Rincon
Vidalia
Lyons
Claxton
Savannah
Americus
Cordele
Fitzgerald
Hazlehurst
Hinesville
Cuthbert
Albany
Ocilla
Jesup
Douglas
Tifton
Darien
Moultrie
Brunswick
Waycross
Cairo
Valdosta
Bainbridge
Thomasville

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Introduction

The purpose of this research project is to document the economic impact of the State of Georgia's Low-Income Housing Tax Credit (LIHTC) program. In this program, the State offers tax credits to developers of affordable workforce housing in Georgia, a program that parallels a similar federal tax credit program.

The Low-Income Housing Tax Credit Program is a tool for private developers and non-profit entities to build or rehabilitate affordable rental units. Federal and state tax credits are used to obtain a dollar-for-dollar reduction in income tax liability for 10 years. Equity for a project is obtained through syndication of the credits to investors who desire to reduce their taxes. Without a program like this the supply of affordable rental units would be below the level deemed to be adequate by society.

To get a representative feel for the impacts in different settings around the state, multiple projects were analyzed. Also, impacts for different types of projects (rural projects, suburban projects, metro Atlanta projects, senior citizen projects, etc.) were studied. Since the Georgia Department of Community Affairs has twelve regions, an attempt was made to analyze at least one project in each of these regions.

Data for 15 projects which were awarded credits during the period from 2001 to 2003 were received and used in the analysis. These projects are located in Bartow, Chatham, Cobb, Decatur, Dougherty, Fulton (2), Glynn, Hall, Houston (3), Richmond, Toombs, and Wayne Counties, as depicted in Figure 1. The 15 projects included both 9% and 4% (tax exempt bond) projects, family oriented projects and projects designed to house the elderly.

The Economic Impacts of the LIHTC Program

The federal legislature initiated the LIHTC program in response to a perceived shortfall in the nation's stock of affordable workforce housing. Without incentives, the private market could not provide the required quality housing at rental rates that were affordable to the target population earning less than 60% of the relevant area median income. When outside investors react to these tax credit incentives, the construction of a LIHTC project represents "new dollars" injected into the local economy that would otherwise not be invested.

The state legislature recognized that the federal incentives, although sufficient to finance affordable workforce housing in certain urban areas within Georgia, were not sufficient to finance the required housing in the more rural areas of the state. Also, without the state LIHTC program, many tax exempt bond financed projects which carry 4% federal tax credits would not be economically feasible. These bond projects are not subject to the cap on tax credits under the 9% program and thus represent increased federal incentives allocated to Georgia that would otherwise not be invested in the state.

The construction of workforce housing represents new demand in the region where it is constructed which has a ripple effect through the region's economic sectors that can be measured via economic multipliers. The impacted region is defined as the county in which the construction occurs, plus the contiguous counties. These extra counties are included because the commuting and spending patterns commonly spill over a host county's borders. This is especially true in Georgia where counties are geographically small.

Within a specific county or counties, construction spending on workforce housing that otherwise would not have occurred in that county or counties is considered 100% "incremental" increased spending in that sub-region.[2] All of this incre-

[2] *Incremental spending means new local spending that grows an economy, as opposed to transfer payments that just move spending from person-to-person or location-to-location.*

Figure 1
Location of Low-Income Housing Tax Credit Properties Used in the Analysis

mental spending within the sub-region will cause new incremental demand and result in growth for that sub-region. In metro Atlanta, the 9% Federal tax credits are, in many cases, sufficient to finance new or rehabilitated workforce housing. Outside of the Atlanta metro area however, the federal tax credits are, in most cases, not sufficient to finance such construction and thus, without the state credits, workforce housing would not be constructed outside the Atlanta metro area. Even within the Atlanta metro area, DCA has used the state credit to allow the targeting of lower income residents (those at 50% or even 30% of the Area Median Income rather than the 60% allowed by the federal tax credit regulations). These segments of the market could not be addressed with federal credits alone.

In addition to the 9% federal tax credits, there is also a 4% tax credit program which is used in conjunction with tax exempt bonds to finance additional workforce housing. These "bond" transactions simply will not work without state tax credits and they result in the additional infusion of federal tax credit dollars into the state economy that otherwise would not be spent in Georgia. These bond financed projects are 100% incremental deals, not only on a sub-regional basis, but also on a state-wide basis. These federal credits are in addition to and do not count against Georgia's allocation of federal credits under the 9% program.

On a state-wide basis, the state tax revenues must be balanced with state expenditures and thus state tax credits for workforce housing must be offset by increased taxes or reduced government spending. Thus, the construction spending for workforce housing on a statewide basis is not 100% incremental spending. In order to determine the incremental portion of the spending, the state credits must be deducted from the total amount of construction spending. For 9% tax credit projects, the state credits represent approximately 60% of the total construction spending. For bond financed projects, the state credits represent approximately 25% of the total construction spending.

We assume that when a LIHTC project is completed and it attracts tenants, the tenants are leaving vacant less desirable local housing. At their old housing, most tenants were paying for utilities and certain other monthly expenses just as they do in the new LIHTC project. Therefore, the "new dollars" that result from the operational phase of a LIHTC project are from those expenses that are in addition to that in the old, i.e. the expenses associated with the development's management office, maintenance operations and security. Furthermore, the LIHTC project is higher-value real estate, and we assume that the taxes and insurance payments are triple what they were in the old housing. Therefore, 66% of the reported taxes and insurance are considered to be "new dollars."

Direct, Indirect, and Induced Effects

When a local economy experiences a major construction project financed by outside investors, people are benefited by more than just the dollar value of the new construction. This is because the construction businesses will have a ripple effect on other businesses that sell supplies, and those businesses affect others on down the supply chain. Economists call the initial increase in economic activity, the "direct effect", and the subsequent ripples are the "indirect" and "induced" effects.

To be more precise, "direct effects" are the amount of the increased purchase of inputs used to manufacture or produce the final goods and services purchased by construction businesses. "Indirect effect" refers to the value of the inputs used by firms which are called upon to produce additional goods and services for those firms first impacted directly by construction spending. "Induced effects" result from the direct and indirect effects of construction spending. Induced effects are related to persons and businesses that receive added income as a result of local spending by employees and managers of the firms and plants

which are impacted by the direct and indirect effects of construction spending. This added income results in increased demand for goods and services and, in turn, increased production and sales of inputs. This increased production and sales of inputs represents the induced effect of LIHTC-related spending. The total economic effect of expenditures related to the new spending is the sum of direct, indirect, and induced effects (Walsh et al. 1987). Typically, the total effects are between 0.5 to 2 times more than the amount which the construction businesses originally spent in the local economy. This is referred to as the "economic multiplier". The direct, indirect and induced effects are estimated by input-output analysis, explained below:

Input-Output Analysis

Input-output analysis is one of the most widely applied methods in regional economic analysis (Miller and Blair, 1985). Input-output models basically consist of a system of linear equations which describe the linkages among production sectors in a given economy. The I-O model we use is generated by IMPLAN software. Through IMPLAN, one can construct a tailor-made I-O model for any group of counties or states (Alward et al. 1985). IMPLAN has 509 industrial sector categories that can account for any variety of new purchase patterns. Software modules calculate the direct, indirect and induced effects of construction spending or other final demand vectors. Interindustry linkages in the local economy determine the total output, value added, personal income, and employment impacts (Alward and Lofting 1985; Alward, et al. 1985; Propst 1985; Hotvedt, et al. 1988).

