The Economic Impact on the City of Atlanta of the Atlanta Housing Authority's Mixed Income Communities Revitalization Program

Phase 1:

Residential Household Spending and Construction Impacts

Final Version

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I. Introduction

The seventeen-year Atlanta Housing Authority (AHA) transformation of traditional public housing "projects" into new mixed-income, mixed finance (and privately owned and operated) communities has generated nationwide interest in the press, the academy, and among government policy makers. Implemented in cooperation with the innovative 1992 HOPE VI federal grants program, it has been praised as a model for dramatically reducing the concentrations of extreme poverty and social pathology that have preyed on poor residents and their broader communities, generating hope and improvements in the lives of those provided better housing while offering relief to the broader community long plagued by the negative spillovers of those former urban battlefields. And despite controversial data on the topic, it has been criticized as dispersing the poor and their "bad habits" more broadly throughout Atlanta and its neighbors, while being more successful as urban gentrification than urban housing reform for the poor.

Appendix E provides a summary of the methodologies and the generally favorable findings from the major studies that have attempted to address the complex issues of empirical evidence and causation regarding the consequences of this important social and economic experiment. But the scope of this particular study differs from these others in two primary ways. Firstly, it focuses on the economic impacts upon neighborhoods and the City at large and not on tracing the lives of a sample of former AHA public housing resident clients as they re-settle into new homes either through "housing choice" vouchers (formerly "Section 8" vouchers), or into new homes directly within the new mixed income communities themselves. Secondly, in contrast to a case study of a particular new mixed income community (of which there are several at different stages of community development), it seeks to measure economic impacts as of 2009-2010 for each of the new communities (or cluster of individual communities), with the goal of aggregating those impacts to the City of Atlanta for the total number of years of each community's existence. Measured in 2009-2010 dollars, it would also be possible to project the annual economic impacts to Atlanta over the next nine years to 2020.

Because of analytical challenges and data requirements, that part of the study attempting to measure the various direct community socio-economic and externality (spillover) impacts is being released in Phase 2.[1] This Phase 1 study focuses on two other aspects of the economic impact on Atlanta of the HOPE VI inspired mixed community revitalizations: (1) the injection of additional spending and resulting incremental economic activity into the City of Atlanta from households relocating to the mixed income communities from outside Atlanta; this is a recurring source of direct, indirect and induced economic impacts on the City as measured by incremental output, income, employment and tax revenues; and (2) the injection of additional spending from non-local sources, and resulting economic activity, into the City during the demolition of the former public housing sites and construction of the new housing in the revitalized communities; this economic impact occurs for any one community over a defined finite time period and is not a recurring source of economic impacts on the City.

II. A Description of the Communities Being Studied

Before the Atlanta Housing Authority, under the leadership of Renee Lewis Glover, began its partnership with the HOPE VI program and private property developers to transform public housing into modernized mixed income communities, the very poor households in Atlanta served by the AHA were housed in forty-three (43) public housing projects. The process of demolishing those public housing projects began with the replacement of Techwood Homes and Clark Howell Homes with Centennial Place, and by July 19, 1996 enough progress had been made in Phase I of that multi-family development to be able to show a furnished model apartment. Steady replacement of traditional public housing developments has continued, with recent projects (2009-2010) including Herndon Homes, Bowen Homes, Bankhead Courts, Hollywood Courts, Thomasville Heights, MLK Tower, and University Homes. Palmer Homes and Roosevelt Homes are in the process of being razed, with the latter demolition scheduled for February 27, 2011.[2]

[1] Phase 2 hopes to address the very complex effects of revitalization on community census tract measures of population, number of housing units, percentage of owner occupied housing, percentage of vacant housing, average educational achievement, labor force participation rates, unemployment rates, median household income, median house values, indicia of poverty, crime rates, and property loss measures. Recent and pending releases of Census 2010 data are important to this Phase. It also attempts to isolate possible effects, at varying distances from the communities, on property values and property tax revenues, retail, office and apartment construction; prices per living unit of apartment sales and apartment rents, price per square foot of retail sales activity, retail rents per square foot and vacancy rates, and the development of restaurants and other retail activity beyond fast-food, bars, and liquor stores. Some studies of negative externalities (related to retail sites, not public housing) suggest that neighboring housing prices can fall by as much as $14,453, but the results of this and other externalities is very sensitive to distance, with the effect sometimes becoming minimal as close as 717 feet, although sometimes as far as 1,114 feet from the site. See e.g., Matthews and Turnbull (2007). Rich et al. (2010) analyzed crime rates at distances of a quarter mile, half mile and one mile from the McDaniel Glen property (pp-81-82).

[2] A recent press release describes further activity resulting from the March 2009 awarding to the AHA of $26.5 million for capital improvements at thirteen (13) communities via the American Recovery and Reinvestment Act. Work is scheduled to be completed by August 30, 2011, and includes upgrades to

The focus of this study regarding the relocation of households into the City of Atlanta is sixteen (16) of the existing revitalized communities ranging from the earliest, Centennial Place identified above (with Phase I completed in 1997), to the most recent, Capitol Gateway (completed in 2007) replacing Capitol Homes, and Auburn Pointe (completed in 2008) replacing Grady Homes. Table 1 provides descriptive information about these sixteen communities, including the names of the ten (10) public housing developments they replaced, addresses, zip codes, census tracts, and dates regarding the completion of construction on the new communities as identified both by the real estate research firm REIS, Inc. as well as the Atlanta Housing Authority. These communities represent nine (9) Atlanta zip codes and thirteen (13) census tracts within the City of Atlanta.

Measured to the end of 2009, the number of years over which these revitalized communities has been operating ranges from twelve (Centennial Place) to one (Auburn Pointe), with an average number of years of 6.5. As described by Ms. Glover, "we set out to replace isolated public housing projects with economically integrated, market-quality mixed-income communities that are developed, owned, and managed by private sector real estate professionals" (Glover, *Atlanta Blueprint*, p. 43). Each community includes a mixture of market rate, tax credit, and public housing classified housing units, with the total number of units ranging from 608 at Centennial Place to 78 at Ashley Collegetown (as reported by REIS, Inc.)

Table 1
Sixteen Revitalized Communities
(Household Spending Analysis)

Revitalized Community	Former Public Housing Development	Address	Zip	Census Tract	REIS * Date	Earliest AHA Date
Magnolia Park	John Eagan Homes	600 Paschal Blvd	30314	49.00	2001	1/31/2001
Columbia Commons	NA Offsite Replacement	2508 MLK SW	30311	81.02	2005	1/31/2004
Columbia Estates	Perry Homes	1810 Perry Blvd NW	30318	86.02	2003-04	1/31/2004
Columbia Park Citi	Perry Homes	921 Westmoreland Ave	30318	209.00	2006	12/31/2004
Villages at Carver	Carver Homes	201 Moury Ave.	30315	55.02	2001-03	11/31/2001
Capitol Gateway	Capitol Homes	89 Woodward Ave SE	30312	48.00	2007	7/31/2007
Ashley Terrace West End	NA Offsite Replacement	717 Lee Street	30310	42.00	2001	7/31/2001
Atrium at Collegetown	Harris Homes	435 Joseph Lowry Blvd	30310	42.00	2005	12/31/2005
Ashley Collegetown	Harris Homes	387 Joseph Lowry Blvd	30310	42.00	2005 I	7/31/2005
Columbia Grove	Perry Homes	1783 Johnson Rd NE	30318	201.00	2007	4/30/2007
Villages at East Lake	Eastlake Meadows	460 Eastlake Blvd SE	30317	208.02	1996-98	9/30/1998
Ashley Cascade	Kimberly Courts	1371 Kimberly Way	30331	78.02	2001	4/30/2001
Columbia Creste	Perry Homes	1903 Drew Drive NW	30318	214.06	2006	12/31/2005

eleven (11) high-rises for senior and young disabled residents. Since those projects are not directly part of the mixed income communities revitalization program, they are not a part of this study.

Auburn Pointe	Grady Homes	115 Hilliard St.	30312 33.00	2008	9/30/2007
Centennial Place	Techwood/Clark Howell	526 Centennial Park Dr.	30313 19.00	1997-01	5/31/1997
Villages Castleberry Hill	John Hope Homes	600 Greensferry Ave SW	30317 43.00	1999 I 2000 II	4/30/1999

Note: * From the REIS, Inc. (New York, NY) database of commercial real estate

While there are sixteen new communities replacing ten (10) former public housing projects for which data exist regarding household income, composition, and previous zip code domicile, construction data exist regarding the elimination of eleven (11) former public housing projects applicable to twenty-five (25) "AHA mixed-income residential development phases," and fourteen (14) named "revitalization master plan" communities. Table 2 (following page) identifies these communities that are applicable to the construction economic impact analysis in Section V.

Table 2
Communities applicable to Construction Impact Analysis

AHA Mixed-Income Residential Development Phases	Revitalization Master Plan	Former Public Housing Development
Ashley Courts Cascade I/II/III	Ashley Courts at Cascade	Kimberly Courts
Veranda at Auburn Pointe	Auburn Pointe	Grady Homes
Capitol Gateway I/II	Capitol Gateway	Capitol Homes
Centennial Place I/II/III/IV	Centennial Place	Techwood Homes, Clark Howell Homes
Ashley Terrace at West End	Ashley Terrace Westend	Off-site replacement housing for Techwood Homes/Clark Howell
Ashley Collegetown	Collegetown at Westend	Harris Homes
Atrium at Collegetown	Collegetown at Westend	Harris Homes
Gardens at Collegetown	Collegetown at Westend	Harris Homes
Veranda at Collegetown *	Collegetown at Westend	Harris Homes
Columbia Village	Columbia Village	Off-site replacement housing for East Lake Meadows
Columbia Commons	Columbia Commons	Off-site replacement housing for Techwood Homes/Clark Howell
Magnolia Park I/II	Magnolia Park	John Eagan Homes
Columbia Mechanicsville Apt	Mechanicsville	McDaniel Glenn
Columbia Senior Residences at Mechanicsville	Mechanicsville	McDaniel Glenn
Mechanicsville Crossing	Mechanicsville	McDaniel Glenn
Mechanicsville Station	Mechanicsville	McDaniel Glenn
Villages at Carver I/II/III/IV	The Villages at Carver	Carver Homes
Veranda at Carver *	The Villages at Carver	Carver Homes
Village at Castleberry Hill I/II	Village Castleberry Hill	John Hope Homes
Villages of East Lake I/II	Villages of East Lake	East Lake Meadows
Columbia Creste	West Highlands at Herman E. Perry Blvd	Perry Homes
Columbia Estates	West Highlands at Herman E. Perry Blvd	Perry Homes
Columbia Grove	West Highlands at Herman E. Perry Blvd	Perry Homes
Columbia Park Citi	West Highlands at Herman E. Perry Blvd	Perry Homes
Columbia Heritage *	West Highlands at Herman E. Perry Blvd	Perry Homes

* Project Based Rental Assistance Developments for Seniors

As noted, there has been controversy regarding these new communities. Some advocates for the poor have argued that Atlanta's poorest households, despite the admittedly widespread social and economic problems rampant in the former public housing projects, are not being well served by the substitution of these mixed-income communities for the

former housing projects. While most academic studies regarding the fate of the former project residents have reported quite positive overall results, this study does not address the issue of how well or how poorly individual former public housing residents are faring under the AHA transformations.[3] Phase 2 of this study, as reported above and in footnote 1, will attempt to address related issues regarding positive or negative spillovers of these new communities at the census tract level, and as measured at varying radii from the revitalized communities. But Phase 1 focuses on the proper measurement of the likely to be less controversial economic benefits to the City of Atlanta from the expanded economic activity and consequent related economic impacts of households attracted to live in the new revitalized communities, and the economic impacts of the injection of considerable funding into the City from outside of Atlanta during the demolition and construction phases of the new community projects.

III. A Summary of the Findings

Before describing in detail the data and methodology used to calculate these economic impacts, the key findings can be summarized as follows.

A. Summary of the Aggregate Household Spending and Construction Investment Economic Impacts:

1. The aggregate household spending impact on city output (value of gross city product) since the inception of the revitalization program on the Atlanta economy across all 16 communities has been **$165.785 million**.

2. The aggregate construction investment impact on city output (gross city product) across all communities has been an additional **$1.507 billion.**

3. The sum of these two aggregate impacts, viewed as increases in the incremental value of gross domestic product to the Atlanta economy is **$1.673 billion**.

4. The aggregate wage and salary earnings generated over the history of the revitalization program as a result of the attraction of additional households to the mixed income communities is **$76.695 million,** plus an additional **$697.316**

[3] A very recent example is Anil, Sjoquist and Wallace (2010), whose econometric study "The Effect of a Program-Based Housing Move on Employment: HOPE VI in Atlanta," concluded (among other findings) that the move of former public housing residents out of such housing "has a positive and statistically significant effect on the probability of employment for those residents who moved relative to other public housing tenants." See *Southern Economic Journal*, 77(1), July 2010, pp. 138-160. Newspaper accounts of the controversies include Pratt (2008), where the Atlanta experience plays a prominent role in the debate about extending the experiment to Las Vegas, and Stirgus (2008) providing an example of the occasional tension between the Atlanta City Council and the Atlanta Housing Authority regarding the razing of the older developments.

million in household income during the construction phases for the sixteen communities, for a total personal income impact of **$774.011 million**.

5. Measured as full time person years of employment, household relocation into the City of Atlanta added **1,569.60** person years (or on an average annual basis, **194.78** jobs), while the construction activity related to the sixteen communities added another **14,270.8** full time person years of employment. The total employment effect to date is, therefore, **15,840.40 person years of employment**. Since the economic impacts are measured over essentially twelve (12) years of actual community development, this is the equivalent of **1,320.03 jobs** held for each of 12 years.

6. The City of Atlanta has benefited from aggregate increased sales tax revenues of **$4.739 million** linked to household relocation into the City from its share of revenues linked to local option sales taxes (LOST, SPLOST, MOST) and (indirectly) via the MARTA local option sales tax.[4] The aggregate sales tax revenues to the City from the construction generated economic activity have been an additional **$9.976 million**, for a total sales tax economic impact of **$14.715 million**. These revenues are part of the overall impacts reported above.

B. Selected Further Findings re: Incremental Household Spending Analysis

1. As of April 2009, residents living in the 16 mixed income communities but originating from zip codes outside the City of Atlanta (based on their previous addresses) had incomes totally $43.844 million. Of this income, $18.342 million (or 41.83%) originated from outside the "inner" Metropolitan Atlanta area.

2. As of April 2009, there were 2,464 total households living in the 16 revitalized communities, of which 1,088 households (44.15%) had previous addresses in zip codes outside the City of Atlanta. The percentage of households living in the new mixed income communities who moved from locations outside the City range

[4] The total sales tax rate applicable to eligible purchases within Fulton County is 8.0%, but that includes the 4.0% State of Georgia sales tax. The array of local option sales taxes sums to 4.0%, with the 1.0% local option sales tax (LOST) and the 1.0% special local option sales tax (SPLOST; earmarked primarily for educational projects) applicable throughout the county, and the revenues shared between the county and its various municipalities, of which Atlanta is by far the largest. The 1.0% municipal option sales tax (MOST) is derived from transactions only within the City of Atlanta and is earmarked for city water and sewer capital projects. The 1.0% sales tax earmarked for the public transportation system MARTA is collected throughout Fulton and DeKalb Counties and clearly benefits populations beyond the City of Atlanta, although 76.3% of the 38 rail stations are located within the City. The tax revenues reported herein are based on an estimate of the share of the full 4.0% local option sales tax revenues that accrue to the benefit of the City of Atlanta, even if not entirely in the form of revenues appearing in the General Fund budget of the City, in contrast to revenues to the Atlanta Board of Education, or the special City fund for water and sewer projects, or the many economic benefits to the City from the operation of MARTA.

from a low of 7.38% at the Atrium at Collegetown, to a high of 59.46% in the Villages at Castleberry Hill.

3. In an earlier study of the fiscal impacts of the Atlanta Beltline Tax Allocation District (TAD), the author also analyzed the potential negative fiscal effects on the city of Atlanta general funds budget of the projected attraction of 9,577 new households, over a 25-year period (Seaman, 2005). Such effects were found to be relatively modest ($9.54 million per year in 2005 dollars at the peak of such population growth). By contrast, the 1,088 households to date living in one of the sixteen revitalized communities with previous addresses outside the city of Atlanta, represent 11.36% of that cumulative 25-year total. Therefore, even if new households attracted into Atlanta by the revitalized communities were expected to have the same effects on straining local city services as would new households attracted by the various projects of the Atlanta Beltline TAD, the proportional magnitude of such fiscal strain would be relatively small (about $1.083 million per year). In fact, only about 55.44% of those Beltline expenses were related to additional public works, police and fire protection services, in contrast to parks and greenways maintenance expenses that are unique to the Beltline concept. So even without any further adjustment, the relevant additional social services would represent about $0.60 million, or about $0.68 million in 2010 dollars. But the predominant evidence to date from prior studies regarding the generally improved performance of former public housing residents regarding education, employment and crime (e.g., Anil et al., 2010; Boston, 2007), would suggest that Atlanta would be expected to bear even fewer such costs, and may even realize general fund cost savings from reduced required policing and social services. Granted, the Beltline study did not consider incremental education expenses since such expenses would have been covered by a portion of the increased property tax revenues generated within the TAD. But the smaller proportional population effects being examined in this study of the revitalized mixed income communities, and the potential for actual cost savings in education and elsewhere in the city resulting from reduced social problems among former public residents and within those neighborhoods, suggests that the net fiscal effects could be beneficial, or at least no worse than very minimally negative. In summary, there is no compelling reason to partially offset the economic impacts reported above in “A” with any potentially higher fiscal burdens upon the city of Atlanta.

4. Of those households originating from outside the City of Atlanta (<u>not</u> the total households living in the communities regardless of origin), 50.20% had household incomes of $30,000 or lower, while 9.28% had household income of $70,000 or higher. There are striking variations, with the Village of East Lake having only 7.68% of such “migrating” households earning $30,000 or less, while the Atrium at Collegetown has 100% of such households in that lower income range (Auburn Pointe has 97.31%). Regarding the higher incomes, several communities have no

resident households who originated outside the City with income above $70,000 (Auburn Pointe, Columbia Creste, the Atrium at Collegetown, and Columbia Estates; Ashley Cascade has only 1.46% of such in-migrating households in that highest income range). By contrast, Capital Gateway has 15.61% of its resident in-migrating households earning $70,000 or more, with Centennial Place having 12.80% such households, and the Villages of Eastlake with 12.26%.