Description of the Data

Data on construction-related and operating expenses were obtained for 15 LIHTC projects scattered around Georgia, listed in Table 1. The projects contain about 110 rental units on average. Construction-related and annual operations data were obtained from the "Cost Certification" documents that are filed with the Department of Community Affairs. We obtained these documents for the 15 projects. Table 1 summarizes the cost items as direct impacts, as calculated in the input-output model. In most projects, the direct impacts will be equal to the sum of the cost items as reported in the cost certifications. Exceptions are where an impacted economic sector does not exist in the project's region. For example, few rural counties have specialized businesses such as architectural services. In these cases the service is provided by a business outside the project's region, and those dollars are lost from the localized impacts, both direct and indirect.

Table 1 reports the direct and indirect impacts for the construction phase and the annual operations, for each project and an overall average for the 15 projects. The direct impacts from construction averaged about $9.1 million, while the impacts from annual operations of the projects averaged about $3.2 million. To make these two figures comparable, the annual operating costs are reported in present value terms, discounted at five percent over 20 years. Annual operating costs include those items over and above what tenants had probably paid in their previous dwellings. Primarily, this is the cost of operating the development's office and the building maintenance operations.

The cost categories from the cost certifications are listed in Table A1, in Appendix A at the end of this document. The cost categories are listed together with the IMPLAN sector that each cost item has been assigned to. We performed this assignation process according to the industry descriptions contained in *North American Industry Standard Classification System* (1997).

Most of the assignments are straight forward. It should be noted that a major cost category, land purchase, is heavily discounted. Within an input-output model, the purchase of land does not represent an economic event per se because no pur-

Table 1. Direct and Total Economic Impacts for 15 LIHTC Projects, 2002 dollars

LIHTC Project	Location	Number of Units	Construction Direct Impact	Construction Total Impact	Annual * Operating Direct Impact	Annual * Operating Total Impact
Ashley Riverside	Albany, Dougherty Co	131	$12,274,950	$19,883,995	$3,814,966	$5,791,558
Ashton Landing	Perry, Houston Co	108	$7,682,820	$12,762,229	$2,833,593	$4,578,700
Auburn Glen	Atlanta, Fulton Co	271	$28,149,719	$51,163,703	$8,969,033	$15,604,332
The Chateau	Vidalia, Toombs Co	56	$4,500,653	$6,587,391	$1,063,487	$1,527,891
Columbia High Point	Atlanta, Fulton Co	94	$8,066,825	$14,473,204	$4,051,922	$6,991,755
Eagles Pointe	Brunswick, Glynn Co	168	$12,242,898	$18,022,608	$5,289,643	$7,853,953
Gatwick Senior Village	Perry, Houston Co	60	$3,650,228	$6,106,789	$1,219,925	$1,980,879
Heritage Place	Savannah, Chatham Co	88	$8,001,676	$13,521,302	$3,427,317	$5,726,493
Heritage Reserve	Austell, Cobb Co	105	$8,490,319	$15,130,901	$2,836,808	$4,704,568
Linden Square	Augusta, Richmond Co	48	$4,138,526	$6,790,757	$1,284,280	$2,051,814
Retreat at McEver	Gainesville, Hall Co	224	$14,214,009	$24,950,142	$5,639,794	$9,654,603
Ridgecrest	Warner Robins, Houston Co	60	$4,666,538	$7,759,475	$1,488,610	$2,384,019
Selman Place	Bainbridge, Decatur Co	56	$4,232,789	$5,936,586	$911,585	$1,309,428
Somerset Club	Cartersville, Bartow Co	120	$11,721,558	$19,908,110	$4,243,105	$6,805,346
Sunset Pointe	Jesup, Wayne Co	64	$5,255,200	$7,817,767	$1,160,306	$1,750,204
Average		110	$9,152,581	$15,387,664	$3,215,625	$5,247,703

** Annual operating costs have been converted to present values, discounted at 5% over 20 years.*

chases of supplies are involved in producing land. Rather, only the transaction costs are considered by the model. For example, we assigned eight percent of the value of the land purchase to the real estate sector.

A by-product of the analysis that is not shown is how the input-output model distributes direct impacts to a sector among its supporting sectors. For example, most of the construction costs are assigned to the "New Multifamily Housing Structures" sector. The model shows that restaurants, motels, and retail businesses are indirectly impacted when the construction workers live and work inside the regional economy.

Results of the Input-Output Analysis

Table 1 reports how each project has impacted the economic output of each regional economy. Again, economic output is the value of a region's production of goods and services. Total impacts are reported, which are the direct, indirect and induced impacts summed together. The tables in Appendix B contain the details of all 15 of the impacts, for regional economic output and three other indicators of economic performance. From Table 1, the average total impact from construction was about $15.4 million, and from the annual operating costs there was about $5.2 million total impact, in present value terms. Therefore, the LIHTC projects have a significant economic impact on local economies.

Table 2 reports the impacts in terms of employment. It indicates that the average project employed 94 people (full time equivalent basis) directly and this led to an overall increase of 163.6 jobs in the local economy. By comparison, job generation from the developments' annual operations is quite small, with four or five full-time jobs, on average.

Tax Implications of the LIHTC projects

Information in Table 3 addresses the state and local tax implications of the LIHTC projects. A subroutine in the IMPLAN software contains a table of tax rates which generates these estimates of the fiscal impacts. For the average project, state and

Table 2. Employment Impacts from 15 LIHTC Projects

LIHTC Project	Location	Construction Employment, Direct Impacts	Construction Employment, Total Impacts	Annual Operations Employment, Direct Impacts	Annual Operations Employment, Total Impacts
Ashley Riverside	Albany, Dougherty Co	134.1	234.4	6.1	8.3
Ashton Landing	Perry, Houston Co	84.8	149.2	4.9	6.7
Auburn Glen	Atlanta, Fulton Co	246.8	464.4	11.9	16.9
The Chateau	Vidalia, Toombs Co	53.0	81.4	2.2	2.7
Columbia High Point	Atlanta, Fulton Co	80.1	143.7	5.8	8.1
Eagles Pointe	Brunswick, Glynn Co	144.1	225.1	9.0	11.9
Gatwick Senior Village	Perry, Houston Co	43.3	74.6	2.2	3.0
Heritage Place	Savannah, Chatham Co	88.0	155.7	6.3	8.6
Heritage Reserve	Austell, Cobb Co	75.2	137.7	2.6	4.0
Linden Square	Augusta, Richmond Co	48.3	82.0	2.2	3.0
Retreat at McEver	Gainesville, Hall Co	136.1	246.2	8.4	11.3
Ridgecrest	Warner Robins, Houston Co	55.1	94.1	1.8	2.7
Selman Place	Bainbridge, Decatur Co	50.6	74.6	1.8	2.2
Somerset Club	Cartersville, Bartow Co	109.7	194.0	4.8	6.9
Sunset Pointe	Jesup, Wayne Co	61.5	96.6	2.1	2.7
Average		94.0	163.6	4.8	6.6

local revenue is estimated to have increased by $621,945 from construction activity, and the rental office operation generates an additional $313,084 in present value terms, discounted over 20 years. The total tax impact from the average LIHTC project was nearly $1 million.