5 As a more detailed example, the oldest and largest community, Centennial Place (with 407 total households), had residents with aggregate income of $17.293 million, of which 55% originated from zip codes outside the City of Atlanta ($9.522 million). Of the $17.293 million in income, 25.6% ($4.425 million) represented households originating from both outside the City and outside the inner Metropolitan Atlanta area.

IV. Detailed Analysis: Economic Impacts of Household Relocation to the Revitalized Communities

The private companies owning and managing each of the sixteen revitalized communities provided detailed resident information as of April 2009. This information included the previous zip codes identified in tenant applications, the number of members in the household, and the income reported for each household. By identifying the geographic locations matching these previous home zip codes, it is possible to measure for that assumed "representative" snap-shot of community resident composition how many of the total households moved to the revitalized communities from: (1) within the City of Atlanta itself, merely relocating from one Atlanta community to one of the new mixed-income communities; (2) outside both the City of Atlanta and the "inner core" of metro-Atlanta communities; (3) outside the City of Atlanta only, but not outside the inner core of metro communities that lie within the Atlanta Metropolitan Statistical Area (MSA). Furthermore, by matching those zip code locations to household incomes, it was possible to determine the distribution of incomes for each of these three categories of new revitalized community household residents.

While it is quite possible that the absence of improved housing and neighborhood living conditions generated by the new mixed-income communities would have driven some households to leave the City of Atlanta (including middle and upper income City residents induced to move elsewhere in the Atlanta MSA, or beyond, to escape the negative spillover effects regarding crime, lowered property values, and other social problems linked to the former public housing project communities), the focus of attention in this analysis is on identifying those households in categories (2) and (3) above arguably attracted to move into the City of Atlanta and add to its population as a result of the attractive living conditions in those revitalized communities. Clearly, there is no way to be certain how many households (and their particular income characteristics) relocating from outside the city limits of Atlanta into one of the sixteen revitalized communities would have moved into some other community and neighborhood within

Atlanta even without these community renewals. As noted above, it is similarly impossible to be certain of how many households were induced to leave the city of Atlanta (or choose to live elsewhere in the metro area) due at least in part to the social pathologies spilling over into broader neighborhoods from the former public housing projects. We can be reasonably sure, however, that any statistical "errors" from these two pieces of missing data are at least partially offsetting in their effects on the ultimate conclusions of this study. In the discussion below surrounding Table 4, it is noted that a net "erosion" factor of 15% is used to account for the likelihood that some non-Atlanta households who moved into one of the sixteen communities would have moved to Atlanta regardless of these new communities.

Table 3A below provides information about five of the sixteen communities regarding their prior home location and income characteristics, with Tables 3B and 3C providing the same information for the remaining eleven communities. Table 3C also reports total results across all sixteen communities. The first row (row 1) in each table reports the total income for those households identified as having previous zip codes that are located anywhere outside of the boundaries of the City of Atlanta. To confirm all zip codes, the United States Postal Service zip code locater was utilized that identifies the city of origin for any zip code (http://zip4.usps.com/zip4/citytown_zip.jsp). The underlying household data (for "non-assisted" residents only) were provided by the private management companies for each of the sixteen mixed-income communities and are reported in Appendix A.

Because household expenditure behavior varies with income, including the proportion of total spending likely to be done locally, the zip code data were grouped not only by location but also by income range corresponding to how such incomes were reported by the Bureau of Labor Statistics in its *Consumer Expenditure Survey* (CES). The CES for year 2008 was used, with Table 2 of the CES reproduced in full in Appendix B (organized by income ranges before taxes).[5] Table 4 of this study (reported below) documents how the full income and expenditure data from the CES were translated into likely local City of Atlanta expenditures for the following income ranges: $5,000 to $15,000; $15,000 to $30,0000; $30,000 to $70,000; and $70,000 and above.[6] A more detailed description of the components of Table 4 is provided below.

[5] In October of 2010, the updated CES data for 2009 were released, but there was no compelling reason to shift to the 2009 data since (1) the household income data reported for the sixteen communities were reported in April 2009 using resident data files that were primarily applicable to pre-2009 time periods, and (2) given the state of the economy in 2009 compared to 2008, there was no significant change in the expenditures most likely to apply to the local economy.

[6] While the CES reports spending behavior for households reporting income of less than $5,000, the possible bias in the under-reporting of income for such households, along with other factors identified in Appendix B regarding the phenomenon of expenditures exceeding income for some income ranges, justified the decision to identify the lowest income group in the mixed-income community data as "less than $15,000." Also, for that lowest income group, the more reliable spending data reported by the CES for incomes of $5,000 to $9,999 and $10,000 to $14,999 were then utilized in constructing Tables 3A, 3B,

In each of Tables 3A, 3B and 3C, row 2 reports a more restrictive measure of "non-local" income for all households reporting a "previous zip code" outside the City of Atlanta, but also a zip code for a prior community located outside the "inner ring" of metro-Atlanta counties.[7] Row 3 then documents the proportion of the total income from households coming from outside the City of Atlanta that is also originating from outside those areas of metro-Atlanta relatively close to the city boundaries. Thus, 63.57% of the household income for the residents living in Magnolia Park who last lived outside the limits of the City of Atlanta also had lived beyond the inner ring of metro-Atlanta communities (as of the spring of 2009, but assumed to be representative of other time periods; see Appendix A). By contrast, only 21.01% of the Columbia Commons resident income coming into the City of Atlanta from outside its boundaries also originated from zip codes of communities more distant, and hence likely to be relatively independent of the City.

Again, this distinction is made because households living within close proximity of Atlanta are likely to have spent some portion of their discretionary income within the City even prior to becoming Atlanta residents living within one of the revitalized mixed income communities. Hence, the income reported in row 2 of Tables 3A, 3B, and 3C is likely to be more "high-powered" in terms of injecting additional economic activity into the City of Atlanta economy. Communities like Ashley Collegetown having both relatively high absolute levels of new income being brought into the City from outside, and with a relatively high fraction of that income also originating from farther distances (79.16%) as reported in row 3, will generate a greater economic impact to the City than will, e.g., Atrium at Collegetown which has both relatively low resident household income originating from outside Atlanta as well as a relatively low proportion (27.15%) of that income originating from more distant areas (see Table 3B).

Table 3A
"In-Migration" Households by Location and Income
Five Selected Communities

3C and Table 4. See Appendix C for more information on how the data in the *Consumer Expenditure Survey* are derived, along with answers to some frequently asked questions about those data.

[7] The definition of the Metropolitan Statistical Area (MSA) applicable to Atlanta has evolved over time to incorporate areas relatively distant from the core city. Despite almost shocking statements by many Atlanta metro residents interviewed during the 1996 Summer Olympics that they had not been to downtown Atlanta in living memory, residents anywhere within the current definition of the Atlanta MSA (now defined to include up to twenty-eight (28) counties) are likely to spend some income somewhere within the broader City of Atlanta during periodic shopping or entertainment trips, to sporting and cultural events, or during working hours if they are commuting longer distances. But this is particularly the case for those living within the neighboring counties of Cobb, Gwinnett, Clayton, and Douglas, as well as those parts of DeKalb and Fulton Counties not within City of Atlanta limits. Thus, an effort was made to distinguish between those households with previous zip codes that were more likely to have made some notable expenditure within Atlanta even if not living there from those more distant households who would probably not have made any measurable expenditure prior to their relocating to one of the mixed-income communities being studied.

(Non-Assisted Residents)

Communities Categories	Magnolia	Commons	Estates	Park Cit	Carver
1 Total Non-Atl HH Income	$2,183,041	$1,147,180	$1,005,957	$1,127,797	$3,904,044
2 Total Non-Local HH Income	$1,387,707	$241,064	$310,817	$570,089	$1,040,232
3 Fraction Non-Local NonATL	0.6357	0.2101	0.3090	0.5055	0.2664
4 Total Non-Atl $5-15K *	$247,421	$0	$0	$0	$88,867
5 Total Non-Atl $15-30K	$928,948	$288,860	$138,779	$408,944	$1,532,008
6 Total Non-Atl $30-$70K	$864,856	$705,170	$867,178	$634,053	$1,730,811
7 Total Non-Atl > $70 K	$141,816	$153,150	$0	$84,800	$552,358
8 Confirming Summation	$2,183,041	$1,147,180	$1,005,957	$1,127,797	$3,904,044
Number of Households					
9 # HH $5-$15 K *	25	0	0	0	9
10 # HH $15-$30K	41	13	6	18	68
11 # HH $30-$70K	17	14	17	13	35
12 # HH > $70 K	2	2	0	1	6
13 Total Non-ATL HH	85	29	23	32	118
14 Total HH all locations	296	91	59	67	254
15 Fraction NonATL/Total HH	0.2883	0.3180	0.3927	0.4755	0.4630
16 Fraction of NonATL >$70K	0.0234	0.0691	0.0000	0.0314	0.0510
17 Fraction of NonATL < $30K	0.7738	0.4436	0.2662	0.5705	0.6546

* A very small number of households in the revitalized communities reported less than $5,000 in income and were included in the general income category " less than $15,000." But as noted in the text, when analyzing expenditure patterns, only data for incomes between $5,000 and $15,000 were utilized for that lowest income grouping to avoid measurement errors for the "less than $5,000" income group (See Appendix C, item 6). These data also exclude any households for which $0 is reported as income, which is limited almost entirely to the Magnolia Park database (see Appendix A).

Table 3B
"In-Migration" Households by Location and Income
Six Selected Communities
(Non-Assisted Residents)

Communities Categories	Gateway	AshTerrace	Atrium	AshleyColl	Col Grove	East Lake
1 Total Non-Atl HH Income	$5,426,469	$1,174,463	$33,956	$4,314,346	$1,027,772	$7,183,541
2 Total Non-Local HH Income	$1,831,794	$715,566	$9,220	$3,415,234	$316,537	$1,622,192
3 Fraction Non-Local NonATL	0.3376	0.6093	0.2715	0.7916	0.3080	0.2258
4 Total Non-Atl $5-15K *	$0	$0	$33,956	$12,216	$38,109	$12,240
5 Total Non-Atl $15-30K	$1,115,260	$295,599	$0	$374,964	$330,991	$198,043
6 Total Non-Atl $30-$70K	$2,387,690	$505,558	$0	$886,587	$587,325	$5,224,038

7 Total Non-Atl > $70 K	$1,923,519	$373,306	$0	$3,040,579	$71,347	$1,749,220
8 Confirming Summation	$5,426,469	$1,174,463	$33,956	$4,314,346	$1,027,772	$7,183,541
Number of Households						
9 # HH $5-$15 K *	0	0	3	1	4	1
10 # HH $15-$30K	50	13	0	17	15	9
11 # HH $30-$70K	48	10	0	18	12	104
12 # HH > $70 K	18	4	0	20	1	16
13 Total Non-ATL HH	115	27	3	56	31	131
14 Total HH all locations	216	74	46	106	83	241
15 Fraction NonATL/Total HH	0.5339	0.3682	0.0738	0.5247	0.3767	0.5415
16 Fraction of NonATL >$70K	0.1561	0.1468	0.0000	0.3596	0.0320	0.1226
17 Fraction of NonATL < $30K	0.4298	0.4821	1.0000	0.3216	0.5923	0.0768

* See the note below Table 3A.

Table 3C
"In-Migration" Households by Location and Income
Five Selected Communities and Totals for All Sixteen Communities
(Non-Assisted Residents)

Communities Categories	AshCasc	Col.Creste	AubPointe	Centennial	Castleberry	Total all 16 Communities
1 Total Non-Atl HH Income	$2,119,303	$1,011,810	$447,576	$9,521,505	$2,214,804	$43,843,564
2 Total Non-Local HH Income	$858,656	$345,666	$42,689	$4,232,318	$1,401,935	$18,341,716
3 Fraction Non-Local nonATL	0.4052	0.3416	0.0954	0.4445	0.6330	0.4183
4 Total Non-Atl $5-15K *	$28,384	$14,004	$88,164	$0	$703,614	$1,266,975
5 Total Non-Atl $15-30K	$1,061,851	$233,622	$327,122	$1,849,221	$353,162	$9,437,374
6 Total Non-Atl $30-$70K	$879,068	$764,184	$32,290	$5,091,190	$898,196	$22,058,194
7 Total Non-Atl > $70 K	$150,000	$0	$0	$2,581,094	$259,832	$11,081,021
8 Confirming Summation	$2,119,303	$1,011,810	$447,576	$9,521,505	$2,214,804	$43,843,564
Number of Households						
9 # HH $5-$15 K *	3	1	9	0	70	127
10 # HH $15-$30K	47	10	15	82	16	419
11 # HH $30-$70K	18	15	1	102	18	441
12 # HH > $70 K	1	0	0	27	3	101
13 Total Non-ATL HH	69	27	24	211	107	1,088
14 Total HH all locations	188	90	66	407	180	2,464
15 Fraction of NonATL/Total HH	0.3650	0.3007	0.3637	0.5185	0.5946	0.4415
16 Fraction of NonATL >70K	0.0146	0.0000	0.0000	0.1280	0.0280	0.0928
17 Fraction of NonATL < 30K	0.7292	0.4353	0.9731	0.3895	0.8041	0.5020

* See the note below Table 3A.

Table 3C reports (across all sixteen communities) $43.844 million of income was earned by those households relocating to Atlanta to live in one of the revitalized communities. However, not all of this income is directly injected into the local City of Atlanta economy. There are a number of adjustments that must be made in order to credibly calculate the likely annual contribution of these "in-migrating" households to the Atlanta economy.

Firstly, an evaluation of consumer spending patterns at differing income levels (based on the *Consumer Expenditure Survey, 2008*) allows a derivation of varying "marginal propensities to consume locally" that are applied to the more detailed income composition of the households now living in revitalization program communities, but who were previously living outside the City of Atlanta. An additional adjustment is made for the proportion of "new" Atlanta residents originating from beyond the inner core of the Atlanta Metro area (which varies across each of the 16 communities), since as argued above it is highly likely that inner Atlanta Metro residents were also spending modest amounts of their disposable after tax incomes within the City. Also, in deriving

the "valued added" economic impact on the Atlanta economy, it is necessary to adjust for the "capture rate" (assumed here to be 0.70) of any incremental local spending, i.e., the amount of spending that does not immediately leak from the local economy as payments to non-local manufacturers, profits paid to non-local corporate owners, etc.

Furthermore, it is important to repeat that it is unlikely that none of the households moving to Atlanta from outside the City and now living in one of the sixteen revitalized communities would have moved to other housing options within Atlanta even if these new communities did not exist. However, one previously noted complication is that the well-documented and widely dispersed social problems stemming from the concentrated poverty in the former public housing projects unquestionably deterred some households who otherwise would have moved into Atlanta, or actually drove some Atlanta residents to relocate outside of the City. Hence, it is not merely a question of trying to estimate what proportion of the 1,088 households identified in Table 3C as living in one of the sixteen revitalized communities as of July 2009 would have otherwise decided to live inside Atlanta even if no mixed-income community revitalization had occurred. Based on these complex considerations, an adjustment factor of 0.85 is applied to the potential "income injections" into Atlanta as a result of households migrating into the City to live in one of the sixteen communities (i.e. 15% of those total households is assumed to have become Atlanta residents even without the community revitalizations, which might be called a "net erosion" adjustment of 0.15).[8]

The Consumer Expenditure Data Applied to Local Atlanta Spending

To understand the first adjustment that must be made in order to calculate the incremental economic impact on Atlanta of the in-migration of new households to the revitalized communities, Table 4 documents the relevant data from the *Consumer Expenditure Survey, 2008* (U.S. Department of Labor, Bureau of Labor Statistics).

[8] As part of *An Analysis of the Fiscal Impacts of the Atlanta Beltline Tax Allocation District*, October 12, 2005, the author examined in part the fiscal impacts of a projected 9,577 new households moving into the City of Atlanta over a 25-year period as a result of improved living conditions resulting from the complex array of Beltline investments in new parks, transit, city infrastructure, and incremental housing. Because this was the equivalent of an average of only 383 households per year (deemed a conservative estimate, holding everything else constant at the time of the study), the assumption that all of these new households were indeed fully "incremental" as a result of those investments was plausible, and the effects on that analysis of using, e.g., a downward adjustment factor such as the 0.85 parameter used in this study would have been minimal.