The state of Georgia is forgoing revenue by offering the tax credits. Because of the need to have a balanced budget, this also implies a potential reduction in state spending. However, the impact on the state budget is smaller than the value of the tax credits because the economic activity generated by the construction and ongoing operation of the projects leads to increases in income and property values that produce tax revenues for the state and local governments (counties and cities). On average the state and local governments collected about 15 cents in new taxes for every one dollar of tax credit issued. While this does not completely cover the cost of the program, it should not be ignored as it significantly reduces the overall cost of the program. It is also worth noting that the vast majority of these tax revenues are paid in the first one or two years of a project's life, i.e. during the construction phase, while the tax credits are spread over a 10 year period from year 2 through year 12. Thus, the state will actually have a net surplus in the short run; that is, in the first one or two years of a project, the state may actually collect more in taxes than it gives away in credits.

Projections of the Program's Impact Statewide

Without the state tax credits, 4%/tax exempt bond projects would not be economically viable and would essentially disappear from the state of Georgia. Thus, we can extrapolate the results of the 15 projects studied here to the entirety of 4%/tax exempt bond projects built in Georgia since the state LIHTC program began. Taking the figures for 2001 through 2003 for which documentation is completed, there were 25,007 units constructed in Georgia under the LIHTC program. Multiplying the average impact per unit from the 15 projects studied in depth by the number of units constructed statewide yields an estimate of the total economic impact from the LIHTC program.

This method suggests that the total impact from construction (direct and indirect) was $812.7

Table 3. Tax Implications for 15 LIHTC projects

LIHTC Project	Location	Construction Tax Impacts	Annual Operations Tax Impacts(a)	Total Tax Impacts	Approved Tax Credit	Present Value of Tax Credits(b)
Ashley Riverside	Albany, Dougherty Co	$788,265	$362,052	$1,150,317	$750,000	$5,252,925
Ashton Landing	Perry, Houston Co	$471,481	$249,680	$721,161	$541,400	$3,791,911
Auburn Glen	Atlanta, Fulton Co	$2,155,272	$949,071	$3,104,343	$828,698	$5,804,118
The Chateau	Vidalia, Toombs Co	$245,757	$84,207	$329,964	$432,784	$3,031,176
Columbia High Point	Atlanta, Fulton Co	$624,642	$435,504	$1,060,146	$670,463	$4,695,856
Eagles Pointe	Brunswick, Glynn Co	$666,708	$465,139	$1,131,847	$725,000	$5,077,828
Gatwick Senior Village	Perry, Houston Co	$218,588	$107,225	$325,813	$223,521	$1,565,519
Heritage Place	Savannah, Chatham Co	$547,908	$324,453	$872,361	$693,776	$4,859,138
Heritage Reserve	Austell, Cobb Co	$604,570	$282,879	$887,449	$504,526	$3,533,650
Linden Square	Augusta, Richmond Co	$268,657	$132,473	$401,130	$314,701	$2,204,134
Retreat at McEver	Gainesville, Hall Co	$1,061,627	$560,587	$1,622,214	$444,796	$3,115,307
Ridgecrest	Warner Robins, Houston Co	$284,495	$120,684	$405,179	$271,108	$1,898,813
Selman Place	Bainbridge, Decatur Co	$208,891	$72,505	$281,396	$223,888	$1,568,089
Somerset Club	Cartersville, Bartow Co	$885,713	$453,362	$1,339,075	$358,602	$2,511,613
Sunset Pointe	Jesup, Wayne Co	$296,601	$96,433	$393,034	$302,488	$2,118,596
Average		$621,945	$313,084	$935,029	$485,717	$3,401,911

(a) Present value terms, discounted at 5 percent over twenty years.
(b) Present value terms, discounted at 5 percent over ten years.

million in 2001, $1.489 billion in 2002, and $1.055 billion in 2003. The present value of the operating impact (which will occur over the next 20 years) for these three years is an additional $1.115 billion, total. These impacts are summarized in Table 4 along with job impact estimates. In the aggregate, the LIHTC program has already generated or will generate through the life of the projects built in 2001 through 2003 (the first three years of the state LIHTC program) a present value economic impact of $4.47 billion. This compares to the net present value of the reduced state income taxes as a result of the state credits granted over the same three year period of between $660 million and $700 million. Stated another way, for each net dollar of lost state revenue, the LIHTC program generated $8.36 of new economic impact in the state. The program has also generated an average of 12,000 jobs (measured in full time equivalents) directly or indirectly caused by the construction of the apartments. These are extremely impressive totals for the economic impact of the program.

Table 4. Statewide Projections for Economic Impacts of the LIHTC Program

Year	Total Construction Impact	Total Operating Impact	Total Jobs Impact*	Number of Units
2001	$812.7 million	$269.9 million	9,027	6,055
2002	$1,488.7 million	$494.3 million	16,536	11,091
2003	$1,055.2 million	$351.9 million	11,721	7,861

** Jobs impact number is from construction only. There are a much smaller number of jobs created on an ongoing basis related to the operation of the projects.*

Social and Other Intangible Benefits of Quality Housing

Properties built with the LIHTC program yield high quality housing units for low-income residents. In fact, in the last four years, the Georgia Department of Community Affairs (DCA) has increased the minimum architectural requirements for this program. Most likely, new residents of LIHTC properties experience an increase in housing quality and/or an improvement in affordability by moving from old, poorly maintained apartments, house rentals, or rundown mobile homes. Furthermore, new LIHTC properties can spur community development and growth. Neighborhood revitalization due to LIHTC investment almost certainly will result in increased economic opportunities for local residents, which is particularly important in rural Georgia.

Substandard housing is unsafe and unhealthy. The primary non-economic benefit of living in a high quality, clean housing environment is seen in improved health status of its residents. Low-income families are more likely to live in older, rundown housing and be exposed to lead-based paint, asbestos, house dust mites and other environmental pollutants.

In Georgia, almost 1.5 million housing units were built before 1980 and may contain lead-based paint (Georgia Department of Human Resources, 2000). Lead paint and dust can enter human's blood system and affect brain development in young children, thus impairing their I.Q. and their future performance at school and work. Older, poorly maintained homes and rental units are more likely to have inefficient air cooling units and malfunctioning heating systems. Inefficient air cooling units create mold and moist conditions that can trigger asthma and upper respiratory illnesses. Unsafe, malfunctioning heating systems can lead to carbon monoxide poisoning.

Environmental pollutants, such as house dust mites and environmental tobacco smoke, are linked to the development and exacerbation of asthma. The U.S. Environmental Protection Agency's national guidelines for the diagnosis and management of asthma stressed the importance of controlling these environmental triggers. According to the U.S. Centers for Disease Control and Prevention (CDC), in 2001, 20.3 million Americans had asthma. Asthma is responsible for increased health care costs, loss of productivity for adults at work and for children at school.

In a longitudinal study, using UK's National Child Development Study data from over 80,000 responses from 1958 to 1991, Marsh et al. (2000) finds that multiple housing deprivation leads to a 25% greater risk of disability or severe ill health across the lifetime, controlling for social, economic, standard of living, genetic, behavioral factors that may also affect the health of an individual. Housing deprivation was measured by an index that included the quality and amenity of a dwelling, in addition to satisfaction with dwelling or residential area. From a comprehensive literature review, Marsh et al. (2000) also report the following associations between housing characteristics and physical health: overcrowding and infectious/respiratory disease; damp/mold and respiratory disease, eczema, and asthma; indoor pollutants and asthma; cold/low temperature and respiratory infection and heart disease.

The lack of affordable housing options may force families to pay too much for quality housing. Families paying more than 30% of their income for housing have a housing cost burden. Families with a housing cost burden have little to no income left to pay for other necessities such as food, health care, childcare, and transportation. Moreover, unaffordable housing includes those units that rely on inefficient heating and ventilation systems, consuming excessive energy and increasing expenditures beyond the household budget.