Table 4
Underlying Data from the Consumer Expenditure Survey (2008)

Category	**$5K**	**to $15K**	**$15K**	**To $30K**	**$30K**	**To**	**$70K**	**>$70K**
	$5-9.99	$10-15	$15 –20	$20-30	$30-40	$40-50	$50-70	>70K
Household (HH) spend								
1 Food at home	$2,166	$2,286	$2,474	$2,751	$3,243	$3,338	$3,762	$5,253
2 75% food not home	$764	$776	$811	$1,094	$1,415	$1,581	$1,970	$3,103
3 Alcoholic Beverages	$175	$190	$137	$230	$317	$374	$445	$749
4 Housing Rent	$3,147	$3,135	$3,453	$3,258	$3,292	$3,183	$2,759	$1,858
5 Property Taxes	$399	$635	$765	$927	$1,099	$1,357	$1,630	$3,181
6 Utilities	$1,967	$2,359	$2,595	$2,971	$3,244	$3,488	$3,876	$4,875
7 HH operations	$234	$374	$483	$505	$541	$620	$940	$1,878
8 Housekeep supplies	$280	$420	$388	$443	$515	$533	$630	$1,007
9 HH furnishings	$564	$625	$744	$819	$975	$1,369	$1,548	$2,858
10 Apparel, services	$845	$983	$929	$1,105	$1,381	$1,241	$1,713	$2,945
11 Vehicle purchases	$810	$606	$1,346	$1,770	$2,069	$2,098	$3,093	$4,615
12 Gasoline, motor oil	$1,090	$1,179	$1,464	$1,922	$2,310	$2,620	$3,033	$3,967
13 Other vehicle exp	$392	$406	$580	$720	$825	$868	$1,202	$2,063
14 Public Transport	$277	$196	$153	$211	$254	$259	$393	$1,031
15 Medical spend local	$594	$548	$784	$980	$1,136	$1,134	$1,499	$1,922
16 Entertainment	$917	$961	$1,169	$1,629	$1,874	$2,122	$2,936	$3,656
17 Personal care prod	$254	$277	$336	$378	$355	$503	$562	$994
18 Tobacco products	$241	$305	$264	$313	$317	$495	$392	$307
19 50% of Misc.	$96	$118	$221	$220	$312	$347	$450	$707
20 Total local spend	$15,212	$16,379	$19,096	$22,246	$25,474	$27,530	$32,833	$46,969
21 Weighting factor	0.40384	0.59616	0.34155	0.65845	0.29201	0.27020	0.43778	1.00
22 Weight local spend	$6,143	$9,765	$6,522	$14,648	$7,439	$7,439	$14,374	$46,969
23 Total expenditures	$19,125	$21,120	$25,536	$30,367	$35,778	$40,527	$50,465	$83,700
24 Weight total spend	$7,723	$12,591	$8,722	$19,995	$10,448	$10,950	$22,093	$83,700
25 Income pre taxes	$8,003	$12,662	$17,461	$24,896	$34,708	$44,733	$59,319	$128,930
26 Weighted income	$3,232	$7,549	$5,964	$16,393	$10,135	$12,087	$25,969	$128,930
27 Weight **loca**l spend		**$15,908**		**$21,170**			**$29,251**	**$46,969**
28 Weight **total** spend		**$20,314**		**$28,717**			**$43,490**	**$83,700**
29 Weight total income		**$10,781**		**$22,357**			**$48,191**	**$128,930**
30 Loc Spend/Income		**1.4756**		**0.9469**			**0.6070**	**0.3643**

Notes: For income group >$70 K, the food away from home spending is further reduced by 33%. And for that group, the entertainment spending is reduced by 25%.

In Appendix B (Table 2), the full raw data from the 2008 Consumer Expenditure Survey are reported, from which Table 4 data are derived. The purpose of the expenditure analysis documented in Table 4 is to (1) estimate from the full expenditure survey in Appendix B that portion of expenditures that are likely to be made in the local area in which a household lives in contrast to purchases from sellers/vendors located outside the local area, and (2) generate weighted averages and other parameters of such spending that apply to the household income ranges $5,000-$15,000, $15,000-$30,000, $30,000-$70,000, and greater than $70,000, so that ultimately the household incomes of the non-Atlanta originating residents living in the sixteen revitalized communities can be translated into projected direct spending "injections" into the local City of Atlanta economy, as reported in Tables 5A, 5B, and 5C that follow.[9]

[9] These ranges are actually upper-bounded by, e.g., $14,999, $29,999, and $69,999, but are reported for simplicity as $15,000, $30,000, and $70,000. See also footnote 6 above.

Since the CES reports spending for more income categories than the somewhat broader income ranges that it was practicable to create from the non-assisted resident household data supplied by the managements of each of the sixteen communities (fully documented in Appendix A), some weighting had to be done to translate from the narrower income ranges to the broader income ranges. For example, Appendix B (Table 2) reports the total number of households (in thousands) for each of the income categories. Since of the 13,223,000 total households in the income range $5,000 to $15,000, there are 5,340,000 in the income range $5,000 to $10,000 and 7,883,000 in the range $10,000 to $15,000, the "weighting factors" in line 21 of Table 4 are respectively 0.40384 and 0.59616 for those two subcomponents of that broader income range. These line 21 "weighting factors" are used throughout Table 4 to construct the weighted results reported in lines 22, 24, 26, 27, 28, and 29 of that table.

Again, it is important to distinguish among the subcomponent income ranges throughout Table 4, since as line 30 clearly reflects (consistent with logical expectation), local spending relative to income varies considerably across income ranges, being much higher for lower incomes and declining consistently as household income increases, e.g., from 0.95 for incomes of $15,000 to $30,000, to 0.61 for $30,000 to $70,000, and 0.36 for income greater than $70,000 (see paragraph 6 in Appendix B following Table 2 for an explanation for why annual expenditures can exceed reported income in the lowest income ranges, such as $5,000 to $15,000). This pattern reflects not only differences in the "marginal propensity to consume (MPC)" out of total income in general, but the greater propensity of higher income households to spend more of their income non-locally (e.g., contemporary homeowners make mortgage interest and insurance payments to financial institutions that are typically headquartered outside the local economy, and are more likely to travel and make other purchases from non-localized sellers). Hence, the important factor reported in line 21 of Tables 5A, 5B and 5C, the implied marginal propensity to consume locally ("implied MPC locally"), depends critically on making such distinctions.

A careful comparison of Table 4 with the full CES data in Appendix B (Table 2) will reveal the judgments that were made in estimating which expenditure categories were more likely to be made locally, and additional notes within Table 4 and immediately beneath that table further clarify those assumptions. For example, the spending category "food at home" in the completely documented CES in Appendix B is assumed to apply fully to food expenditures made in the local economy (line 1 in Table 4) since those purchases typically are made at local grocery stores within a relatively short distance from one's residence. The fact that some of these (and all other) expenditures will not be "captured" by the local economy even in the "first round" of direct spending is adjusted for in Tables 5A, 5B and 5C by making a downward adjustment to reflect this reality (see line 27 in those tables, "Atlanta capture rate," in addition to other adjustments made in the economic impact model reflected in those tables). However, only 75% of the category "food away from home" in Appendix B is applied to line 2 in Table 4, and as noted beneath the table a further downward adjustment of 33% is made for the highest

income category of greater than $70,000 (that note also indicates that "entertainment" spending is reduced by 25% for that highest income group).

Some sub-categories of spending in the full CES are not included at all in Table 4 as local spending, e.g., "mortgage interest and charges" is omitted, although the full amount of spending for "rented dwellings" is included. Also, line 15 of Table 4, "medical spend[ing] local" includes medical services, drugs, and medical supplies, but not health insurance (subcategories documented in Appendix B). Some spending categories that are treated as local are not controversial, such as "public transport [ation]," "household operations," and "housekeeping supplies" (lines 14, 7 and 8 respectively in Table 4). Other categories might seem more questionable, such as "vehicle purchases" (line 11) and "utilities" (line 6), both of which are adapted fully from the entries in Appendix B. That is, while it is clear that such purchases are relatively localized, people do cross jurisdictional boundaries to shop for automobiles and other vehicles (even though they are subject to sales tax in the jurisdiction of their residence), and while utilities are provided "locally," the corporations selling such services typically have substantial non-local characteristics and ownership. However, as already noted, this latter issue is adjusted for in large part by downward adjustments in the economic model in Tables 5A, 5B and 5C via local capture rates, and since the vehicle expense figures are annualized in the CES, such spending figures are generally lower than $3,000 (see Appendix B, Table 2). It is also worth noting that "other vehicle exp[enses]" (line 13) includes only "maintenance and repairs", and "rental, leases, licenses, other," but excludes "vehicle finance charges," and "vehicle insurance" (see again Appendix B).

A final example worth highlighting is "Apparel, Services" (line 10 in Table 4). While this is adapted fully from the full CES Appendix B spending figures, it is increasingly likely that purchases like this are made in part as internet sales, although this propensity no doubt increases with income. Again, the actual spending figures are not very high in absolute dollars, and the economic impact model provides a downward adjustment for those non-Atlanta originating community residents who migrated from nearby zip codes, and hence were likely to have shopped for such items in Atlanta malls prior to becoming City residents, hence reducing the incremental spending impact of their relocation to any one of the particular sixteen revitalized communities.

The Residential Spending Economic Impact Model

Since Tables 5A, 5B and 5C differ only in terms of which specific communities are documented, the general description of how the various total impacts are derived, and aggregated into the results reported in Table 6, will focus on Table 5A. This description is provided below Table 5A.

Table 5A
Derivations of the Residential Relocation and Spending Economic Impacts for Selected Five Communities

Communities Categories	Magnolia Park	Columbia Commons	Columbia. Estates	Columbia. Park Citi	Villages at Carver
1 Non-Atl HH Income	$2,183,041	$1,147,180	$1,005,957	$1,127,797	$3,904,044
2 Non-local HH Incom	$1,387,707	$241,064	$310,817	$570,089	$1,040,232
3 Fract nonLocal nonAt	0.6357	0.2101	0.3090	0.5055	0.2664
4 Total Non-Atl $5-15K	$247,421	$0	$0	$0	$88,867
5 Tot Non-Atl $15-30K	$928,948	$288,860	$138,779	$408,944	$1,532,008
6 Tot Non-Atl $30-$70K	$864,856	$705,170	$867,178	$634,053	$1,730,811
7 Tot Non-Atl > $70 K	$141,816	$153,150	$0	$84,800	$552,358
8 Spend weight 5-15	1.4756	1.4756	1.4756	1.4756	1.4756
9 Spend weight 15-30	0.9469	0.9469	0.9469	0.9469	0.9469
10 Spend weight 30-70	0.6070	0.6070	0.6070	0.6070	0.6070
11 Spend weight >70	0.3643	0.3643	0.3643	0.3643	0.3643
12 Weight spend 5-15	$365,094	$0	$0	$0	$131,132
13 Weight spend 15-30	$879,621	$273,522	$131,410	$387,229	$1,450,658
14 Weight spend 30-70	$524,968	$428,038	$526,377	$384,870	$1,050,602
15 Weight spend >70	$51,664	$55,793	$0	$30,893	$201,224
16 Tot weight Atl Direct	$1,821,346	$757,352	$657,787	$802,992	$2,833,617
17 Adjust metro non-Atl	0.94535	0.88152	0.89635	0.92582	0.88997
18 Adj weight Atl spend	$1,721,812	$667,621	$589,605	$743,429	$2,521,827
19 Locate other Atl adj.	0.85	0.85	0.85	0.85	0.85
20 Full adj ATL spend	$1,463,541	$567,478	$501,164	$631,914	$2,143,553
21 Implied MPC locally	0.6704	0.4947	0.4982	0.5603	0.5491
22 Dir tax erosion fact.	0.9500	0.9500	0.9500	0.9500	0.9500
23 ATL sales tax base	$1,390,364	$539,104	$476,106	$600,319	$2,036,375
24 Loc sales tx rev. 4%	$55,615	$21,564	$19,044	$24,013	$81,455
25 Atl weighted sales tx	0.6	0.6	0.6	0.6	0.6
26 Atl dir sales tx reven	$33,369	$12,939	$11,427	$14,408	$48,873
27 Atlanta capture rate	0.7	0.7	0.7	0.7	0.7
28 Atl output value add	$1,024,478	$397,235	$350,815	$442,340	$1,500,487
29 Atl output+sales tax	$1,057,847	$410,173	$362,241	$456,748	$1,549,360
30 Output multiplier	1.30	1.30	1.30	1.30	1.30
31 Direct+ induced EI	$1,375,201	$533,225	$470,914	$593,772	$2,014,168
32 Induc EI =Tot – Dir	$317,354	$123,052	$108,672	$137,024	$464,808
33 Induced tax erosion	0.78	0.78	0.78	0.78	0.78
34 Inducd sales tax rev	$9,901	$3,839	$3,391	$4,275	$14,502
35 Atl part inducd sal tx	$5,941	$2,304	$2,034	$2,565	$8,701
36 Tot Atl sales tax rev	$39,310	$15,242	$13,461	$16,973	$57,574
37 Number of years	9	10	5	5	8
38 Aggreg Output EI	$12,376,811	$5,332,253	$2,354,570	$2,968,860	$16,113,344
39 Aggreg Direct EI	$9,520,624	$4,101,733	$1,811,207	$2,283,738	$12,394,880
40 Aggreg Induced EI	$2,856,187	$1,230,520	$543,362	$685,122	$3,718,464
41 Agg. Atl sale tax rev	$353,786	$152,420	$67,304	$84,864	$460,594
42 Income Multiplier	0.6014	0.6014	0.6014	0.6014	0.6014
43 Person Income EI	$636,189	$246,678	$217,852	$274,688	$931,785
44 Agg. Person Inc EI	$5,725,703	$2,466,782	$1,089,260	$1,373,440	$7,454,281
45 Employ multiplier	12.308	12.308	12.308	12.308	12.308
46 Total Employment	13.02	5.05	4.46	5.62	19.07
47 Agg.FTE Person Yrs	117.18	50.48	22.29	28.11	152.56

The first seven rows of Tables 5A are simply reported directly from rows 1-7 of the previously explained Tables 3A. And the important fractional local spending weights relative to income reported in rows 8-11 of Table 5A are taken directly from row 30 of Table 4. Then the aggregated income for the lowest income group ($5,000 - $15,000) in row 4 is multiplied by the weighting factor in row 9 to yield the annual base spending

total for that income group reported in row 12. Similarly, the annual spending totals for the other income groups are similarly derived by multiplying rows 5 x 9 to yield row 13; row 6 x 10 = 14; and 7 x 11 = 15. Row 16 is the sum of the individual spending totals from rows 12 through 15, and represents the very important total direct spending impact (or more accurately the total weighted direct Atlanta spending impact from residential household relocation).

The first notable adjustment factor unique to Table 5A (5B and 5C) appears in row 17, which is calculated using the formula: ((Row 3) + (1-Row 3) x 0.85). So in Table 5A for Magnolia Park, the row 17 adjustment factor 0.94535 is derived as (0.6357) + ((0.3643) x 0.85, or 0.6357 + 0.3097 = 0.94535. This is intended to adjust for the Atlanta spending likely to have been done by those households who were living close to the City prior to moving into one of the revitalized communities (see footnote 7 above), with the assumption being that for that "localized" portion of the migrating households (e.g., 36.43% in the case of Magnolia Park), 15% of their local spending would have already been within the City of Atlanta (hence the 0.85 parameter in the equation to reflect 85% of that group's local spending that is assumed to be newly injected into the City of Atlanta economy after relocation). Since it is plausible to believe that 100% of localized spending done by those households migrating into one of the revitalized communities from outside the "inner metro-area" would be "new" injections of such spending, there is no fractional adjustment term multiplied by that proportion of households in row 3. Clearly, this adjustment will lower the direct spending impact most severely in those communities having an especially low percentage of in-migrating households originating outside the inner metro area (e.g., Columbia Commons in Table 5A).

The adjustment factor from row 17 is then multiplied by the direct spending impact from row 16 to yield the lower adjusted direct spending impact in row 18. A further reduction in the direct spending impact results from another downward 15% adjustment (hence another adjustment factor of 0.85), but this time it represents the recognition that some of the in-migrating households would have moved somewhere within the City of Atlanta even without the attraction of the revitalized communities. This issue was addressed above on pp. 9-10, and the 0.85 adjustment term reflects an assumption (absent any more direct evidence to clarify this parameter) regarding the complex effects of the more attractive and less dangerous revitalized communities reducing a key motivation for "out-migration" of households from Atlanta, as well as the unique relative attractions of these communities for attracting "in-migration." Multiplying the direct impact entry in row 18 by this adjustment factor in row 19, yields the "fully" adjusted direct spending impact reported in row 20. The fraction in row 21 (which might be called the "implied MPC locally," or marginal propensity to consume locally) is not directly used in any further calculations but merely reports the result of dividing this fully adjusted local direct spending impact in row 20 by the original total non-Atlanta originating household incomes in row 1, yielding 0.6704 for Magnolia Park, and by contrast only 0.4947 for Columbia Commons.

There is a distinction between the adjusted direct spending impact and the local sales tax base, since not all goods and services are part of that tax base (although the significant state sales tax exemption for food purchased at grocery stores does not apply to the local option sales taxes). This tax base erosion has been estimated at the state level, but those results are not directly applicable here. Given the particular items derived from the Consumer Expenditure Survey to become part of Table 4, the applicable "direct" local tax base erosion in this context is estimated to be 5.0%, yielding "direct sales tax erosion factor" in row 22 of 0.95.[10] But in row 33, the "induced" spending sales tax base erosion is much higher at 22% (an adjustment factor of 0.78), because subsequent rounds of "multiplier" spending are much more likely to extend to locally exempt goods, and especially services. Returning to the direct spending sales tax base, the erosion factor of 0.95 (row 22) is multiplied by the fully adjusted direct spending impact in row 20 to yield the direct "Atlanta sales tax base" in row 23. This in turn is multiplied by the 4% (0.04) sum of locally applicable sales tax in the City of Atlanta (including the MARTA tax applicable in Fulton and DeKalb counties) to yield the local sales revenue dollars reported in row 24. As discussed further in Section VI below (and footnote 11 in that section), the Atlanta share of such local tax revenues is calculated to be about 60% (0.60), which is the value inserted into row 25, which when multiplied by the total local sales revenue in row 24, generates the "Atlanta direct sales tax revenue" in row 26.

The remaining rows are devoted to calculating the output, personal income and employment economic impacts, as well as the induced further impact on Atlanta tax revenue as part of that analysis. The first step is to recognize that not all of the direct incremental spending impact will be captured within the Atlanta economy due to immediate leakages due to, e.g., part of local retail spending being transferred to non-local manufacturers, or profit repatriation to non-Atlanta owners of companies providing the various goods and services identified in Table 4 as being purchased within the City. Note that spending categories from the fuller CES (see Appendix B) that were deemed to have essentially a 0% capture rate locally (i.e., were purchased entirely from non-Atlanta vendors such as mortgage interest payments or non-Atlanta based taxes) never even appeared in Table 4 to become part of the derivation of the direct spending impact. While the induced spending that occurs in subsequent "rounds" as the direct spending impact works its way through the local economy (as captured by the value of the multiplier) is limited by such leakages from the Atlanta economy, the capture rate applied initially to the direct spending impact makes the further necessary adjustment for that portion of the new incremental spending that never makes as far as the "multiplier process." Row 27 identifies the capture rate as 0.70 (70%), which is then multiplied by the "fully adjusted Atlanta spending" direct impact in row 20 to yield the value reported

[10] Smith and Walker (2006) is an example of a study done for Georgia related to state sales and use taxes that concluded that there is a significant tax base loss, but those findings are not directly helpful to this study. Direct local tax base erosion in Georgia counties and municipalities is likely to range from 5% to 15%, but as noted above, some of the adjustments already made to the CES have captured part of those effects. Also the state exemption for grocery store food purchases is not extended to the local level.

in line 28 for the direct "Atlanta output value added."[11] Because the direct impact Atlanta sales tax revenues that were derived and reported in row 26 are, of course, 100% captured by the city of Atlanta, those revenues are added to the Atlanta output value added in row 28 to yield the row 29 measure of "Atlanta output plus sales tax." It is this measure of the direct spending output impact that is multiplied by the local output multiplier of 1.3 (row 30) to yield the "Direct plus Induced Economic Impact" in row 31.[12] Row 32 then simply reports the specific induced economic output impact as the difference between the total impact and the direct impact (i.e. row 31 – row 29).

Rows 33 through 36 calculate the additional Atlanta sales tax revenue generated by these induced economic impacts (via multiple rounds of re-spending of the original direct base spending) by first applying the previously identified "induced sales tax erosion factor" of 0.78 (22% erosion from the sales tax base) in row 33 to the induced output impact in row 31, which in turn is multiplied by the 4% local sales taxes (not shown separately) to yield the induced sales tax revenue in row 34. By again calculating the Atlanta share of such locally generated sales tax revenues as 60% (0.60), the row 35 value for the "Atlanta part of the induced sales tax revenues" is derived. Finally, the sum of the direct Atlanta sales tax revenues (row 26) and the induced Atlanta sales tax revenues (row 35) yields the "Total Atlanta sales tax revenues" in row 36.

Rows 37 through 41 then aggregate these output and sales tax impacts over the number of years of operation (row 37) applicable to each of the revitalized communities to yield such aggregations as the end of 2009, beginning of 2010 (see p. 4 and Table 1 above). Hence, the row 38 "Aggregate output economic impact" is the number of years in row 37 multiplied by the annual base total output impact in row 31. The sub-components of that aggregate output economic impact are reported as the "Aggregate direct economic impact" and the "Aggregate induced economic impact" in rows 39 and 40 (and are in turn the number of years multiplied by the respective direct and induced annual base impacts from rows 29 and 32 respectively). The aggregate Atlanta sales tax revenue (row 41) is the number of years multiplied by the annual base sales tax revenue (row 36).

Finally, rows 42 through 47 report the calculated results for the personal income and employment economic impacts on Atlanta of new household spending by households in

[11] Deriving the most accurate capture rate requires a comprehensive analysis of ownership of local retail sellers and more detailed spending patterns than are revealed in the CES. Higher capture rates will occur in larger economies (e.g., a state rather than a city) and with greater local ownership of the suppliers of goods and services. In a study of the economic impact of Lake Lanier (see Bleakly Advisory Group, Inc. et al., 2010), it was noted that the Army Corps of Engineers had identified a local capture rate of 67%, although an alternative case using 85% was also examined.

[12] All multipliers, whether linked to output, personal income, or employment will vary with the size and self-sufficiency of the economy being analyzed, hence yielding smaller local (city) multipliers when compared to larger regional (county, state or larger region) multipliers. An examination of multipliers linked to household spending from the Bureau of Economic Analysis RIMS II model, and the alternative IMPLAN regional economic impact model, adjusted for the City of Atlanta in contrast to metro Atlanta or the state of Georgia, yielded the values of all multipliers used in this analysis.

the revitalized communities. Row 42 reports the personal income multiplier, which is multiplied by the direct output impact (Atlanta output plus sales tax) in row 29, to yield the annual base personal income impact in row 43, which when multiplied by the number of years of community operation (row 37) generates the "Aggregate personal income economic impact" in row 44. The employment multiplier in row 45 is interpreted as the "number of full-time equivalent jobs per $1,000,000 in direct spending impact." Therefore, that employment multiplier is applied to the adjusted (by dividing by $1,000,000) direct output impact in row 29 to yield the annual base number of jobs in row 46. Again, applying the relevant number of years of operation to that annual base employment impact yields the aggregate employment impact reported in row 47. Note that this aggregate employment impact is designated as "Aggregate FTE person years" to reflect the reality that this could mean the same jobs held by the same persons for the applicable number of years, rather than entirely new jobs over that period.

Table 5B
Derivations of the Residential Relocation and Spending Economic Impacts for Selected Five Communities

Communities **Categories**	Capitol Gateway	Ashley Terrace West End	Atrium at Collegetown	Ashley Collegetown	Columbia Grove
1 Non-Atl HH Income	$5,426,469	$1,174,463	$33,956	$4,314,346	$1,027,772
2 Non-local HH Incom	$1,831,794	$715,566	$9,220	$3,415,234	$316,537
3 Fract nonLocal nonAt	0.3376	0.6093	0.2715	0.7916	0.3080
4 Total Non-Atl $5-15K	$0	$0	$33,956	$12,216	$38,109
5 Tot Non-Atl $15-30K	$1,115,260	$295,599	$0	$374,964	$330,991
6 Tot Non-Atl $30-$70K	$2,387,690	$505,558	$0	$886,587	$587,325
7 Tot Non-Atl > $70 K	$1,923,519	$373,306	$0	$3,040,579	$71,347
8 Spend weight 5-15	1.4756	1.4756	1.4756	1.4756	1.4756
9 Spend weight 15-30	0.9469	0.9469	0.9469	0.9469	0.9469
10 Spend weight 30-70	0.6070	0.6070	0.6070	0.6070	0.6070
11 Spend weight >70	0.3643	0.3643	0.3643	0.3643	0.3643
12 Weight spend 5-15	$0	$0	$50,105	$18,026	$56,234
13 Weight spend 15-30	$1,056,040	$279,903	$0	$355,053	$313,415
14 Weight spend 30-70	$1,449,328	$306,874	$0	$538,158	$356,506
15 Weight spend >70	$700,738	$135,995	$0	$1,107,683	$25,992
16 Tot weight Atl Direct	$3,206,105	$722,772	$50,105	$2,018,921	$752,147
17 Adjust metro non-Atl	0.90063	0.94139	0.89073	0.96874	0.89620
18 Adj weight Atl spend	$2,887,531	$680,411	$44,630	$1,955,809	$674,072
19 Locate other Atl adj.	0.85	0.85	0.85	0.85	0.85
20 Full adj ATL spend	$2,454,401	$578,349	$37,936	$1,662,438	$572,961
21 Implied MPC locally	0.4523	0.4924	1.1172	0.3853	0.5575
22 Dir tax erosion fact.	0.9500	0.9500	0.9500	0.9500	0.9500
23 ATL sales tax base	$2,331,681	$549,432	$36,039	$1,579,316	$544,313
24 Loc sales tx rev. 4%	$93,267	$21,977	$1,442	$63,173	$21,773
25 Atl weighted sales tx	0.6	0.6	0.6	0.6	0.6
26 Atl dir sales tx reven	$55,960	$13,186	$865	$37,904	$13,064
27 Atlanta capture rate	0.7	0.7	0.7	0.7	0.7
28 Atl output value add	$1,718,081	$404,844	$26,555	$1,163,706	$401,073
29 Atl output+sales tax	$1,774,041	$418,031	$27,420	$1,201,610	$414,137
30 Output multiplier	1.30	1.30	1.30	1.30	1.30
31 Direct+ induced EI	$2,306,253	$543,440	$35,646	$1,562,093	$538,378
32 Induc EI = Tot – Dir	$532,212	$125,409	$8,226	$360,483	$124,241

33 Induced tax erosion	0.78	0.78	0.78	0.78	0.78
34 Inducd sales tax rev	$16,605	$3,913	$257	$11,247	$3,876
35 Atl part inducd sal tx	$9,963	$2,348	$154	$6,748	$2,326
36 Tot Atl sales tax rev	$65,923	$15,534	$1,019	$44,652	$15,389
37 Number of years	2	8	4	4	2
38 Aggreg Output EI	$4,612,507	$4,347,519	$142,584	$6,248,372	$1,076,755
39 Aggreg Direct EI	$3,548,082	$3,344,245	$109,680	$4,806,440	$828,273
40 Aggreg Induced EI	$1,064,425	$1,003,274	$32,904	$1,441,932	$248,482
41 Agg. Atl sale tax rev	$131,847	$124,272	$4,076	$178,607	$30,779
42 Income Multiplier	0.6014	0.6014	0.6014	0.6014	0.6014
43 Person Income EI	$1,066,908	$251,404	$16,490	$722,648	$249,062
44 Agg. Person Inc EI	$2,133,817	$2,011,229	$65,962	$2,890,593	$498,123
45 Employ multiplier	12.308	12.308	12.308	12.308	12.308
46 Total Employment	21.83	5.15	0.34	14.79	5.10
47 Agg.FTE Person Yrs	43.67	41.16	1.35	59.16	10.19

Table 5C
Derivations of the Residential Relocation and Spending Economic Impacts for Selected Six Communities

Communities Categories	Villages at Eastlake	Ashley Courts at Cascade	Columbia Creste	Auburn Pointe	Centennial Place	Village at Castleberry Hill
1 Non-Atl HH Income	$7,183,541	$2,119,303	$1,011,810	$447,576	$9,521,505	$2,214,804
2 Non-local HH Incom	$1,622,192	$858,656	$345,666	$42,689	$4,232,318	$1,401,935
3 Fract nonLocal nonAt	0.2258	0.4052	0.3416	0.0954	0.4445	0.6330
4 Total Non-Atl $5-15K	$12,240	$28,384	$14,004	$88,164	$0	$703,614
5 Tot Non-Atl $15-30K	$198,043	$1,061,851	$233,622	$327,122	$1,849,221	$353,162
6 TotNon-Atl $30-$70K	$5,224,038	$879,068	$764,184	$32,290	$5,091,190	$898,196
7 Tot Non-Atl > $70 K	$1,749,220	$150,000	$0	$0	$2,581,094	$259,832
8 Spend weight 5-15	1.4756	1.4756	1.4756	1.4756	1.4756	1.4756
9 Spend weight 15-30	0.9469	0.9469	0.9469	0.9469	0.9469	0.9469
10 Spend weight 30-70	0.6070	0.6070	0.6070	0.6070	0.6070	0.6070
11 Spend weight >70	0.3643	0.3643	0.3643	0.3643	0.3643	0.3643
12 Weight spend 5-15	$18,061	$41,883	$20,664	$130,095	$0	$1,038,253
13 Weight spend 15-30	$187,527	$1,005,467	$221,217	$309,752	$1,751,027	$334,409
14 Weight spend 30-70	$3,170,991	$533,594	$463,860	$19,600	$3,090,352	$545,205
15 Weight spend >70	$637,241	$54,645	$0	$0	$940,293	$94,657
16 Tot weight Atl Direct	$4,013,820	$1,635,589	$705,741	$459,447	$5,781,672	$2,012,524
17 Adj metro non-Atl	0.88387	0.91077	0.90124	0.86431	0.91668	0.94495
18 Adj weigt Atl spend	$3,547,708	$1,489,652	$636,045	$397,103	$5,299,915	$1,901,729
19 Locate other Atl adj.	0.85	0.85	0.85	0.85	0.85	0.85
20 Full adj ATL spend	$3,015,552	$1,266,204	$540,638	$337,537	$4,504,928	$1,616,470
21 Implied MPC locally	0.4198	0.5975	0.5343	0.7541	0.4731	0.7298
22 Dir tax erosion fact.	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
23 ATL sales tax base	$2,864,774	$1,202,894	$513,606	$320,661	$4,279,682	$1,535,646
24 Loc sales tx rev. 4%	$114,591	$48,116	$20,544	$12,826	$171,187	$61,426
25 Atl weight sales tx	0.6	0.6	0.6	0.6	0.6	0.6
26 Atl dir sales tx reven	$68,755	$28,869	$12,327	$7,696	$102,712	$36,856
27 Atlanta capture rate	0.7	0.7	0.7	0.7	0.7	0.7
28 Atl output value add	$2,110,886	$886,343	$378,447	$236,276	$3,153,450	$1,131,529
29 Atl output+sales tx	$2,179,641	$915,213	$390,773	$243,972	$3,256,162	$1,168,384
30 Output multiplier	1.30	1.30	1.30	1.30	1.30	1.30
31 Direct+ induced EI	$2,833,533	$1,189,776	$508,005	$317,164	$4,233,010	$1,518,900
32 Induc EI =Tot – Dir	$653,892	$274,564	$117,232	$73,192	$976,849	$350,515
33 Induced tax erosion	0.78	0.78	0.78	0.78	0.78	0.78
34 Inducd sales tax rev	$20,401	$8,566	$3,658	$2,284	$30,478	$10,936
35 Atl part inducd sal tx	$12,241	$5,140	$2,195	$1,370	$18,287	$6,562
36 Tot Atl sales tax rev	$80,995	$34,009	$14,521	$9,066	$120,999	$43,417
37 Number of years	11	9	4	1	12	10
38 Aggreg Output EI	$31,168,861	$10,707,987	$2,032,021	$317,164	$50,796,126	$15,188,998
39 Aggreg Direct EI	$23,976,047	$8,236,913	$1,563,093	$243,972	$39,073,943	$11,683,845
40 Agg Induced EI	$7,192,814	$2,471,074	$468,928	$73,192	$11,722,183	$3,505,153

41 Agg. Atl sale tax rev	$890,950	$306,084	$58,085	$9,066	$1,451,988	$434,172
42 Income Multiplier	0.6014	0.6014	0.6014	0.6014	0.6014	0.6014
43 Person Income EI	$1,310,836	$550,409	$235,011	$146,725	$1,958,256	$702,666
44 Agg. Person In EI	$14,419,195	$4,953,679	$940,044	$146,725	$23,499,069	$7,026,664
45 Employ multiplier	12.308	12.308	12.308	12.308	12.308	12.308
46 Total Employment	26.83	11.26	4.81	3.00	40.08	14.38
47 Agg.FTE Per Yrs	295.10	101.38	19.24	3.00	480.92	143.80

Table 6
Summary of Aggregated Impacts from Tables 5A, 5B and 5C:
Household Relocation Spending Economic Impacts to 2010

1Total Annual Output Economic Impact	$20,573,479
2 Un-weighted Average Number of years of Historical Experience	6.5
3 Aggregate Multi-Year Output Economic Impact	**$165,784,731**
4 Total Annual Personal Income Economic Impact	$9,517,608
5 Aggregate Multi-Year Personal Income Economic Impact	**$76,694,567**
6 Total Annual City of Atlanta Sales Tax Revenue	$237,006
7 Aggregate Multi-Year City of Atlanta Sales Tax Revenue	**$4,738,892**
8 Total Average One Year Employment Economic Impact	194.78 Jobs
9 Aggregate Full Time Equivalent Person Years of Employment	**1,569.60 Jobs**

V. Detailed Analysis: Economic Impacts of the Construction Phases

The investments made into each of the 16 communities that are derived from non-Atlanta sources are further adjusted for the estimated proportion of labor to materials expenses, the local capture rate applicable to such spending (rows 14-16), and the City of Atlanta induced output multiplier (1.547). Also, as documented in Tables 1, 2 and 3 of Appendix D (and above in Table 2), the available raw data regarding the sources of funds and the uses of funds during the construction phases of these projects reports such spending for eleven (11) specific former housing projects (hence the one fewer table below compared to the residential spending analysis), which ultimately were transformed into 25 mixed income residential development phases and 14 separately named revitalization master plan communities (see the prior discussion on pp. 4-5).

These construction impacts vary by community, and in contrast to the household spending impacts, they are not recurring. These impacts are based on the reported total spending over finite time periods for renovation or new construction, and except for possible future further renovation spending injections, are not expected to extend beyond the already realized economic effects. One important distinction in the sales analysis applicable to the construction spending in contrast to the residential spending model is that there was a sales tax exemption applicable to the direct construction spending. Therefore, the only sales tax revenues to Atlanta were those generated during the induced multiplier phases.

As with Tables 5A, 5B and 5C and the residential spending impact model, Tables 7A and 7B are identical in format, varying only with the specific communities identified. Row 1 identifies the non-local (i.e. any funds other than those designated in the Appendix D tables as "City Funds") monies that were spent in the construction phase. Extensive consultation with the Atlanta Housing Authority has confirmed that all other sources of funding originated outside the City of Atlanta and can be considered an injection of new spending into the city economy. For example, for Magnolia Park, the "Sources of Funds" data in Table 2 of Appendix D reveal total direct and indirect project costs of $35,109,987, and no City of Atlanta funding. Hence, that figure appears in row 1 of

Table 7A. But for the case of Harris Homes (as one example) a downward adjustment has been made for the City Funds provided as part of both the direct project costs and the indirect project costs (Appendix D, Table 2), hence reducing the entry in row 1 from the unadjusted $211,558,293 to the correct $196,442,808. The "Uses of Funds" portion of the Appendix D tables identifies the separate "Direct Project Uses" as: (1) construction costs, (2) public improvements, and (3) soft costs. These categories are useful since there are some differences in how "hard costs" and "soft costs" generate local economic impacts.[13]

Therefore, for cases in which there are no city fund downward corrections to be made, rows 2 through 4 simply report the same figures identified in Uses of Fund segment of the relevant community table in Appendix D, and row 5 also simply reproduces the correct total for "soft costs and infrastructure" under the category of "Indirect Project Uses." For those communities having relevant city funds to be subtracted from the sources of funds totals, those reductions not only appear as part of the totals in row 1,but are also prorated reductions in the components of any city funds devoted to direct project uses (the city fund reduction is allocated across construction costs, public improvements, and direct project soft costs based on each categories relative percentage of those total direct project uses). If the city funds appeared as part of the funding source for indirect as distinct from direct project costs, that full amount is subtracted from the "soft costs and infrastructure" uses of funds category in the Appendix tables, and is reflected as a reduction in the entry for row 5 in Tables 7A and 7B. Note that the entries in rows 2 through 5 will sum to the total in row 1. Furthermore, since both the soft costs for direct project uses in row 4 and the indirect project soft costs and infrastructure are soft costs, row 7 (Total soft costs) is the sum of those rows 4 and 5, while row 6 (Total hard costs) is the sum of the hard costs from rows 2 and 3. Again, total hard plus total soft costs must sum to the total non-local sources costs in row 1, and rows 8 and 9 merely reflect the proportion of the total non-local source expenses (row 1) that are composed of hard versus soft costs.