There are millions of families who want to rent or buy affordable housing, yet the number of low-income rental units is decreasing by al-

most one-half million each year, making housing units in an affordable price range for low-income families difficult to locate (National Association of Home Builders, 2001). Housing costs are more than many working families can afford. In 2005, to afford a two-bedroom apartment (using the not more than 30% of income rule of thumb), a worker in Atlanta Georgia needs to earn $16.04 per hour. This is much more than the median wages of a retail salesperson ($11.40) or janitor ($10.99) (Center for Housing Policy, 2005).

Many working families are severely housing cost burdened, paying 50% or more of their income for shelter. Severe housing cost burdening is linked to decreased rates of good health. It has been found that the children in poor, working families are more likely to have fair to poor health. Conversely, children from families with higher incomes are not as likely to experience these problems, since they have more resources not allocated to housing and therefore greater access to medical care (Lipman, 2005).

The lack of affordable rental housing units has been found to be a major barrier for low-income families attempting to work. Often, available affordable housing is located in places that have limited job opportunities and employees have to travel a great distance to the employment centers (Sard & Waller, 2002). Limited opportunity and long commutes do not improve chances of continued steady employment. If more rental units were available in these areas, some of the barriers for continued employment could be addressed. However, according to Lipman (2005) "commuting is a common strategy that working families use to cope with high housing costs" (p.8). Lipman (2005) also points out: "When the cost of transportation is considered together with the cost of housing, the percentage of working families paying more than half their total expenditures increases five-fold from 8.3% to 44.3% of working families" (p. 8).

Outside of Atlanta, LIHTC properties are, in some cases, the only active economic development in the community. Apart from increasing the housing quality of the area's residents, the neighborhood revitalization that is spurred by LIHTC investment is particularly important in rural Georgia. Figure 4 illustrates the location of LIHTC properties before the state program was enacted (1997-2000). Comparing this to Figure 5, which highlights the LIHTC property locations from 2001-2004, one can see that the state program has increased affordable rental housing production in rural Georgia.

The Georgia Low-Income Housing Tax Credit program has been responsible for the direct creation of numerous, quality, multi-family rental units in Georgia, allowing low-income people to move out of dilapidated homes that are more likely to be affected by environmental hazards that may deteriorate their health and successful insertion into society, school and the workforce. LIHTC properties are also an indirect catalyst for community development and improved economic opportunities for local residents.

Summary of Economic Impacts

This study has modeled the economic impact on local areas of Georgia that results from the LIHTC program. This program, by offering state tax credits that match federal tax credits on a dollar-for-dollar basis, strongly encourages and facilitates the construction of higher quality affordable housing for Georgia residents who otherwise might be trapped in substandard housing or forced to pay a huge percentage of their income to obtain suitable shelter. Our assumption is that these projects would not be built without the tax credit program because the economic returns to the projects would be too low to secure financing without the benefit of the LIHTC program.

The finding of this study is that the LIHTC program has generated substantial economic impacts

Figure 4

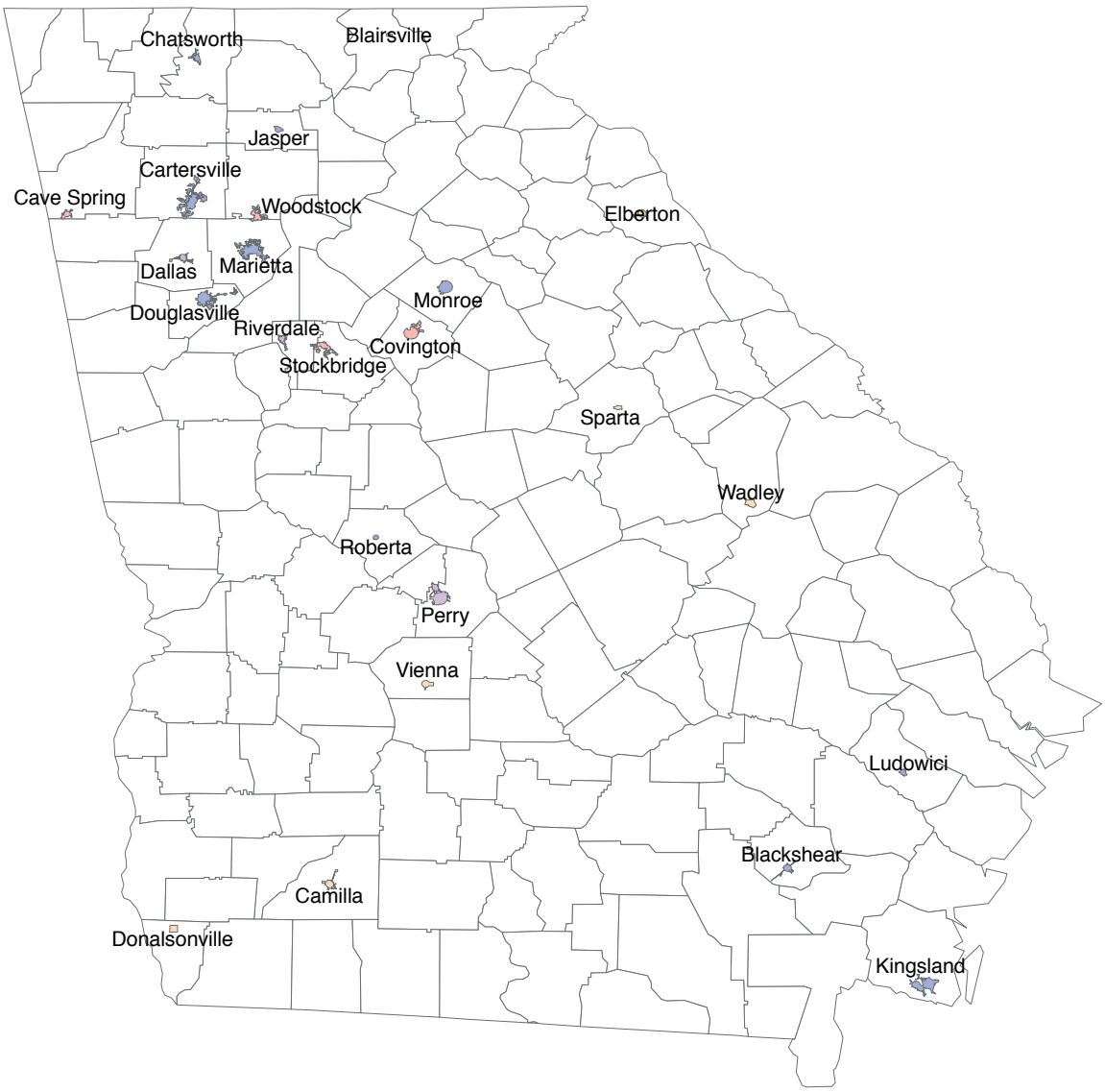
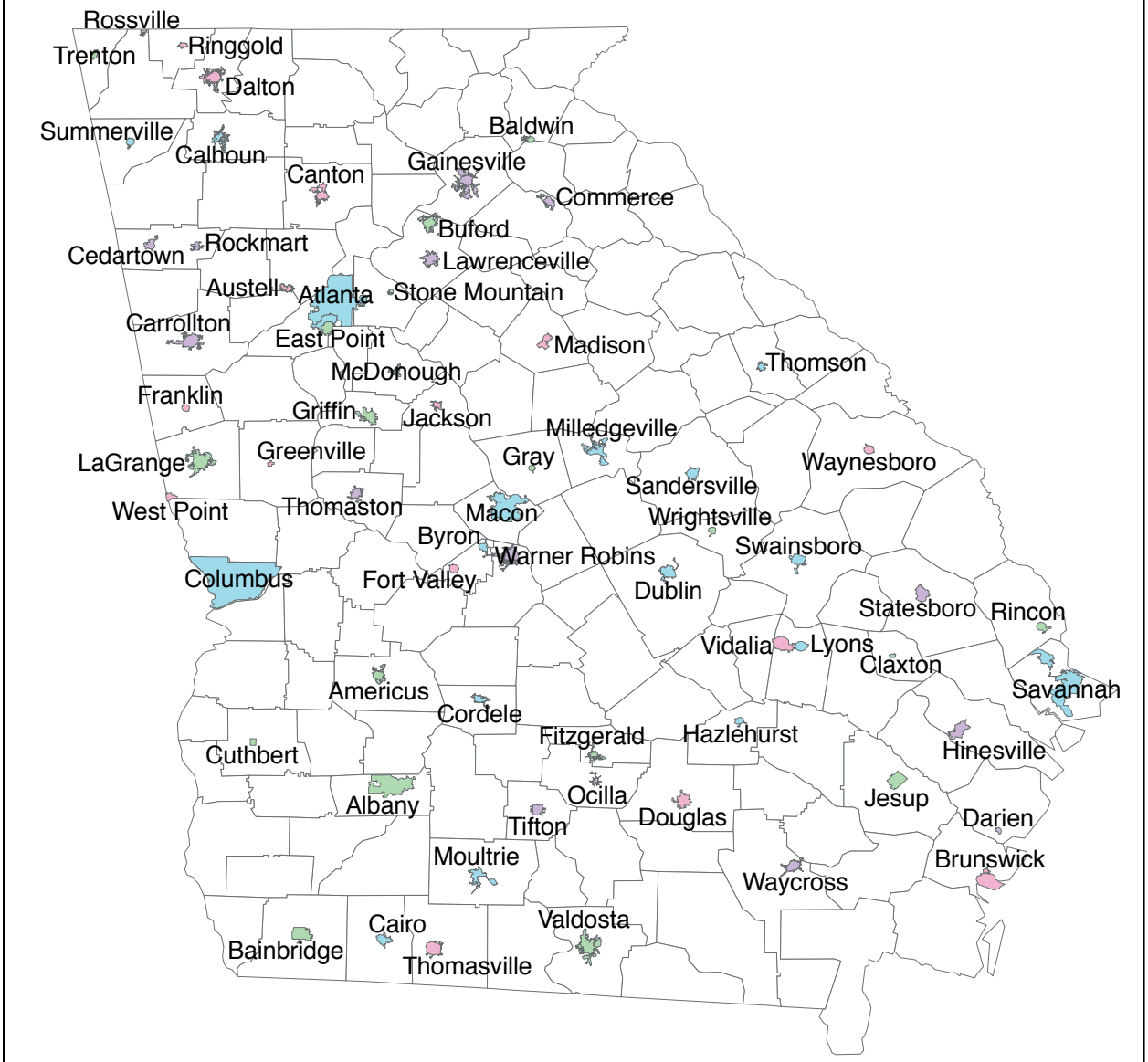