Based on personal ongoing research and past economic impact studies (including the Atlanta-Beltline and Peachtree Corridor projects), good estimates of the breakdown between the important further categories of labor costs and material costs as a percentage of hard costs can be made. For multi-unit residential buildings that break-down is estimated as 45.714% labor, and 54.286% material and those entries in decimal form are inserted into rows 10 and 11.[14]

[13] As these terms are commonly used in the building and commercial construction industries, hard costs are essentially the "brick and mortar" expenses, while soft costs are less visibly seen in the buildings, such as architect fees, engineering reports, toxic reports, appraisal fees, utility hook- up fees, and similar items.

[14] This is a more aggregated breakdown for labor and materials and includes material and labor from other categories. Other more detailed breakdowns for multi-family housing might be identified, such as: acquisition costs 6%; site improvement 8%; construction labor 27%; material costs 33%; finance costs 4%; administrative costs 17%; and marketing costs 5%. If on average (not limited to the particular projects in this study, hard costs are 70% of total costs, and labor is 32% and material is 38% of total costs, labor

The dollar magnitudes of estimated labor and material costs in rows 12 and 13 are then derived by multiplying those labor and material weighting factors (rows 10 and 11) by the total hard costs in row 6. Rows 14, 15 and 16 identify local capture rate adjustments for each of the categories of labor, material and soft costs, with the more refined material capture rate of 0.5834 rather than rounding to 0.60 reflecting a previously derived figure from another Atlanta based construction cost study where more data had been available as to local vs. non-local vendors. Multiplying those capture rates by the total non-local source spending figures yields the dollar values for the adjusted local labor cost (row 17 = row 14 x row 12), adjusted local material spending (row 18 = row 15 x row 13), and adjusted lost soft cost spending (row 19 = row 16 x row 7). Total local direct construction spending is then the sum of those components and is reported in row 20, with row 21 identifying the proportion of the total non-local funds that are derived to be the direct construction spending impact (row 21 = row 20 divided by row 10).

Rows 21 through 35 complete the analysis starting with the local construction section output multiplier of 1.547 in row 22, which when applied to the direct construction spending impact in row 20 yields the "Total output impact" in row 23. Similarly, the construction sector personal income multiplier is reported in row 24, and applied to the same total local direct impact in row 20, to yield the "Total income impact" in row 25. Row 26 reports the induced output economic impact as the difference between the total output impact of row 23 and the direct output impact of row 20. Row 27 is the relevant employment multiplier for the Atlanta construction sector and has the same interpretation (although different value) as the employment multiplier above in the residential spending analysis. This is used to derive the total employment economic impact (row 28) when applied again to the row 20 local direct impact. Rows 29 through 32 are not essential, but attempt to estimate the breakdown in that employment impact between direct and induced effects. More importantly, rows 33 though 35 calculate the Atlanta sales tax revenues linked only to the induced multiplier spending impacts. Row 33 applies the sales tax leakage adjustment factor of 0.78 (a 22% leakage from the tax base) to the induced output impact derived in row 26. Then this sales tax base is multiplied by the combined local sales tax rate of 4% to yield total local sales tax revenues (row 34), and as above with residential spending impacts, Atlanta's share is derived to be 60%, so 0.6 x the row 34 total revenues yields the Atlanta share of total sales tax revenues linked to construction phase spending (row 35).

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would be 45.714% of hard costs (32/70), and material would be 54.286% (38/70). Some of this information can be found at the website of The Associated General Contractors of America, www.agc.org. A simple rule of thumb that is sometimes used is that labor accounts for roughly half of the cost of a construction project, which is consistent with the figures used in this analysis. See also Simonson (2008), who is one who cites such a rough rule of thumb.

Table 7A
Construction Spending Economic Impacts: Detailed Derivations
Five Selected Former Public Housing Sites

New Communities:	Magnolia Pk	Columbias	Vill Carver	Cap Gateway	CollegeTown
Former Public Housing	John Eagan	Perry Homes	Carver Homes	Capitol Homes	Harris Homes
Revitalization MastPlan	Magnolia Pk	W.Highlands	Villgs Carver	Cap Gateway	ColltwnWEnd
Categories					
1 Non-local Sources	$35,109,987	$266,253,294	$163,663,337	$177,919,639	$196,442,808
2 Construction Costs	$21,887,987	$173,765,591	$92,191,519	$119,598,574	$117,710,481
3 Public Improvements	$0	$142,407	$12,558,313	$0	$0
4 Soft Costs	$9,271,287	$54,219,618	$32,167,425	$40,998,895	$53,367,361
5 IndirectSoft/Infrastruc	$3,950,713	$38,125,676	$26,746,079	$17,322,173	$25,364,967
6 Total Hard Costs	$21,887,987	$173,907,998	$104,749,832	$119,598,574	$117,710,481
7 Total Soft Costs	$13,222,000	$92,345,294	$58,913,504	$58,321,068	$78,732,328
8 Hard as % of Total	0.623411994	0.653167498	0.640032361	0.672205579	0.599209929
9 Soft as % of Total	0.376588006	0.346832494	0.359967633	0.327794438	0.400790076
10 Labor adjustment	0.45714	0.45714	0.45714	0.45714	0.45714
11 Materials adjustment	0.54286	0.54286	0.54286	0.54286	0.54286
12 Est. Labor cost	$10,005,874	$79,500,302	$47,885,338	$54,673,292	$53,810,169
13 Est. Material cost	$11,882,113	$94,407,696	$56,864,494	$64,925,282	$63,900,312
14 Local labor adjust.	0.8	0.8	0.8	0.8	0.8
15 Local material adjust.	0.5834	0.5834	0.5834	0.5834	0.5834
16 Local soft cost adjust.	0.7	0.7	0.7	0.7	0.7
17 Local labor cost	$8,004,700	$63,600,242	$38,308,271	$43,738,634	$43,048,135
18 Local material cost	$6,932,025	$55,077,450	$33,174,746	$37,877,409	$37,279,442
19 Local soft costs	$9,255,400	$64,641,706	$41,239,453	$40,824,748	$55,112,630
20 Total Local Direct	$24,192,124	$183,319,397	$112,722,469	$122,440,791	$135,440,207
21 Local Direct/Sources	0.68903825	0.68851504	0.688746002	0.688180301	0.68946381
22 ATL output multiplier	1.547	1.547	1.547	1.547	1.547
23 Total output impact	$37,425,216	$283,595,108	$174,381,660	$189,415,903	$209,526,000
24 Income multiplier	0.7157	0.7157	0.7157	0.7157	0.7157
25 Total income impact	$17,314,303	$131,201,693	$80,675,471	$87,630,874	$96,934,556
26 Indirect,induced output	$13,233,092	$100,275,710	$61,659,191	$66,975,113	$74,085,793
27 Employment multiplier	14.647	14.647	14.647	14.647	14.647
28 Total employment imp	354	2,685	1,651	1,793	1,984
29 Income direct	$11,967,844	$90,688,106	$55,763,805	$60,571,459	$67,002,270
30 Income indirect,induced	$5,346,459	$40,513,587	$24,911,666	$27,059,415	$29,932,286
31 Employment direct	237	1,794	1,103	1,199	1,326
32 Employ indirect,induced	118	891	548	595	658
33 Indir induc sales tx base	$10,321,812	$78,215,054	$48,094,169	$52,240,588	$57,786,919
34 Total ind induc sales tx	$412,872	$3,128,602	$1,923,767	$2,089,624	$2,311,477
35 City Atlanta sales tx rev	$247,723	$1,877,161	$1,154,260	$1,253,774	$1,386,886

Table 7B
Construction Spending Economic Impacts: Detailed Derivations
Six Selected Former Public Housing Sites

New Communities	East Lake	AshCascade	AubPointe	Centennial	Castleberry	MechanicStn.
Former Public Housing	ELakeMeadows	KimberlyCt	GradyHomes	TechwdClarkH	JohnHopeHo	McDanielGlenn
Revitalization MastPlan	VillagesofELake	AshCtCasc	Aub Pointe	Centennial	Village atCH	Mechanicsville
Categories						
1 Non-local Sources	$58,329,818	$34,862,261	$157,489,432	$102,414,031	$49,378,430	$172,112,833
2 Construction Costs	$33,994,268	$25,196,835	$83,743,224	$62,078,814	$28,848,655	$108,116,915
3 Public Improvements	$0	$0	$0	$0	$0	$0
4 Soft Costs	$18,967,924	$7,950,232	$30,866,733	$17,694,865	$16,127,922	$33,076,864
5 IndirectSoft/Infrastruc	$5,367,626	$1,715,194	$42,879,470	$22,640,352	$4,401,853	$30,919,057
6 Total Hard Costs	$33,994,268	$25,196,835	$83,743,224	$62,078,814	$28,848,655	$108,116,915
7 Total Soft Costs	$24,335,550	$9,665,426	$73,746,203	$40,335,217	$20,529,775	$63,995,921
8 Hard as % of Total	0.582794001	0.722753897	0.531738688	0.606155362	0.58423597	0.628174629
9 Soft as % of Total	0.417205999	0.277246103	0.46826128	0.393844638	0.41576403	0.371825389
10 Labor adjustment	0.45714	0.45714	0.45714	0.45714	0.45714	0.45714
11 Materials adjustment	0.54286	0.54286	0.54286	0.54286	0.54286	0.54286
12 Est. Labor cost	$15,540,140	$11,518,481	$38,282,377	$28,378,709	$13,187,874	$49,424,567
13 Est. Material cost	$18,454,128	$13,678,354	$45,460,847	$33,700,105	$15,660,781	$58,692,348
14 Local labor adjust.	0.8	0.8	0.8	0.8	0.8	0.8
15 Local material adjust	0.5834	0.5834	0.5834	0.5834	0.5834	0.5834
16 Local soft cost adjust	0.7	0.7	0.7	0.7	0.7	0.7
17 Local labor cost	$12,432,112	$9,214,785	$30,625,902	$22,702,967	$10,550,299	$39,539,653
18 Local material cost	$10,766,138	$7,979,952	$26,521,858	$19,660,641	$9,136,500	$34,241,116
19 Local soft costs	$17,034,885	$6,765,798	$51,622,342	$28,234,652	$14,370,843	$44,797,145
20 Total Local Direct	$40,233,135	$23,960,535	$108,770,102	$70,598,260	$34,057,641	$118,577,914
21 Local Direct/Sources	0.689752456	0.687291474	0.690650163	0.689341682	0.6897271	0.688954519
22 ATL output multiplier	1.547	1.547	1.547	1.547	1.547	1.547
23 Total output impact	$62,240,660	$37,066,947	$168,267,348	$109,215,509	$52,687,171	$183,440,033
24 Income multiplier	0.7157	0.7157	0.7157	0.7157	0.7157	0.7157
25 Total income impact	$28,794,855	$17,148,555	$77,846,762	$50,527,175	$24,375,054	$84,866,213
26 Indirect,induced outp	$22,007,525	$13,106,413	$59,497,246	$38,617,248	$18,629,530	$64,862,119
27 Employ multiplier	14.647	14.647	14.647	14.647	14.647	14.647
28 Total employ impact	589	351	1,593	1,034	499	1,737
29 Income direct	$19,903,332	$11,853,277	$53,808,569	$34,924,959	$16,848,315	$58,660,494
30 Inc indirect induced	$8,891,523	$5,295,278	$24,038,193	$15,602,216	$7,526,739	$26,205,719
31 Employ direct imp.	394	235	1,065	691	333	1,161
32 Employ ind. induced	195	116	528	343	165	576
33 Ind induc sls tx base	$17,165,869	$10,223,002	$46,407,852	$30,121,454	$14,531,033	$50,592,453
34 Ind induc sales tx	$686,635	$408,920	$1,856,314	$1,204,858	$581,241	$2,023,698
35 Atlanta sales tx rev	$411,981	$245,352	$1,113,788	$722,915	$348,745	$1,214,219

Table 8
Summary of Aggregated Impacts from Tables 7A and 7B
Construction Phase Spending Economic Impacts to 2010

1Total Output Economic Impact across all projects	**$1,507,261,554**
2 Total Personal Income Economic Impact; all projects	**$697,315,510**
3 Total City of Atlanta Sales Tax Revenue	**$9,976,805**
4 Aggregate Full Time Equivalent Person Years of Employment	**14,271**

VI. A Further Note on Sales Tax Revenues to the City of Atlanta

The sales tax base can be larger than the actual expansion of city based output to the extent that the full value of transactions is taxed even when portions of that spending "leak" outside the local economy almost immediately. Thus, the full expenditures for a clothing purchase is subject to the sum of all local option sales taxes (state of Georgia sales tax revenues are not included in these reported revenues) even if the economies of other regions are benefited in part by the manufacturer or wholesaler portion of that purchase. Thus, the retail sales base can differ from the direct economic impact base. Sales tax revenues are also received on the "induced" multiplier related portion of the total economic impact.

The City of Atlanta does not receive all of the revenues from the four components of the local option sales taxes but shares those revenues with Fulton County, the Fulton County Board of Education, or MARTA (it does receive 100% of the MOST earmarked for sewer and water infrastructure repair). The total sales tax rate applicable to eligible purchases within Fulton County is 8.0%, but that includes the 4.0% State of Georgia sales tax. The array of local option sales taxes sums to 4.0%, with the 1.0% local option sales tax (LOST) and the 1.0% special local option sales tax (SPLOST; earmarked primarily for educational projects) applicable throughout the county, and the revenues shared between the county and its various municipalities, of which Atlanta is by far the largest. The 1.0% municipal option sales tax (MOST) is derived from transactions only within the City of Atlanta and is earmarked for city water and sewer capital projects. The 1.0% sales tax earmarked for the public transportation system MARTA is collected throughout Fulton and DeKalb Counties and clearly benefits populations beyond the City of Atlanta, although 76.3% of the 38 rail stations are located within the City. The tax revenues reported herein are based on an estimate of the share of the full 4.0% local option sales tax revenues that accrue to the benefit of the City of Atlanta, even if not entirely in the form of revenues appearing in the General Fund budget of the City, in contrast to revenues to the Atlanta Board of Education, or the special City fund for water and sewer projects, or the many economic benefits to the City from the operation of MARTA.

Thus, the Atlanta sales tax revenues are only a portion (derived to be an average across all types of taxes of 0.60) of the total local sales tax revenues.[15] An adjustment is also made for the known leakages in the sales tax base related to types of goods and primarily services for which the sales tax does not apply (a direct tax base adjustment of 0.95 and an induced tax base adjustment of 0.78, or an un-weighted average adjustment of 0.865, or a simple average 13.5% tax base erosion).

[15] While there are several ways this might be calculated, one relatively simple approach is to consider the distribution of the LOST and the SPLOST to be roughly proportional to population, with the City of Atlanta having approximately 46.4% (0.464) of the Fulton County population in 2009 (assuming the City population was close to 480,000 rather than the controversial 2010 Census result suggesting a population closer to 420,000). The MOST does have a smaller tax base than the other local taxes (the City rather than the County), but 100% of those revenues are captured by Atlanta. Adjusting for the more limited geographical area, it is assumed that Atlanta gets 85% (0.85) of what would have been the usual county-wide tax revenues if the MOST behaved like the other county-wide taxes. Finally, as noted in the text, 76.3% of all MARTA stations are located within the City of Atlanta, but adjusting the share of benefits the City can be considered to get from the broader reach of MARTA by an adjustment factor of 0.80 would make that weighted percentage 0.6104 (0.80 x 0.763). The sum of these fractional shares is 2.3884, which divided by four taxes yields an average share across all four taxes of 0.5971, which is rounded to 0.60 or 60%.

Appendices

Appendix A: Household Data for the Sixteen (16) Mixed Income Communities

Note that all household data applies to "non-assisted" residents only.