LIHTC Properties (9%) 1997-2000
Chatsworth
Blairsville
Jasper
Cartersville
Cave Spring
Woodstock
Elberton
Dallas
Marietta
Monroe
Douglasville
Riverdale
Covington
Stockbridge
Sparta
Wadley
Roberta
Perry
Vienna
Ludowici
Blackshear
Camilla
Donalsonville
Kingsland

Figure 5


LIHTC Properties (9%) 2001-2004
Rossville
Trenton
Ringgold
Dalton
Summerville
Calhoun
Canton
Baldwin
Gainesville
Commerce
Buford
Cedartown
Rockmart
Lawrenceville
Austell
Atlanta
Stone Mountain
Carrollton
East Point
Madison
Thomson
McDonough
Franklin
Griffin
Jackson
Milledgeville
LaGrange
Greenville
Gray
Waynesboro
Sandersville
West Point
Thomaston
Macon
Wrightsville
Byron
Warner Robins
Swainsboro
Columbus
Fort Valley
Dublin
Statesboro
Rincon
Vidalia
Lyons
Claxton
Savannah
Americus
Cordele
Fitzgerald
Hazlehurst
Hinesville
Cuthbert
Albany
Ocilla
Jesup
Douglas
Tifton
Darien
Moultrie
Brunswick
Waycross
Cairo
Valdosta
Bainbridge
Thomasville

for local economies in Georgia. We defined these local economies as the county in which the project is located and the surrounding (contiguous) counties. In total, these projects have produced, or will produce from their ongoing operation, a total economic impact within Georgia of $4.47 billion just in the first three years of the program. The program is also generating an annual average of over 12,000 jobs from the construction of the projects and indirect employment induced by that construction.

On average, the total economic impact of each of these projects is about 1.6 times the direct spending on the construction of the project. That is, if $10 million are spent to build a project, the project's county and the surrounding counties ends up with an economic impact of about $16 million because of the indirect effects of second round spending (as the workers spend their money and the people who sold the project services and supplies spend the money they made in other local stores). The projects also produce over 160 jobs on average for the local economy.

These impacts can be compared to the size of the tax credits allocated. On average, $8.36 of economic impact is created for every $1.00 in net tax credits allocated (both on a present value basis over 20 years using a 5% annual discount rate). This ratio varied by project from a low of $3.00 to a high of $24.73 per dollar of tax credit. The variation in return appears related to the size of the project (larger projects have a higher return of impact to tax credits) more than to the location of the project (although rural projects often tend to be smaller and thus have a smaller return per dollar of credit).

On the tax impact side, the state of Georgia is forgoing taxes by offering the tax credits. Because of the need to have a balanced budget, this also means a potential reduction in state spending. However, the impact on the state budget is smaller than the value of the tax credits because the economic activity generated by the construction and ongoing operation of the projects leads to increases in income and property values that produce tax revenues for the state and local governments (counties and cities). On average the state and local governments collected about 15 cents in new taxes for every one dollar of tax credit issued. While this does not completely cover the cost of the program, it should not be ignored as it does significantly reduce the overall cost of the program. It is also worth noting that the vast majority of these tax revenues are paid in the first one or two years of a project's life, while the tax credits are spread over ten years. Thus, the state will actually have a net surplus in the short run; that is, in the first one or two years of a project, the state may actually collect more in taxes than it gives away in credits.

Overall, the economic impact of these projects in dollars and jobs plus the partial offsetting of the cost by new tax revenues from that impact appears to be an excellent return to the state for the cost of the program. Billions of dollars and thousands of jobs are being generated to go with the non-economic benefits of improved quality of life for hundreds of residents of these projects.

Appendix A

Table A1. Assignment of Construction-related Cost Categories to IMPLAN Sectors

COST CERTIFICATION BUDGET ITEMS	IMPLAN SECTOR
PRE-DEVELOPMENT COSTS	
Property Appraisal	Real estate
Market Study	Management consulting services
Environmental Report(s)	Environmental and other technical consulting
Soil Borings	Architectural and engineering services
DCA Loan Application Fee(s)	State & Local Non-Education
Tax Credit Application Fee	State & Local Non-Education
Boundary & Topographical Survey	Architectural and engineering services
Zoning/Site Plan Fees	State & Local Non-Education
Misc. Dev costs	Real estate
ACQUISITION	
Land	Real estate (8%)
Acquisition Legal Fees (if existing structures)	Legal services
Existing Structures	Real estate (8%)
SITE IMPROVEMENTS	
Demolition	New multifamily housing structures, nonfarm
Site Preparation	New multifamily housing structures, nonfarm
Off-Site Improvements	Water, sewer, and pipeline construction
Site Drainage	New multifamily housing structures, nonfarm
CONSTRUCTION	
Unit Construction/Rehabilitation	New multifamily housing structures, nonfarm
Employee Units	New multifamily housing structures, nonfarm
Landscaping, Lighting, Signage	Services to buildings and dwellings
Streets, Walks, Parking	Highway, street, bridge, and tunnel construct
Unit Utilities Installation (Off-site costs not eligible)	Water, sewer, and pipeline construction
Accessory Building(s)	Commercial and institutional buildings
Project Amenities	Other new construction
Construction Contingency	New multifamily housing structures
CONTRACTOR SERVICES	
Builder's:	
Overhead	New multifamily housing structures, nonfarm
Profit	New multifamily housing structures, nonfarm
Gen'l Req'mts:	New multifamily housing structures, nonfarm
CONSTRUCTION FINANCING	
Construction Loan Fee	Nondepository credit intermediation and related
Construction Loan Interest	Nondepository credit intermediation and related
Construction Legal Fee	Legal services
Construction Insurance	Insurance carriers

DEVELOPMENT BUDGET	
PROFESSIONAL SERVICES	
Architectural Fee – Design	Architectural and engineering services
Architectural Fee – Supervision	Architectural and engineering services
Engineering	Architectural and engineering services
Real Estate Attorney	Legal services
Accounting	Accounting and bookkeeping services
LOCAL GOVERNMENT FEES	
Building Permits	State & Local Non-Education
Impact Fees	State & Local Non-Education
Water Tap Fees	State & Local Non-Education
Sewer Tap Fees	State & Local Non-Education
Real Estate Taxes	State & Local Non-Education
FINANCING FEES	
Permanent Loan Fees	Nondepository credit intermediation and related
Permanent Loan Legal Fees	Legal services
Title and Recording Fees	State & Local Non-Education
As-Built Survey	Architectural and engineering services
Bond Premium	Nondepository credit intermediation and related
Cost of Issuance / Underwriter's Discount	Insurance agencies, brokerages, and related
independent inspections	Architectural and engineering services
EQUITY COSTS	
Tax Credit Reservation Fee	State & Local Non-Education
LIHTC Compliance Monitoring Fee	State & Local Non-Education
Partnership Organization Fees	Legal services
Bridge Loan Fee and Bridge Loan Interest	Nondepository credit intermediation and rela
Tax Credit Legal Opinion	Legal services
DEVELOPER'S FEE	
Developer's Overhead	Management of companies and enterprises
Consultant's Fee	Management consulting services
Short-term Reserves (less than life of loan)	Nondepository credit intermediation and related
Developer's Profit	Management of companies and enterprises
START-UP AND RESERVES	
Rent-up Reserve / Working Capital	Nondepository credit intermediation and related
Marketing	Management consulting services
Operating Deficit Reserve:	Nondepository credit intermediation and related
Replacement Reserve	Nondepository credit intermediation and related
Construction Taxes (property)	State & Local Non-Education
F.F.&E./Decoration, Ofiice	Furniture and home furnishings stores
F.F.&E./Decoration, Clubhouse	Furniture and home furnishings stores

Appendix B

Economic Impacts of the Individual Projects

Economic impacts are listed for each of the 15 LIHTC projects in the following tables. The results for four economic indicators are displayed. Total output refers to the total value of goods and services that is generated from a project. Value added is a subset of the total output. It is the residual that a region retains after the value of purchased inputs is accounted for. Value added is seen in increased wages, business profits and public revenue. Income is a subset of value added and it includes salaries, wages and proprietors' profits. Finally, employment is just as indicated, i.e. the number of jobs.

The input output model generates four types of impacts for each of the economic indicators. The direct impact refers to the initial economic shock that the local economy experiences from the LIHTC project. Ordinarily, the direct impact is equal to the total construction cost, unless there is an impacted sector which does not physically exist inside the region. Few rural counties can provide architectural services, for example. These impacts will have to be leaked outside of the impact region and do not show up as direct impacts. Using the first table as an example, Dougherty County experienced a direct impact on total output of $12.3 million from the construction phase of the Ashley Riverside apartments.

Indirect impact is the ripple effect caused throughout the regional economy when there is an increase in final demand. For example, construction activity causes more business for local input providers such as lumber mills, fuel dealers, etc. The local restaurants, motels and other businesses also experience increases. In order to meet this new demand, those businesses must increase their own purchases of inputs, and the ripples spread throughout the economy. The input output model contains economic multipliers that quantify the ripple effects, and they are summed to produce the indirect impacts displayed in the following tables. Induced impacts are the same as the indirect, only they are slightly higher because they also contain the ripple effects which result when local households spend their increased wages. From Table B1, Dougherty County has experienced an additional $4.3 million impact on total output from the household expenditure ripple effects.

Total impact is the sum of the direct, indirect and induced. For Dougherty County, the $12.3 million initial impact on total output has led to an overall increase of $19.8 million in output throughout the local economy. An overall economic multiplier associated with the LIHTC project can be calculated by dividing the direct into the total impact. For the total output indicator, the multiplier of 1.62 says that for each dollar spent on constructing a LIHTC project, an additional $0.62 is generated throughout the economy. This process is repeated for each of the four indicators. For employment, the multiplier of 1.74 says that for each construction-related job, another 0.74 job is generated. The table labels these as "Type 2" multipliers because they contain the induced effects. Had they not contained the induced effects from households, then they would be "Type 1" multipliers and they would be considerably smaller.

Finally, each of the tables displays the state and local tax effects. A subroutine in the IMPLAN software contains a table of tax rates which generates these estimates of the fiscal impacts. For the Ashley Riverside project, state and local revenue is estimated to have increased by $788,265 from construction activity, and each year's operation generates an additional $29,052. Table 3 has also presented these figures on a present value basis, discounted over twenty years.

Table B1. Direct, Indirect and Induced Impacts from Ashley Riverside on Dougherty County and Six Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$12,274,950	$5,893,558	$4,787,344	134.1 Jobs
B. Indirect Impact	$3,323,017	$2,041,999	$1,368,741	44.7 Jobs
C. Induced Impact	$4,286,028	$2,679,208	$1,430,937	55.6 Jobs
D. Total Impact	$19,883,995	$10,614,765	$7,587,021	234.4 Jobs
Type 2 Multiplier (D/A)	1.62	1.80	1.58	1.74

State and Local Tax Impact: $788,265
Economic Impact per $1 net tax loss: $6.26

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$306,123	$220,635	$135,618	6.1 Jobs
B. Indirect Impact	$50,029	$32,298	$20,333	0.8 Jobs
C. Induced Impact	$108,577	$67,872	$36,250	1.4 Jobs
D. Total Impact	$464,730	$320,805	$192,201	8.3 Jobs
Type 2 Multiplier (D/A)	1.52	1.45	1.42	1.36