(Please note zip-codes with 3 and 4 digits start with 0)

Magnolia Park **Date: March 26, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30238	$24,960	1
2	30314	$33,080	1
3	30314	$39,645	1
4	30349	$28,215	1
5	62702	$29,880	1
6	30316	$24,960	1
7	30315	$24,960	1
8	70714	$26,721	1
9	30092	$47,700	1
10	30314	$24,436	1
11	30312	$16,320	2
12	30312	$15,560	Missing data
13	30314	$22,630	3
14	30314	$37,486	Missing data
15	30314	$0	Missing data
16	30314	$51,075	2
17	60153	$10,000	Missing data
18	46254	$27,000	3
19	90302	$25,000	Missing data
20	30314	$28,000	Missing data
21	30314	$24,576	2
22	30314	$20,800	Missing data
23	30349	$22,880	2
24	30329	$31,500	Missing data
25	30312	$31,500	1
26	30349	$27,500	1
27	30318	$7,644	2
28	30318	$10,899	Missing data
29	30354	$29,177	2
30	30318	$35,000	Missing data
31	30314	$25,230	1
32	30314	$28,659	1

33	30067	$27,139	2
34	30067	$39,000	Missing data
35	30067	$27,040	1
36	30314	$0	1
37	30331	$29,586	1
38	48917	$13,643	2
39	48717	$7,891	Missing data
40	11561	$15,600	2
41	0-7062	$36,882	Missing data
42	30314	$25,792	1
43	30314	$37,827	1
44	30314	$17,058	2
45	30314	$16,216	Missing data
46	48235	$20,798	1
47	30314	$27,536	Missing data
48	30314	$24,960	1
49	30310	$24,427	1
50	30118	$11,400	2
51	30260	$11,700	Missing data
52	30314	$14,560	2
53	30314	$15,600	Missing data
54	30314	$25,552	1
55	30316	$0	1
56	30314	$0	1
57	30314	$0	2
58	0-8854	$0	Missing data
59	30314	$0	2
60	30314	$0	Missing data
61	80249	$26,293	1
62	80249	$14,606	2
63	80205	$29,120	Missing data
64	30318	$16,320	2
65	60827	$16,320	Missing data
66	30314	$13,260	2
67	30314	$12,870	Missing data
68	30214	$0	2
69	30328	$0	Missing data
70	90813	$24,123	1
71	30314	$26,384	2
72	30318	$31,856	Missing data

73	30313	$28,094	1
74	80218	$0	2
75	30314	$0	Missing data
76	30344	$28,736	1
77	31907	$0	2
78	31907	$0	Missing data
79	30315	$35,000	2
80	30315	$14,000	Missing data
81	30312	$19,593	1
82	0-7017	$61,200	1
83	30303	$54,000	1
84	30314	$21,424	1
85	30309	$25,177	1
86	30038	$30,160	1
87	30314	$35,177	1
88	30313	$39,596	1
89	64134	$0	1
90	30314	$22,943	1
91	30308	$3,570	1
92	30017	$0	1
93	0-7017	$0	1
94	0-0850	$20,800	2
95	30331	$11,700	Missing data
96	30349	$37,180	1
97	22201	$12,728	2
98	85301	$15,142	2
99	85301	$23,794	Missing data
100	30349	$42,764	1
101	30314	$0	2
102	Bahamas	$0	Missing data
103	30032	$18,374	2
104	30032	$10,380	Missing data
105	48021	$32,500	2
106	77469	$0	Missing data
107	77469	$25,988	2
108	77469	$0	Missing data
109	30318	$22,640	1
110	90712	$0	2
111	44	$0	Missing data
112	10458	$31,748	Missing data

113	80220	$6,526	Missing data
114	28278	$27,066	1
115	30309	$23,262	1
116	30312	$23,492	1
117	30314	$0	1
118	30314	$30,948	1
119	30315	$31,220	1
120	20910	$58,560	1
121	30318	$24,216	1
122	30318	$13,945	1
123	30314	$21,050	1
124	30314	$0	1
125	30308	$28,800	1
126	30038	$45,240	1
127	30122	$28,000	1
128	Africa/Out of Country	$21,313	2
129	Africa/Out of Country	$31,743	Missing data
130	30314	$6,635	4
131	30314	$18,200	Missing data
132	30314	$11,340	Missing data
133	30314	$29,663	Missing data
134	30303	$6,572	3
135	30326	$11,606	Missing data
136	30019	$15,585	Missing data
137	7042	$0	3
138	48103	$0	Missing data
139	30314	$0	Missing data
140	2136	$0	Missing data
141	30318	$0	Missing data
142	2130	$0	Missing data
143	30314	$27,480	1
144	2138	$0	3
145	30314	$0	Missing data
146	30314	$0	Missing data
147	30314	$16,800	3
148	30314	$0	Missing data
149	30314	$13,538	Missing data
150	30318	$33,043	2
151	30318	$9,761	Missing data
152	30314	$0	1

153	30314	$22,880	2
154	30314	$0	Missing data
155	60616	$9,000	3
156	30313	$0	Missing data
157	30313	$0	Missing data
158	30313	$11,057	3
159	30313	$0	Missing data
160	30313	$0	Missing data
161	30310	$33,280	2
162	30310	$20,640	Missing data
163	30032	$20,093	3
164	30032	$0	Missing data
165	30032	$0	Missing data
166	11238	$41,914	2
167	20747	$0	Missing data
168	30334	$33,000	3
169	30314	$36,000	Missing data
170	30314	$37,180	Missing data
171	30314	$26,234	1
172	30326	$27,100	1
173	30344	$22,397	2
174	30087	$21,562	Missing data
175	30017	$13,122	3
176	30318	$14,840	Missing data
177	20878	$43,112	Missing data
178	30314	$0	2
179	30318	$34,977	Missing data
180	30310	$17,220	1
181	30316	$19,619	1
182	30315	$28,746	1
183	30315	$22,205	1
184	31702	$70,000	1
185	30314	$22,629	1
186	30309	$21,000	1
187	60153	$56,154	1
188	30308	$24,000	1
189	30316	$12,476	2
190	30316	$15,274	Missing data
191	30291	$0	1
191	30294	$27,060	1

192	30314	$21,642	1
193	30314	$26,000	1
194	30311	$32,240	1
195	30331	$14,459	1
196	30309	$39,965	1
197	30311	$38,581	1
198	30075	$18,720	1
199	31061	$20,400	1
200	30314	$39,538	1
201	30314	$17,405	1
202	30315	$30,000	1
203	30311	$23,955	1
204	30318	$39,457	1
205	30314	$0	1
206	32601	$50,000	1
207	30314	$43,012	1
208	30318	$37,564	2
209	30318	$15,175	Missing data
210	30331	$24,080	2
211	30331	$0	Missing data
212	60154	$0	1
213	30088	$27,450	1
214	70401	$23,735	1
215	30314	$39,600	1
216	30314	$0	1
217	30314	$24,764	2
218	75254	$0	Missing data
219	30314	$21,836	1
220	30273	$0	2
221	30252	$0	Missing data
222	30228	$16,083	2
223	29440	$20,904	
224	33147	$63,075	1
225	30314	$49,978	1
226	28117	$0	2
227	30314	$0	Missing data
228	30034	$21,853	1
229	30310	$21,632	3
230	30310	$19,200	Missing data
231	30310	$14,144	Missing data

232	30318	$13,520	2
233	30034	$35,730	Missing data
234	30303	$50,000	1
235	30308	$21,802	1
236	30058	$23,234	1
237	60423	$14,434	2
238	0-6854	$12,000	Missing data
239	30313	$26,312	1
240	30311	$19,200	2
241	30311	$26,858	Missing data
242	30303	$26,197	1
243	16503	$24,960	1
244	30034	$32,430	1
245	30314	$46,096	1
246	30318	$10,738	Missing data
247	30318	$9,871	Missing data
248	30021	$37,369	1
249	30273	$31,284	1
250	19124	$11,246	2
251	39401	$21,008	Missing data
252	30314	$0	1
253	30314	$0	Missing data
254	30016	$64,455	2
255	30311	$29,800	Missing data
256	30087	$11,364	1
257	30310	$51,444	1
258	30087	$13,149	2
259	30014	$17,393	Missing data
260	30314	$0	3
261	30314	$0	Missing data
262	30314	$0	Missing data
263	30310	$28,190	2
264	30310	$11,375	Missing data
265	30032	$24,183	2
266	30032	$16,080	Missing data
267	90813	$6,370	1
268	30314	$0	3
269	30314	$0	Missing data
270	30314	$0	Missing data
271	10456	$0	2

272	30014	$0	Missing data
273	30318	$12,834	3
274	30318	$21,476	Missing data
275	30318	$0	1
276	30305	$32,763	2
277	92882	$11,535	Missing data
278	30314	$12,000	Missing data
279	30314	$0	Missing data
280	27801	$29,880	1
281	30078	$0	3
282	48334	$0	Missing data
283	77083	$0	Missing data
284	30314	$6,072	2
285	30314	$6,989	Missing data
286	30314	$22,314	3
287	30314	$36,112	Missing data
288	30318	$22,502	Missing data
289	30331	$38,836	2
290	30331	$25,600	Missing data
291	48344	$71,816	1
292	30314	$13,061	1
293	30339	$32,723	1
294	30058	$20,280	3
295	30318	$12,792	Missing data
296	30305	$14,412	Missing data

Columbia Commons **Date: March 2, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30311	$35,376	1
2	30310	$11,172	1
3	30344	$20,800	1
4	30308	$50,529	2
5	30308	$50,529	2
6	38125	$38,760	2
7	30314	$38,688	2
8	30080	$37,954	2
9	30030	$62,999	2
10	30311	$15,388	1
11	30030	$62,999	2
12	30311	$15,388	2
13	30296	$34,680	2
14	60438	$38,964	2
15	30331	$48,839	2
16	30331	$42,660	2
17	30314	$43,000	2
18	94509	$34,482	3
19	30301	$40,664	3
20	30318	$36,628	2
21	30310	$40,664	3
22	30318	$39,718	4
23	30310	$35,318	2
24	30318	$38,252	4
25	30083	$25,786	2
26	30083	$44,232	3
27	30083	$25,786	2
28	30083	$44,323	3
29	30034	$35,928	3
30	30349	$31,600	1
31	30331	$22,980	2
32	30034	$40,880	2
33	30318	$33,645	3
34	30032	$30,688	2
35	30349	$32,102	1
36	30032	$30,688	2
37	30318	$31,336	2

38	3088	$21,684	2
39	30314	$45,890	2
40	30127	$27,040	1
41	30088	$21,684	2
42	30314	$45,890	2
43	30127	$27,040	1
44	30314	$45,032	2
45	30311	$31,336	2
46	30311	$43,889	3
47	30331	$66,116	4
48	30314	$39,909	3
49	30318	$30,202	4
50	30311	$24,888	2
51	30311	$35,381	3
52	30314	$42,400	2
53	30310	$29,120	3
54	30331	$28,279	2
55	30083	$33,280	1
56	30168	$76,575	2
57	30311	$29,120	1
58	30331	$33,000	2
59	30083	$33,280	1
60	30168	$76,575	2
61	31909	$19,600	1
62	30314	$22,722	2
63	30303	$20,640	2
64	30316	$33,280	1
65	30314	$22,576	1
66	30331	$26,990	1
67	30331	$24,960	1
68	36606	$35,714	1
69	30352	$30,290	2
70	30318	$30,290	2
71	30314	$22,576	1
72	30344	$30,628	3
73	30311	$29,900	2
74	2126	$38,090	2
75	30019	$31,467	2
76	30311	$33,280	2
77	30331	$32,809	1

78	30349	$24,400	2
79	30311	$32,081	2
80	30311	$27,571	1
81	30311	$29,533	2
82	30310	$29,500	2
83	30303	$49,143	2
84	94521	$35,454	1
85	30311	$35,000	2
86	30318	$29,120	1
87	30318	$59,802	2
88	30349	$40,373	2
89	30318	$59,802	2
90	30331	$32,295	2
91	30291	$29,120	1

Columbia Estates **Date: March 2, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30147	$32,953.60	2
2	30318	$63,000.00	3
3	30318	$46,043.30	3
4	30340	$49,685.08	2
5	30318	$32,812.00	2
6	28078	$63,000.00	3
7	30303	$31,302.00	1
8	28078	$55,392.00	3
9	30297	$24,960.00	1
10	30303	$33,996.00	1
11	30318	$39,000.00	2
12	30319	$75,265.00	2
13	30288	$63,000.00	4
14	30906	$63,000.00	1
15	30315	$16,640.00	1
16	30349	$14,400.00	1
17	29580	$34,666.58	1
18	30075	$63,000.00	2
19	30032	$40,919.40	1
20	30318	$63,000.00	1
21	30417	$29,700.00	1
22	30318	$31,262.40	1
23	30329	$64,341.60	1
24	30318	$24,000.00	1
25	30354	$66,554.88	1
26	30035	$42,000.00	2
27	30106	$34,320.00	4
28	30309	$58,396.00	2
29	30294	$36,668.00	2
30	30324	$34,414.80	1
31	30060	$40,103.84	2
32	30318	$28,345.72	1
33	30344	$25,168.00	1
34	30318	$62,400.00	1
35	30314	$43,360.00	1
36	30316	35.930.88	1
37	30344	$31,712.98	1

38	30318	$58,984.55	1
39	30317	$64,475.04	1
40	30144	$55,000.00	2
41	30328	$16,416.00	1
42	30358	$50,689.00	2
43	30238	$33,600.00	3
44	30032	$60,569.60	1
45	30126	$30,000.00	2
46	30082	$28,950.00	1
47	30318	$96,826.00	4
48	30318	$32,000.00	2
49	30308	$38,400.00	2
50	30318	$28,600.00	2
51	30309	$35,000.00	1
52	30228	$64,032.00	2
53	30305	$42,601.00	2
54	30318	$67,100.00	1
55	30318	$24,590.00	1
56	30318	$56,567.64	2
57	30318	$50,400.00	2
58	30331	$68,448.00	3
59	30314	$44,278.00	1

Columbia Park Citi **Date: March 2, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	35207	$45,000.00	2
2	30318	$37,920.00	2
3	30331	$32,400.00	2
4	30313	$31,488.00	1
5	30274	$30,000.00	1
6	30315	$23,970.00	1
7	28063	$35,360.00	1
8	30273	$24,000.00	1
9	30017	$24,224.00	1
10	30312	$29,339.00	1
11	30294	$23,000.00	1
12	30228	$23,426.00	3
13	49107	$36,792.00	1
14	30318	$11,400.00	2
15	30088	$26,400.00	2
16	30331	$24,000.00	2
17	30035	$84,800.00	2
18	30312	$41,800.00	3
19	40208	$41,461.00	1
20	30303	$30,000.00	2
21	30274	$24,000.00	1
22	33458	$56,116.00	2
23	30122	$41,600.00	2
24	30338	$37,242.00	1
25	30539	$24,800.00	2
26	30314	$62,700.00	1
27	30294	$26,436.00	1
28	30294	$32,000.00	1
29	30318	$26,400.00	3
30	30070	$32,160.00	1
31	20850	$25,279.00	2
32	30331	$31,580.00	1
33	28050	$25,279.00	1
34	30318	$30,600.00	2
35	30310	$18,240.00	2
36	60628	$50,000.00	3
37	30133	$24,000.00	3

38	30308	$39,944.00	1
39	30314	$20,000.00	2
40	30319	$31,980.00	2
41	30313	$38,000.00	3
42	30312	$30,000.00	2
43	30314	$24,000.00	2
44	30315	$56,100.00	2
45	41799	$50,772.00	2
46	30309	$24,000.00	3
47	30318	$28,454.00	2
48	30350	$30,062.00	2
49	30314	$72,000.00	3
50	77058	$24,000.00	2
51	30318	$24,000.00	1
52	30346	$28,800.00	3
53	30318	$22,800.00	3
54	30314	$24,684.00	2
55	30296	$46,020.00	1
56	32218	$30,500.00	2
57	30308	$37,500.00	1
58	19401	$52,068.00	2
59	30339	$52,000.00	3
60	30326	$30,612.00	1
61	30088	$33,600.00	3
62	30503	$28,800.00	2
63	45125	$45,125.00	3
64	30281	$24,800.00	2
65	20720	$43,862.00	2
66	30302	$18,988.00	1
67	30318	$24,500.00	2

Villages at Carver **Date: April 6, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	77429	$76,959	2
2	30315	$74,232	2
3	30314	$70,353	4
4	30121	$46,800	5
5	30318	$24,003	1
6	30135	$43,422	1
7	30318	$40,000	1
8	30331	$38,012	2
9	30314	$140,000	2
10	30354	$21,000	1
11	30354	$60,000	2
12	30308	$17,182	1
13	30288	$25,249	1
14	30354	$28,000	3
15	30310	$15,600	2
16	30344	$26,232	2
17	30135	$49,753	5
18	35806	$27,672	2
19	38038	$30,000	1
20	30344	$31,503	1
21	30308	$24,000	2
22	30313	$80,000	2
23	30315	$28,152	2
24	30303	$42,900	3
25	30083	$33,000	1
26	30314	$30,000	3
27	30318	$48,000	2
28	30294	$47,500	1
29	30213	$81,120	2
30	30062	$33,000	2
31	30281	$53,333	1
32	30331	$26,500	2
33	30315	$40,000	2
34	30328	$29,124	1
35	30349	$44,034	1
36	30135	$24,900	1
37	30135	$15,000	2

38	97230	$72,164	2
39	30904	$102,767	4
40	30315	$52,000	1
41	30274	$26,000	1
42	30274	$17,368	1
43	30344	$18,000	2
44	30236	$29,120	2
45	30311	$22,380	2
46	30310	$22,133	3
47	30310	$21,840	1
48	30314	$27,818	3
49	30092	$25,000	1
50	30354	$19,760	1
51	30315	$15,907	1
52	30340	$27,645	1
53	30318	$38,138	3
54	30354	$14,050	3
55	30309	$22,008	1
56	30354	$25,800	2
57	30021	$5,000	3
58	30314	$12,300	3
59	30314	$22,752	3
60	30310	$22,900	2
61	30309	$11,900	2
62	30354	$2,105	2
63	30034	$12,000	5
64	30311	$26,000	1
65	30087	$30,000	2
66	30315	$28,600	2
67	30331	$15,000	3
68	30083	$17,280	1
69	30135	$9,800	2
70	30038	$20,000	1
71	30083	$31,768	1
72	30260	$21,508	5
73	30337	$61,733	3
74	30315	$42,000	4
75	30673	$43,000	3
76	30310	$51,100	3
77	37701	$40,395	2

78	30303	$31,959	1
79	30310	$40,690	1
80	30315	$18,200	2
81	30310	$45,327	2
82	30315	$18,200	2
83	30310	$43,000	3
84	30314	$23,878	2
85	30122	$36,842	2
86	30314	$33,457	1
87	30274	$24,567	2
88	30308	$33,000	3
89	30315	$41,234	1
90	30308	$33,000	3
91	30315	$41,234	1
92	30314	$31,924	1
93	30274	$32,240	3
94	30315	$35,231	2
95	30315	$24,373	5
96	30331	$25,506	1
97	30038	$43,000	3
98	30315	$31,123	3
99	30236	$38,000	2
100	30038	$27,617	4
101	30308	$27,968	3
102	30213	$72,206	1
103	30319	$33,605	5
104	30016	$26,168	3
105	30018	$28,876	3
106	30315	$24,948	2
107	30011	$45,996	1
108	30310	$32,000	1
109	30330	$37,090	3
110	30329	$23,338	1
111	30034	$38,029	1
112	30036	$15,456	1
113	30315	$20,944	2
114	30316	$23,786	2
115	00801	$15,456	4
116	30315	$24,198	1
117	30349	$25,437	1

118	30058	$37,800	1
119	30058	$20,249	1
120	30080	$27,500	1
121	30315	$30,996	2
122	30311	$33,500	2
123	30303	$32,200	2
124	30274	$37,276	3
125	19144	$41,492	2
126	30334	$28,000	1
127	30311	$29,477	2
128	30058	$54,000	1
129	30088	$33,000	1
130	30310	$24,000	1
131	30349	$43,335	1
132	30032	$42,038	2
133	30311	$26,915	1
134	30337	$22,880	1
135	30349	$24,283	1
136	30083	$30,102	1
137	30331	$24,500	1
138	30052	$33,280	3
139	30022	$19,879	1
140	45242	$70,400	2
141	30311	$28,084	3
142	30314	$10,120	2
143	30315	$37,500	3
144	30034	$22,500	2
145	30311	$24,398	3
146	30274	$30,200	5
147	30038	$45,900	3
148	30314	$38,853	5
149	30315	$30,058	2
150	30337	$24,496	7
151	30315	$30,353	3
152	30315	$25,852	2
153	30033	$23,902	1
154	30315	$28,800	1
155	30296	$28,418	1
156	30315	$37,558	3
157	27040	$60,628	3