State and Local Tax Impact: $29,052

Table B2. Direct, Indirect and Induced Impacts from Ashton Landing on Houston County and Seven Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$7,682,820	$3,693,121	$2,956,558	84.8 Jobs
B. Indirect Impact	$2,232,199	$1,373,494	$908,855	28.7 Jobs
C. Induced Impact	$2,847,210	$1,769,074	$951,144	35.7 Jobs
D. Total Impact	$12,762,229	$6,835,689	$4,816,557	149. 2 Jobs
Type 2 Multiplier (D/A)	1.66	1.85	1.62	1.76

State and Local Tax Impact: $471,481
Economic Impact per $1 net tax loss: $5.65

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$227,375	$161,412	$112,941	4.9 Jobs
B. Indirect Impact	$44,208	$27,977	$17,151	0.6 Jobs
C. Induced Impact	$95,824	$59,539	$32,011	1.2 Jobs
D. Total Impact	$367,407	$248,928	$162,103	6.7 Jobs
Type 2 Multiplier (D/A)	1.66	1.54	1.43	1.36

State and Local Tax Impact: $20,035

Table B3. Direct, Indirect and Induced Impacts from Auburn Glen on Fulton County and Nine Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$28,149,719	$15,498,993	$12,109,443	246.8 Jobs
B. Indirect Impact	$9,044,394	$5,800,927	$3,785,958	85.6 Jobs
C. Induced Impact	$13,969,590	$8,854,467	$4,859,962	132.0 Jobs
D. Total Impact	$51,163,703	$30,154,387	$20,755,363	464.4 Jobs
Type 2 Multiplier (D/A)	1.81	1.94	1.71	1.88

State and Local Tax Impact: $2,155,272
Economic Impact per $1 net tax loss: $24.73

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$719,699	$516,148	$340,806	11.9 Jobs
B. Indirect Impact	$173,023	$113,472	$68,152	1.7 Jobs
C. Induced Impact	$359,411	$227,809	$125,038	3.4 Jobs
D. Total Impact	$1,252,133	$857,429	$533,996	16.9 Jobs
Type 2 Multiplier (D/A)	1.74	1.66	1.56	1.42

State and Local Tax Impact: $76,156

Table B4. Direct, Indirect and Induced Impacts from The Chateau on Toombs County and Four Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$4,496,153	$2,069,277	$1,674,919	53.0 Jobs
B. Indirect Impact	$1,037,780	$610,466	$394,098	14.0 Jobs
C. Induced Impact	$1,053,458	$664,307	$328,108	14.3 Jobs
D. Total Impact	$6,587,391	$2,344,049	$2,397,124	81.4 Jobs
Type 2 Multiplier (D/A)	1.46	1.13	1.43	1.53

State and Local Tax Impact: $245,757
Economic Impact per $1 net tax loss: $3.00

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$85,337	$63,794	$50,710	2.2 Jobs
B. Indirect Impact	$9,506	$6,121	$3,808	0.1 Jobs
C. Induced Impact	$27,759	$17,505	$8,646	0.4 Jobs
D. Total Impact	$122,602	$87,402	$63,164	2.7 Jobs
Type 2 Multiplier (D/A)	1.43	1.37	1.24	1.22

State and Local Tax Impact: $6,757

Table B5. Direct, Indirect and Induced Impacts from Columbia High Point Senior Apartments on Fulton County and Eight Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$8,066,825	$4,211,211	$3,494,429	80.1 Jobs
B. Indirect Impact	$2,603,331	$1,647,887	$1,071,674	26.5 Jobs
C. Induced Impact	$3,803,048	$2,398,773	$1,284,725	37.1 Jobs
D. Total Impact	$14,473,204	$8,257,870	$5,850,828	143.7 Jobs
Type 2 Multiplier (D/A)	1.79	1.96	1.67	1.79

State and Local Tax Impact: $624,642
Economic Impact per $1 net tax loss: $5.90

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$325,137	$234,660	$105,906	5.8 Jobs
B. Indirect Impact	$73,935	$48,047	$28,556	0.8 Jobs
C. Induced Impact	$161,965	$102,159	$54,714	1.6 Jobs
D. Total Impact	$561,037	$384,866	$189,176	8.1 Jobs
Type 2 Multiplier (D/A)	1.72	1.64	1.78	1.39

State and Local Tax Impact: $34,946

Table B6. Direct, Indirect and Induced Impacts from Eagles Pointe Apartments on Glynn County and Four Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$12,242,898	$5,671,851	$4,604,204	144.1 Jobs
B. Indirect Impact	$2,673,858	$1,641,298	$1,042,812	39.5 Jobs
C. Induced Impact	$3,105,852	$2,020,456	$1,014,868	41.5 Jobs
D. Total Impact	$18,022,608	$9,333,606	$6,661,884	225.1 Jobs
Type 2 Multiplier (D/A)	1.47	1.64	1.44	1.56

State and Local Tax Impact: $666,708
Economic Impact per $1 net tax loss: $6.56

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$424,455	$300,711	$220,534	9.0 Jobs
B. Indirect Impact	$69,740	$44,146	$26,789	1.1 Jobs
C. Induced Impact	$136,028	$88,490	$44,448	1.8 Jobs
D. Total Impact	$630,222	$433,347	$291,772	11.9 Jobs
Type 2 Multiplier (D/A)	1.48	1.44	1.32	1.32

State and Local Tax Impact: $37,324

Table B7. Direct, Indirect and Induced Impacts from Gatwick Senior Village on Houston County and Seven Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$3,650,225	$1,698,816	$1,422,696	43.3 Jobs
B. Indirect Impact	$1,080,890	$666,642	$444,938	14.1 Jobs
C. Induced Impact	$1,375,673	$854,755	$459,560	17.2 Jobs
D. Total Impact	$6,106,789	$3,220,213	$2,327,194	74.6 Jobs
Type 2 Multiplier (D/A)	1.67	1.89	1.63	1.72

State and Local Tax Impact: $218,588
Economic Impact per $1 net tax loss: $6.52

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$97,890	$71,339	$51,814	2.2 Jobs
B. Indirect Impact	$17,800	$11,295	$6,917	0.3 Jobs
C. Induced Impact	$43,261	$26,880	$14,452	0.5 Jobs
D. Total Impact	$158,951	$109,514	$73,183	3.0 Jobs
Type 2 Multiplier (D/A)	1.62	1.53	1.41	1.36

State and Local Tax Impact: $8,604

Table B8. Direct, Indirect and Induced Impacts from Heritage Place Apartments on Chatham County and Two Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$8,001,676	$3,790,754	$3,044,527	88.0 Jobs
B. Indirect Impact	$2,399,269	$1,478,462	$977,252	30.1 Jobs
C. Induced Impact	$3,120,357	$1,953,290	$1,054,286	37.6 Jobs
D. Total Impact	$13,521,302	$7,222,506	$5,076,065	155.7 Jobs
Type 2 Multiplier (D/A)	1.68	1.90	1.66	1.76

State and Local Tax Impact: $547,908
Economic Impact per $1 net tax loss: $4.83

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$275,017	$186,600	$135,874	6.3 Jobs
B. Indirect Impact	$60,511	$38,674	$23,923	0.8 Jobs
C. Induced Impact	$123,980	$77,610	$41,890	1.5 Jobs
D. Total Impact	$459,509	$302,883	$201,686	8.6 Jobs
Type 2 Multiplier (D/A)	1.67	1.62	1.48	1.36