158	30317	$21,944	2
159	30315	$49,500	1
160	30317	$56,712	1
161	30314	$31,200	3
162	30012	$36,357	3
163	30349	$21,158	1
164	21228	$38,500	3
165	30317	$32,200	2
166	30315	$27,040	1
167	30273	$19,760	1
168	30034	$20,352	1
169	30058	$32,686	2
170	30076	$79,151	2
171	30315	$28,480	1
172	30315	$47,570	1
173	30314	$34,320	2
174	30288	$29,000	2
175	30350	$85,168	1
176	30093	$44,395	2
177	30316	$27,040	1
178	94510	$39,680	2
179	30318	$103,600	3
180	30030	$20,448	1
181	30315	$26,211	2
182	30310	$18,850	1
183	30038	$31,708	2
184	30318	$20,800	1
185	30106	$29,120	1
186	30315	$25,000	1
187	30317	$26,600	1
188	30320	$26,520	1
189	30297	$27,040	2
190	30308	$29,120	2
191	30058	$27,040	1
192	30315	$44,949	2
193	30058	$71,721	1
194	30310	$33,800	2
195	30034	$24,000	1
196	30032	$70,240	1
197	30303	$45,000	1

198	30315	$26,754	2
199	30331	$41,794	3
200	30315	$27,394	1
201	30034	$40,624	2
202	30281	$42,930	1
203	38016	$66,215	4
204	30312	$39,038	2
205	30318	$26,000	1
206	30067	$27,900	2
207	30318	$33,212	2
208	30305	$28,598	2
209	30363	$25,480	1
210	30312	$25,805	1
211	30310	$26,000	1
212	30034	$49,500	1
213	30315	$32,331	1
214	30058	$21,364	1
215	30354	$24,840	1
216	35215	$22,880	1
217	30038	$29,000	1
218	23060	$27,000	1
219	30314	$137,100	2
220	30298	$27,491	1
221	30318	$31,468	1
222	30350	$24,960	1
223	30354	$25,000	1
224	30312	$29,000	1
225	30354	$22,363	1
226	30303	$27,423	1
227	30083	$21,424	1
228	30314	$50,500	1
229	30314	$27,040	1
230	30067	$27,620	2
231	30303	$30,000	2
232	30349	$29,520	3
233	30312	$59,440	3
234	30168	$28,420	2
235	30315	$29,707	1
236	30032	$30,800	2
237	30311	$20,911	3

238	30316	$23,630	2
239	30314	$33,930	2
240	30034	$28,912	2
241	30311	$20,800	1
242	30306	$19,812	1
243	30315	$45,692	1
244	30315	$31,005	1
245	30314	$31,758	5
246	30349	$53,587	1
247	30311	$31,054	2
248	30315	$26,616	1
249	30315	$26,496	2
250	30354	$26,000	1
251	30062	$40,761	2
252	30034	$21,323	2
253	30315	$18,651	1
254	11205	$61,000	3

Capitol Gateway **Date: February 27,2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30307	$29,000.00	1
2	30106	$38,000.00	1
3	40415	$56,440.00	2
4	30313	$26,400.00	1
5	30032	$30,360.00	3
6	30228	$25,500.00	4
7	35216	$67,022.00	1
8	30013	$48,000.00	1
9	30122	$24,557.02	1
10	35160	$62,000.00	1
11	30268	$39,508.00	1
12	27530	$46,592.00	2
13	30341	$31,000.12	2
14	30318	$44,184.00	1
15	30034	$62,400.00	1
16	30032	$24,260.72	1
17	36066	$45,000.00	2
18	30349	$74,921.00	3
19	30039	$26,000.00	1
20	30281	$32,270.40	2
21	48238	$26,806.00	2
22	30016	$53,826.00	1
23	30032	$32,000.00	1
24	30315	$65,698.24	2
25	30310	$54,980.00	2
26	30034	$60,465.64	2
27	30024	$26,022.00	2
28	30032	$49,036.00	2
29	30315	$35,011.00	2
30	30308	$29,120.00	1
31	30044	$36,000.00	2
32	20712	$115,900.00	2
33	30311	$22,000.00	1
34	30281	$49,000.00	1
35	30316	$37,362.00	1
36	20721	$109,276.96	2
37	30341	$56,767.63	1

38	30106	$24,000.00	1
39	30310	$40,000.00	1
40	30188	$87,503.00	3
41	30343	$54,000.00	1
42	30083	$30,838.55	1
43	30093	$24,500.00	2
44	30034	$26,000.00	2
45	30350	$51,740.00	1
46	30294	$57,880.00	2
47	30311	$20,245.90	1
48	30238	$19,469.00	1
49	30288	$28,705.99	1
50	30024	$41,222.00	1
51	30331	$37,000.00	1
52	30318	$21,600.00	2
53	30314	$32,864.00	2
54	20743	$33,534.97	1
55	30032	$41,000.00	1
56	30088	$44,000.00	1
57	30294	$35,669.00	3
58	30309	$47,000.00	1
59	30318	$24,000.00	1
60	30080	$28,543.00	1
61	30126	$36,000.00	1
62	30310	$25,200.00	1
63	30008	$24,336.00	1
64	30315	$51,110.00	1
65	30312	$27,560.00	1
66	30314	$40,000.00	1
67	30312	$57,000.00	1
68	30038	$86,580.00	1
69	30268	$37,000.00	2
70	30319	$40,941.15	2
71	30312	$29,001.00	1
72	30342	$28,730.00	1
73	30064	$200,000.00	1
74	30315	$27,900.00	4
75	30297	$26,000.00	1
76	30309	$39,208.00	2
77	30312	$29,623.00	3

78	30315	$42,780.83	2
79	30094	$25,712.44	1
80	30024	$177,000.00	3
81	30314	$31,720.57	1
82	30126	$64,338.30	2
83	35061	$87,091.00	2
84	30088	$68,316.00	3
85	30313	$35,806.57	2
86	30315	$27,414.00	1
87	30303	$175,000.00	1
88	30310	$24,476.40	1
89	30032	$28,283.06	1
90	30308	$52,000.00	4
91	30349	$63,000.00	1
92	30311	$33,396.00	1
93	30349	$53,587.00	1
94	75104	$65,520.00	1
95	30310	$22,880.00	1
96	30032	$47,940.00	1
97	30308	$52,079.56	1
98	30038	$25,102.53	2
99	30349	$53,572.32	2
100	30012	$68,000.00	1
101	30087	$86,818.00	2
102	30341	$37,146.00	1
103	30314	$22,550.00	1
104	30349	$31,200.00	1
105	30318	$156,000.00	2
106	30310	$52,000.00	2
107	30317	$35,262.76	2
108	30311	$51,787.00	1
109	48076	$73,004.62	1
110	30296	$32,000.00	1
111	30311	$47,148.00	2
112	30083	$28,000.00	1
113	30083	$95,000.00	1
114	30326	$25,376.00	1
115	30350	$32,000.13	1
116	30318	$52,800.00	1
117	30080	$29,000.00	1

118	30088	$29,424.00	1
119	30307	$39,528.00	1
120	30058	$23,000.00	1
121	70068	$115,707.00	2
122	30021	$26,000.00	3
123	30349	$20,800.00	3
124	11422	$110,976.00	2
125	30259	$55,300.00	2
126	30331	$31,279.20	2
127	30318	$22,000.00	1
128	30252	$29,000.00	1
129	30315	$31,345.60	1
130	30189	$151,767.60	2
131	45246	$41,800.00	1
132	31211	$31,990.40	1
133	30343	$124,950.00	3
134	30311	$32,730.00	3
135	30316	$42,667.00	2
136	20748	$39,600.00	1
137	30337	$25,563.00	1
138	30238	$39,916.88	2
139	30315	$38,954.00	4
140	30394	$25,000.00	1

Household	Previous Zip-Codes	Household Income	Members in Household
1	30316	$36,000.00	1
2	30318	$31,000.00	2
3	30312	$27,027.00	2
4	30312	$85,490.00	1
5	30312	$20,820.60	1
6	30312	$72,000.00	2
7	30342	$38,000.00	2
8	30315	$50,774.88	3
9	30316	$22,153.59	2
10	30680	$52,779.00	1
11	36695	$77,223.00	2
12	30363	$58,344.00	2
13	30337	$23,400.00	2
14	30236	$17,800.00	2
15	30019	$72,885.96	3

16	17547	$101,797.00	2
17	30354	$48,854.00	1
18	30030	$27,040.00	1
19	30314	$23,903.27	1
20	19132	$20,619.72	1
21	30315	$7,893.36	1
22	30339	$227,559.00	3
23	30294	$44,244.00	1
24	30035	$21,096.91	1
25	29020	$49,634.76	1
26	21201	$25,000.00	1
27	30308	$19,221.86	2
28	30315	$7,644.00	1
29	30312	$38,300.00	1
30	30318	$40,040.00	1
31	30294	$84,500.00	1
32	30030	$23,920.00	1
33	30317	$30,600.00	1
34	30303	$17,510.00	1
35	30273	$23,651.50	1
36	33056	$19,440.00	1
37	30315	$42,120.00	1
38	30308	$44,499.96	1
39	30127	$28,800.00	1
40	33811	$47,683.01	1
41	30331	$60,000.00	1
42	30316	$30,316.72	1
43	30036	$35,838.40	1
44	30643	$99,081.00	4
45	10018	$102,000.00	1
46	30329	$25,838.00	1
47	30314	$75,000.00	1
48	30344	$31,500.00	1
49	30087	$26,244.24	1
50	30318	$29,642.75	1
51	30034	$21,840.00	1
52	30032	$32,418.36	1
53	30052	$43,650.00	1
54	30135	$65,232.00	2
55	30038	$45,000.00	1

56	30316	$49,216.28	1
57	30080	$18,722.75	1
58	30313	$16,860.00	1
59	30314	$24,000.00	1
60	30311	$14,600.00	1
61	30213	$31,000.00	2
62	30021	$30,578.21	1
63	30331	$73,000.00	2
64	30034	$78,000.00	2
65	30038	$30,771.00	2
66	30312	$21,036.00	1
67	30387	$24,596.00	1
68	30303	$65,000.00	1
69	30296	$22,358.49	1
70	30315	$49,000.00	1
71	30106	$37,000.00	2
72	30013	$46,157.00	1
73	30316	$24,122.80	1
74	33143	$35,000.00	1
75	30034	$24,960.00	1
76	30349	$45,602.00	1

The total number of households sums to 216 over the two building locations.

Ashley Terraces at West End **Date: April 6, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30314	$27,111	2
2	30311	$30,229	2
3	30310	$25,411	1
4	20905	$38,993	2
5	01453	$25,000	1
6	30310	$27,560	1
7	30310	$68,765	2
8	30349	$28,600	1
9	30330	$40,560	2
10	30344	$25,050	1
11	30311	$32,200	2
12	30314	$28,000	1
13	30311	$24,045	1
14	19119	$134,214	2
15	30331	$92,000	2
16	30310	$33,376	1
17	30330	$28,080	1
18	30314	$103,910	1
19	30331	$50,700	2
20	30339	$27,200	1
21	30310	$16,191	1
22	30316	$24,083	1
23	30306	$21,600	1
24	30310	$31,545	2
25	30349	$25,000	1
26	30349	$26,716	1
27	30319	$26,000	1
28	30467	$37,100	2
29	30309	$22,724	1
30	30094	$31,271	1
31	30106	$23,810	1
32	30315	$27,476	1
33	31705	$31,320	1
34	30354	$28,021	1
35	30310	$35,000	3
36	31907	$45,328	2
37	30349	$28,591	1

38	30291	$32,500	1
39	30168	$23,500	1
40	48107	$37,200	2
41	12550	$31,000	1
42	30310	$33,421	3
43	30314	$25,454	1
44	30094	$18,000	1
45	30310	$28,800	1
46	30310	$24,000	1
47	30312	$3,200	1
48	60617	$25,548	1
49	20603	$59,000	2
50	30318	$29,994	2
51	30311	$19,760	1
52	30337	$19,800	2
53	30032	$28,086	1
54	30035	$22,630	1
55	48240	$40,000	2
56	30328	$49,590	1
57	20001	$76,000	2
58	30038	$35,000	1
59	30316	$35,600	2
60	30312	$76,100	1
61	30334	$32,100	1
62	20019	$52,371	2
63	30310	$26,623	1
64	30318	$40,000	1
65	30311	$24,764	1
66	30274	$34,475	3
67	30281	$29,741	2
68	30310	$33,280	2
69	30316	$20,136	1
70	30344	$26,413	1
71	31052	$82,492	3
72	30311	$40,040	1
73	30315	$23,691	2
74	30024	$80,600	3

Atrium at Collegetown **Date: April 6, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30313	$1,025	1
2	30310	$9,804	1
3	30313	$9,504	1
4	30308	$8,328	1
5	30318	$8,088	1
6	30308	$13,164	1
7	30310	$11,016	1
8	30318	$16,873	1
9	30318	$11,706	1
10	30318	$15,787	1
11	30310	$8,088	2
12	30317	$8,328	1
13	30310	$12,840	1
14	30315	$8,329	1
15	30312	$22,550	1
16	30106	$13,480	1
17	30315	$9,800	1
18	30312	$8,089	1
19	30318	$8,352	1
20	30313	$8,329	2
21	30311	$10,853	1
22	30310	$17,354	1
23	30334	$11,952	1
24	30314	$12,348	1
25	30308	$8,090	1
26	30313	$8,331	1
27	30331	$12,111	1
28	31311	$9,220	1
29	30313	$8,328	1
30	30324	$8,334	1
31	30331	$8,328	1
32	30308	$8,289	1
33	30314	$11,526	1
34	30318	$10,113	1
35	30313	$7,637	1
36	30313	$8,338	1
37	30310	$19,485	2

38	30313	$12,744	1
39	30309	$8,088	1
40	30313	$10,320	1
41	30310	$8,088	1
42	30344	$11,256	1
43	30315	$8,088	1
44	30313	$18,710	1
45	30313	$10,795	1
46	30308	$7,672	1

Ashley Collegetown **Date: April 6, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	77018	$149,812	4
2	30315	$22,466	3
3	08046	$87,637	2
4	30311	$36,096	1
5	20019	$46,567	2
6	20071	$153,740	3
7	30314	$24,468	4
8	30339	$30,905	2
9	30058	$26,874	1
10	30341	$28,902	1
11	30060	$30,854	1
12	60620	$87,736	2
13	30315	$29,597	3
14	30309	$73,404	2
15	30214	$114,040	4
16	30038	$29,120	3
17	48221	$105,414	2
18	30314	$38,586	1
19	30310	$247,300	1
20	30314	$29,704	3
21	30346	$185,000	1
22	30310	$29,512	2
23	66104	$148,960	6
24	30331	$32,964	3
25	30310	$30,000	3
26	30310	$36,584	1
27	77083	$45,760	4
28	30088	$218,315	3
29	30045	$33,210	3
30	29445	$33,000	2
31	30314	$26,863	2
32	32808	$70,010	2
33	39840	$38,000	1
34	11542	$236,371	2
35	30044	$28,500	1
36	77355	$98,048	1
37	30320	$49,375	2

38	36105	$17,326	1
39	30314	$22,880	2
40	30314	$44,000	1
41	95350	$65,874	2
42	30314	$27,880	2
43	30331	$38,422	2
44	30349	$32,282	1
45	30274	$35,880	2
46	30310	$35,000	1
47	30315	$24,300	1
48	30320	$26,200	1
49	46033	$400,000	2
50	30310	$31,420	3
51	30313	$24,650	1
52	43121	$19,338	1
53	21201	$237,063	4
54	31909	$191,400	2
55	30314	$27,000	1
56	30331	$26,900	1
57	30344	$61,610	1
58	20018	$145,175	4
59	48331	$101,340	3
60	31907	$39,288	2
61	30122	$85,482	2
62	30312	$21,164	1
63	30312	$28,000	1
64	30314	$189,314	4
65	30312	$39,344	2
66	02126	$65,520	2
67	80207	$43,175	2
68	60652	$40,144	3
69	30342	$39,785	5
70	20744	$12,216	3
71	20735	$142,500	7
72	20773	$58,400	1
73	30310	$24,000	4
74	30314	$29,828	3
75	30314	$73,462	2
76	30126	$30,860	3
77	30310	$30,533	1

78	94601	$20,800	2
79	20866	$80,147	2
80	26205	$56,500	1
81	30236	$17,520	1
82	70131	$23,040	4
83	30310	$80,773	3
84	11411	$24,933	2
85	30058	$101,598	2
86	19150	$42,224	6
87	30310	$242,100	2
88	30309	$24,700	2
89	30315	$32,070	2
90	37075	$73,000	5
91	30354	$48,449	3
92	30314	$50,000	1
93	30318	$28,704	1
94	08046	$26,312	1
95	30314	$46,750	2
96	07666	$27,170	1
97	30318	$71,856	3
98	30120	$38,752	3
99	31415	$31,072	2
100	30310	$18,000	1
101	30316	$31,699	2
102	30310	$26,340	1
103	38116	$75,953	2
104	30314	$26,351	1
105	32130	$23,415	1
106	30314	$79,000	3