State and Local Tax Impact: $26,035

Table B9. Direct, Indirect and Induced Impacts from Heritage Reserve at Walton on Cobb County and Five Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$8,490,319	$4,734,661	$3,855,958	75.2 Jobs
B. Indirect Impact	$2,540,060	$1,639,619	$1,080,288	24.1 Jobs
C. Induced Impact	$4,100,522	$2,618,498	$1,440,988	38.4 Jobs
D. Total Impact	$15,130,901	$8,992,779	$6,377,234	137.7 Jobs
Type 2 Multiplier (D/A)	1.79	1.89	1.65	1.83

State and Local Tax Impact: $604,570
Economic Impact per $1 net tax loss: $7.50

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$227,633	$170,325	$103,659	2.6 Jobs
B. Indirect Impact	$47,935	$31,405	$19,056	0.4 Jobs
C. Induced Impact	$101,939	$65,096	$35,823	1.0 Jobs
D. Total Impact	$377,507	$266,825	$158,537	4.0 Jobs
Type 2 Multiplier (D/A)	1.65	1.56	1.53	1.54

State and Local Tax Impact: $22,699

Table B10. Direct, Indirect and Induced Impacts from Linden Square Apartments on Richmond County and Four Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$4,138,526	$1,954,612	$1,564,350	48.3 Jobs
B. Indirect Impact	$1,166,259	$702,952	$455,983	15.4 Jobs
C. Induced Impact	$1,485,972	$919,256	$490,983	18.3 Jobs
D. Total Impact	$6,790,757	$3,576,819	$2,510,781	82.0 Jobs
Type 2 Multiplier (D/A)	1.64	1.83	1.60	1.69

State and Local Tax Impact: $268,657
Economic Impact per $1 net tax loss: $4.90

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$103,054	$69,940	$44,815	2.2 Jobs
B. Indirect Impact	$22,150	$13,962	$8,792	0.3 Jobs
C. Induced Impact	$39,439	$24,398	$13,031	0.5 Jobs
D. Total Impact	$164,643	$108,299	$66,638	3.0 Jobs
Type 2 Multiplier (D/A)	1.59	1.54	1.49	1.36

State and Local Tax Impact: $10,630

Table B11. Direct, Indirect and Induced Impacts from Retreat at McEver Apartments on Hall County and Six Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$14,214,009	$7,584,489	$6,021,132	136.1 Jobs
B. Indirect Impact	$4,450,656	$2,807,494	$1,844,803	46.5 Jobs
C. Induced Impact	$6,285,476	$3,946,938	$2,087,715	63.7 Jobs
D. Total Impact	$24,950,142	$14,338,921	$9,953,650	246.3 Jobs
Type 2 Multiplier (D/A)	1.75	1.89	1.65	1.81

State and Local Tax Impact: $1,061,627
Economic Impact per $1 net tax loss: $23.18

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$452,552	$339,054	$258,090	8.4 Jobs
B. Indirect Impact	$88,075	$57,919	$34,853	1.0 Jobs
C. Induced Impact	$234,083	$146,991	$77,750	2.4 Jobs
D. Total Impact	$774.711	$543,964	$370,693	11.3 Jobs
Type 2 Multiplier (D/A)	1.71	1.60	1.43	1.40

State and Local Tax Impact: $44,983

Table B12. Direct, Indirect and Induced Impacts from Ridgecrest on Houston County and Seven Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$4,666,538	$2,295,427	$1,852,642	55.1 Jobs
B. Indirect Impact	$1,330,641	$815,514	$539,876	17.0 Jobs
C. Induced Impact	$1,762,296	$1,094,978	$588,716	22.1 Jobs
D. Total Impact	$7,759,475	$4,205,919	$2,981,234	94.1 Jobs
Type 2 Multiplier (D/A)	1.66	1.82	1.60	1.71

State and Local Tax Impact: $284,495
Economic Impact per $1 net tax loss: $6.79

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$119,450	$82,617	$54,600	1.8 Jobs
B. Indirect Impact	$24,644	$15,001	$9,487	0.4 Jobs
C. Induced Impact	$47,206	$29,331	$15,770	0.6 Jobs
D. Total Impact	$191,300	$126,949	$79,857	2.7 Jobs
Type 2 Multiplier (D/A)	1.60	1.53	1.46	1.50

State and Local Tax Impact: $9,684

Table B13. Direct, Indirect and Induced Impacts from Selman Place Apartments on Decatur County and Five Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$4,232,789	$1,891,135	$1,526,929	50.6 Jobs
B. Indirect Impact	$799,456	$461,946	$285,713	11.8 Jobs
C. Induced Impact	$904,341	$559,761	$271,970	12.1 Jobs
D. Total Impact	$5,936,586	$2,912,841	$2,084,612	74.6 Jobs
Type 2 Multiplier (D/A)	1.40	1.54	1.36	1.47

State and Local Tax Impact: $208,891
Economic Impact per $1 net tax loss: $5.63

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$73,148	$58,024	$41,352	1.8 Jobs
B. Indirect Impact	$9,402	$6,031	$3,789	0.1 Jobs
C. Induced Impact	$22,521	$13,940	$6,773	0.3 Jobs
D. Total Impact	$105,072	$72,995	$51,914	2.2 Jobs
Type 2 Multiplier (D/A)	1.43	1.25	1.25	1.22

State and Local Tax Impact: $5,818

Table B14. Direct, Indirect and Induced Impacts from Somerset Cove on Bartow County and Seven Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$11,721,558	$6,568,751	$5,187,939	109.7 Jobs
B. Indirect Impact	$3,217,887	$2,047,979	$1,317,569	33.8 Jobs
C. Induced Impact	$4,968,665	$3,178,050	$1,689,313	50.5 Jobs
D. Total Impact	$19,908,110	$11,794,780	$8,194,821	194.0 Jobs
Type 2 Multiplier (D/A)	1.69	1.79	1.57	1.76

State and Local Tax Impact: $885,713
Economic Impact per $1 net tax loss: $22.78

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$340,478	$266,039	$172,366	4.8 Jobs
B. Indirect Impact	$57,406	$37,435	$21,666	0.6 Jobs
C. Induced Impact	$148,194	$94,788	$50,385	1.5 Jobs
D. Total Impact	$546,079	$398,262	$244,417	6.9 Jobs
Type 2 Multiplier (D/A)	1.60	1.49	1.42	1.43

State and Local Tax Impact: $36,379

Table B15. Direct, Indirect and Induced Impacts from Sunset Pointe on Wayne County and Six Surrounding Counties, 2002 dollars.

Impacts from Construction

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$5,255,200	$2,394,636	$1,912,916	61.5 Jobs
B. Indirect Impact	$1,229,692	$729,381	$461,626	17.7 Jobs
C. Induced Impact	$1,332,874	$859,915	$427,073	17.5 Jobs
D. Total Impact	$7,817,767	$3,983,932	$2,801,616	96.6 Jobs
Type 2 Multiplier (D/A)	1.48	1.66	1.46	1.57

State and Local Tax Impact: $296,601
Economic Impact per $1 net tax loss: $5.54

Impacts from One Year's Operation

	Economic Indicator			
	Total Output	Value Added	Income	Employment
A. Direct Impact	$93,106	$73,206	$59,949	2.1 Jobs
B. Indirect Impact	$11,224	$7,186	$4,385	0.2 Jobs
C. Induced Impact	$36,112	$23,298	$11,571	0.5 Jobs
D. Total Impact	$140,441	$103,689	$75,904	2.7 Jobs
Type 2 Multiplier (D/A)	1.51	1.41	1.26	1.28

State and Local Tax Impact: $7,738

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