Columbia Grove **Date: March 2, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30228	$22,800.00	1
2	(missing)	(missing)	vacant
3	(missing)	(missing)	Non-rev
4	30315	$28,400.00	3
5	30316	$29,140.00	2
6	30318	$20,961.20	1
7	30318	$29,619.20	1
8	30062	$23,970.00	1
9	30313	$30,000.00	2
10	30318	$12,230.40	1
11	30312	$46,615.40	1
12	30032	$59,280.00	1
13	(missing)	(missing)	vacant
14	30106	$36,000.00	1
15	30314	$38,480.00	1
16	30318	$15,000.00	1
17	30344	$13,800.00	1
18	30076	$20,620.00	2
19	30034	$39,798.00	2
20	30349	$35,125.00	3
21	30117	$31,646.80	2
22	30310	$27,190.00	1
23	30336	$53,246.08	1
24	30294	$37,000.00	1
25	30314	$64,860.00	2
26	30311	$60,350.00	2
27	30309	$36,400.00	2
28	30314	$10,920.00	1
29	30093	$33,280.00	1
30	30342	$38,480.00	1
31	90019	$62,700.00	1
32	30294	$27,693.60	2
33	30228	$47,896.00	1
34	30314	$31,039.84	2
35	30314	$28,434.00	2
36	30311	$21,466.00	1
37	30194	$11,224.00	6

38	30339	$24,000.00	1
39	30311	$31,059.00	1
40	72117	$43,770.80	1
41	30318	$35,124.22	2
42	30310	$21,840.00	1
43	30349	$27,560.00	2
44	30312	$122,698.92	4
45	30318	$21,840.00	1
46	30345	$20,000.00	1
47	30339	$27,872.00	1
48	30296	$24,960.00	1
49	30311	$28,225.60	1
50	30088	$30,000.00	3
51	30324	$165,913.00	2
52	30311	$12,480.00	1
53	30064	$28,776.80	2
54	30305	$25,650.00	2
55	30168	$26,000.00	2
56	30134	$23,691.20	1
57	(missing)	(missing)	vacant
58	30281	$63,748.00	3
59	30060	$19,489.00	2
60	30316	$31,947.00	3
61	30310	$20,124.00	4
62	30144	$29,089.84	3
63	30318	$37,514.24	3
64	30311	$14,400.00	2
65	30328	$29,120.00	2
66	30043	$40,890.00	3
67	(missing)	(missing)	vacant
68	30157	$30,500.00	3
69	30311	$22,529.00	2
70	30312	$85,452.48	2
71	30126	$13,084.80	2
72	30067	$23,400.00	1
73	(missing)	(missing)	Non-rev
74	38125	$43,617.60	3
75	30318	$22,800.00	3
76	30318	$85,064.00	2
77	30318	$23,880.00	1

78	30291	$47,696.74	1
79	30328	$22,776.00	3
80	30318	$24,960.00	2
81	30312	$18,720.00	2
82	30318	$22,048.00	1
83	30092	$71,346.60	3

Villages at Eastlake **Date: April 2, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30236	$45,350.00	7
2	30294	$117,915.00	1
3	30038	$49,240.00	4
4	30311	$44,160.00	2
5	30312	$45,000.00	1
6	31021	$64,013.00	5
7	30032	$71,552.00	2
8	30034	$36,000.00	1
9	72206	$67,000.00	2
10	30211	$39,127.08	1
11	30297	$32,400.00	6
12	30058	$51,700.00	2
13	30354	$32,656.00	1
14	30032	$66,200.00	3
15	30260	$59,856.00	4
16	31087	$28,067.00	4
17	48208	$22,500.00	3
18	30102	$29,746.00	2
19	32210	$50,000.00	3
20	30314	$49,376.00	3
21	30906	$38,576.00	3
22	30083	$28,120.00	3
23	30032	$40,999.00	2
24	30058	$33,276.00	2
25	31021	$56,950.00	1
26	85022	$75,000.00	1
27	30324	$42,351.00	2
28	30034	$74,000.00	1
29	30314	$41,330.00	2
30	30324	$62,000.00	3
31	30273	$47,500.00	1
32	30324	$59,520.00	3
33	31210	$120,000.00	4
34	30303	$30,681.00	2
35	30317	$35,630.00	3
36	30260	$103,153.88	4
37	30310	$59,280.00	2

38	30314	$73,800.00	2
39	30329	$73,800.00	2
40	30075	$44,500.00	1
41	30317	$52,592.00	2
42	30340	$55,224.00	5
43	64114	$57,500.00	3
44	30134	$44,530.44	4
45	30033	$65,250.00	2
46	21206	$80,412.00	3
47	30316	$38,884.00	4
48	30032	$41,004.00	3
49	30311	$13,468.00	5
50	30260	$58,116.00	3
51	30309	$53,760.00	3
52	30032	$31,555.00	2
53	31210	$48,901.00	2
54	30035	$28,980.00	1
55	30296	$42,011.00	1
56	30106	$29,640.00	1
57	30116	$46,200.00	1
58	30349	$94,761.00	2
59	30083	$39,120.00	2
60	30317	$105,000.00	1
61	30236	$55,380.00	3
62	30310	$36,000.00	4
63	30316	$25,818.00	1
64	30311	$45,270.00	1
65	30030	$34,320.00	3
66	30310	$56,000.00	5
67	30034	$55,188.00	2
68	30669	$51,780.00	3
69	30315	$102,056.00	5
70	30317	$50,000.00	2
71	30317	$68,208.00	5
72	30214	$45,600.00	4
73	30317	$75,357.00	2
74	30331	$80,220.00	1
75	30669	$32,000.00	2
76	30214	$35,928.00	3
77	30313	$35,740.00	4

78	33065	$35,000.00	3
79	30038	$46,080.00	3
80	30083	$33,580.00	3
81	30002	$60,926.00	3
82	30316	$91,348.20	3
83	30344	$47,119.00	2
84	30033	$37,008.00	3
85	30314	$32,000.00	1
86	30317	$37,440.00	1
87	30034	$56,736.00	2
88	30032	$50,000.00	1
89	30349	$61,034.00	3
90	30310	$74,000.00	4
91	30317	$30,684.00	1
92	30297	$52,000.00	1
93	30317	$38,000.00	1
94	30315	$32,968.00	1
95	63118	$72,000.00	2
96	30032	$42,288.00	2
97	30311	$36,000.00	2
98	30088	$65,600.00	6
99	30316	$60,000.00	2
100	30315	$50,000.00	4
101	30088	$51,480.00	4
102	30316	$46,807.00	2
103	30034	$69,834.24	3
104	30307	$29,994.00	2
105	30318	$32,088.00	1
106	30058	$52,800.00	6
107	30312	$116,600.00	4
108	30349	$32,893.00	2
109	30314	$59,155.00	3
110	30004	$35,865.00	1
111	30058	$39,000.00	3
112	38126	$44,570.00	4
113	30349	$39,520.00	1
114	30314	$39,655.00	6
115	30314	$72,602.00	2
116	30034	$69,996.00	5
117	30312	$30,000.00	4

118	30260	$32,420.00	3
119	30317	$107,120.00	5
120	30312	$29,712.00	2
121	30297	$39,000.00	6
122	30021	$49,130.00	2
123	31210	$53,200.00	3
124	30032	$63,800.00	2
125	30032	$47,961.00	1
126	30297	$64,854.20	2
127	30324	$42,016.00	1
128	30316	$40,000.00	1
129	30297	$54,080.00	1
130	30030	$48,402.00	1
131	30102	$39,127.00	2
132	30034	$58,179.00	1
133	30013	$45,032.00	1
134	30288	$42,296.00	4
135	30274	$34,816.00	2
136	30317	$60,500.00	3
137	30260	$77,310.00	5
138	30080	$48,000.00	1
139	30315	$36,189.00	4
140	30032	$53,360.00	4
141	30260	$33,640.00	3
142	30274	$48,000.00	6
143	30317	$60,507.12	2
144	70115	$47,136.00	4
145	30317	$46,000.00	4
146	30260	$43,838.00	1
147	30058	$39,552.00	1
148	30034	$43,824.00	3
149	30288	$35,000.00	3
150	30349	$45,924.00	2
151	30315	$50,319.76	6
152	30044	$50,004.00	1
153	30315	$62,400.00	2
154	30314	$39,624.00	1
155	30032	$42,240.00	1
156	30317	$31,098.00	1
157	30314	$49,500.00	1

158	30030	$35,000.00	1
159	30354	$39,300.00	3
160	30032	$38,400.00	2
161	30317	$20,000.00	1
162	30314	$37,426.00	2
163	30274	$41,023.00	3
164	30021	$35,268.00	2
165	30315	$49,000.00	4
166	30315	$41,800.00	1
167	30311	$46,080.00	3
168	30317	$48,372.00	3
169	30032	$40,000.00	1
170	30040	$79,320.00	3
171	30094	$30,989.00	2
172	30281	$61,034.00	2
173	60153	$55,349.00	3
174	30281	$45,500.00	2
175	30032	$42,810.00	5
176	30062	$37,800.00	3
177	30303	$45,760.00	2
178	31404	$43,200.00	1
179	30038	$44,160.00	2
180	30315	$6,000.00	4
181	30331	$32,684.00	2
182	70058	$35,000.00	5
183	30349	$32,700.00	1
184	30311	$35,040.00	2
185	30083	$59,184.00	2
186	30281	$65,538.00	1
187	30032	$62,021.00	3
188	30032	$35,000.00	2
189	30303	$58,896.00	3
190	70056	$38,400.00	3
191	30314	$37,423.00	3
192	30312	$61,644.00	3
193	30315	$62,112.00	2
194	30317	$53,000.00	2
195	30313	$18,460.00	1
196	30281	$78,364.00	2
197	30168	$35,000.00	1

198	30281	$43,231.00	1
199	30314	$83,723.00	5
200	30032	$50,000.00	4
201	30909	$124,132.00	2
202	30340	$69,120.00	3
203	30075	$163,126.00	2
204	30324	$45,032.00	1
205	30045	$61,453.00	3
206	30273	$73,184.00	2
207	30236	$32,580.00	1
208	11575	$41,328.00	1
209	30021	$89,688.00	2
210	30083	$38,471.00	1
211	30034	$42,600.00	1
212	30317	$36,497.00	2
213	30032	$12,240.00	1
214	30317	$40,000.00	1
215	30316	$44,640.00	1
216	30260	$48,000.00	4
217	30311	$36,852.00	1
218	30344	$55,191.00	4
219	31021	$38,266.00	2
220	30035	$71,121.00	3
221	30088	$54,853.00	1
222	30311	$62,000.00	5
223	2124	$69,992.00	2
224	30315	$52,130.00	6
225	30349	$43,086.00	1
226	30307	$40,464.00	4
227	30344	$39,333.00	1
228	11369	$47,000.00	2
229	30032	$58,984.00	3
230	30315	$63,360.00	6
231	30315	$24,000.00	Missing data
232	30313	$272,958.00	3
233	30316	$25,000.00	1
234	30312	$47,000.00	3
235	30317	$72,720.00	3
236	30342	$51,480.00	3
237	30083	$50,400.00	2

238	30316	$15,600.00	2
239	31904	$47,120.00	3
240	30032	$35,000.00	1
241	30087	$43,700.00	4

Ashley Cascade **Date: April 6, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30291	$29,120	2
2	30337	$32,448	2
3	30349	$25,740	2
4	30311	$19,968	1
5	30087	$28,750	1
6	30316	$21,284	2
7	30357	$20,280	2
8	30315	$23,236	3
9	30311	$49,300	2
10	30311	$41,575	5
11	30311	$35,864	3
12	30344	$22,008	1
13	30311	$25,004	2
14	30349	$22,170	2
15	30331	$33,196	2
16	30316	$37,440	3
17	70118	$6,188	4
18	30314	$30,590	2
19	30310	$21,840	1
20	30318	$22,849	1
21	30013	$24,200	1
22	30314	$24,000	1
23	30035	$33,476	3
24	30331	$29,000	2
25	30032	$31,100	2
26	31294	$46,618	2
27	30341	$27,510	2
28	30331	$29,120	2
29	30213	$28,000	1
30	30311	$20,892	4
31	30331	$7,570	1
32	30331	$28,500	1
33	30315	$42,526	4
34	30126	$22,880	2
35	36863	$32,400	3
36	30313	$13,650	3
37	30318	$65,869	5

38	30331	$25,000	1
39	30331	$38,438	4
40	30331	$32,094	3
41	30311	$27,800	1
42	30344	$28,993	4
43	11758	$40,583	2
44	30331	$24,000	1
45	30318	$37,581	1
46	30213	$31,990	2
47	30260	$23,150	1
48	30236	$24,378	1
49	30311	$24,960	3
50	30318	$32,425	2
51	30135	$23,213	2
52	30311	$24,960	1
53	30311	$35,474	3
54	30349	$35,000	3
55	30311	$23,882	3
56	30135	$26,200	2
57	30080	$31,457	4
58	30260	$31,169	2
59	30213	$34,122	4
60	30477	$24,273	3
61	30314	$34,720	4
62	30021	$32,760	4
63	30135	$36,000	1
64	30357	$40,200	4
65	30331	$33,900	3
66	30291	$22,880	1
67	30344	$30,948	2
68	30331	$29,520	1
69	30331	$26,000	2
70	22030	$27,920	1
71	30331	$26,047	3
72	30038	$24,960	2
73	30318	$38,500	2
74	30310	$41,320	4
75	30331	$39,478	2
76	30168	$32,508	2
77	30067	$27,500	3

78	30311	$16,640	1
79	30067	$28,500	3
80	30318	$24,375	1
81	44118	$40,850	2
82	61702	$22,165	2
83	30318	$25,676	3
84	20080	$23,400	1
85	30087	$14,972	2
86	30331	$30,245	1
87	30308	$18,300	1
88	30354	$37,159	4
89	30236	$42,718	2
90	30318	$29,770	1
91	30331	$32,370	3
92	30311	$30,454	1
93	30311	$70,944	2
94	30344	$36,200	3
95	30669	$150,000	8
96	30349	$41,611	5
97	30331	$31,793	5
98	30349	$30,341	6
99	30331	$33,864	5
100	30313	$33,569	1
101	11203	$51,022	2
102	30331	$33,364	3
103	30318	$32,541	5
104	30331	$37,332	1
105	30331	$36,400	5
106	30126	$27,852	5
107	30311	$33,244	1
108	30331	$31,691	4
109	30381	$32,000	3
110	30308	$39,197	1
111	30311	$31,200	2
112	30311	$33,548	2
113	53216	$26,753	5
114	30311	$28,108	4
115	30311	$29,202	2
116	30311	$31,929	2
117	30311	$45,484	2

118	95111	$29,300	3
119	11229	$41,602	1
120	30313	$29,980	4
121	30331	$28,075	2
122	30315	$26,978	3
123	30331	$37,250	2
124	30021	$26,656	1
125	30924	$24,960	2
126	30032	$23,520	1
127	30331	$29,000	2
128	30310	$30,285	2
129	30331	$22,880	1
130	30331	$28,020	3
131	30022	$21,320	2
132	30344	$28,600	1
133	30096	$28,704	1
134	Missing data	$30,285	1
135	30311	$19,796	1
136	30311	$20,125	1
137	30311	$10,088	1
138	30331	$24,400	4
139	30310	$11,200	1
140	30344	$29,900	2
141	30318	$24,336	2
142	30331	$29,640	1
143	30331	$24,419	1
144	30294	$29,380	1
145	30111	$26,408	2
146	30344	$35,178	3
147	30315	$34,276	4
148	30331	$26,478	2
149	30331	$42,350	4
150	30331	$32,062	4
151	30311	$48,037	3
152	30038	$32,670	4
153	30331	$36,200	2
154	30313	$31,500	1
155	30092	$24,960	1
156	30331	$23,590	1
157	30008	$26,218	1

158	30331	$27,573	1
159	30906	$23,584	2
160	30067	$48,000	2
161	30260	$24,434	2
162	30314	$21,228	1
163	30310	$24,651	1
164	30331	$27,310	1
165	30357	$23,200	2
166	30906	$54,340	3
167	30211	$17,640	2
168	30311	$23,785	3
169	30310	$31,110	2
170	30210	$20,080	1
171	30313	$28,243	2
172	30236	$18,149	1
173	30317	$35,464	2
174	30331	$27,900	1
175	30311	$27,407	2
176	30315	$36,863	3
177	30313	$22,500	1
178	30331	$29,778	5
179	30337	$7,224	2
180	30311	$27,040	1
181	31075	$21,840	1
182	30310	$32,400	1
183	30213	$26,000	1
184	30331	$26,000	1
185	30349	$36,322	1
186	30331	$26,871	3
187	30274	$31,720	2
188	30126	$27,040	3

Columbia Creste **Date: March 2, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30318	$29,120	3
2	30314	$24,000	3
3	30314	$31,200	1
4	30318	$29,747	1
5	30319	$27,600	1
6	30315	$39,316	3
7	30331	$33,693	3
8	30344	$30,578	2
9	30329	$28,588	1
10	30032	$51,168	2
11	30904	$23,760	1
12	30294	$32,500	2
13	30315	$33,717	1
14	33023	$42,796	1
15	30315	$41,195	3
16	30318	$24,024	1
17	30318	$27,000	1
18	30080	$40,000	1
19	30310	$47,840	2
20	30344	$33,800	1
21	30080	$37,095	1
22	30274	$29,120	1
23	30034	$48,000	1
24	30313	$29,900	1
25	30318	$35,000	1
26	85203	$48,000	1
27	30314	$32,000	1
28	30013	$33,612	1
29	30318	$22,880	1
30	30315	$29,545	1
31	30344	$33,574	2
32	30318	$41,000	1
33	30032	$37,150	1
34	30349	$33,200	2
35	30382	$39,510	1
36	30308	$22,901	1
37	30622	$65,000	1

38	94061	$35,256	2
39	30318	$15,600	1
40	30058	$28,454	1
41	30338	$26,000	1
42	30311	$47,736	3
43	30296	$28,840	1
44	30309	$24,960	1
45	30317	$54,000	1
46	30318	$0 (Missionaries)	3
47	30318	$68,640	3
48	30309	$40,300	2
49	30350	$30,680	2
50	31520	$35,100	2
51	30303	$41,670	3
52	30038	$30,177	1
53	30909	$39,780	1
54	30318	$26,780	3
55	30318	$20,800	1
56	30303	$28,860	1
57	30318	$28,000	2
58	30126	$39,000	1
59	30314	$36,000	1
60	30318	$39,000	1
61	30318	$33,110	2
62	30058	$43,680	1
63	30318	$21,834	2
64	30318	$54,400	1
65	30318	$30,082	2
66	30313	$28,894	1
67	30310	$46,000	1
68	30309	$24,960	1
69	30349	$29,400	4
70	30349	$41,200	1
71	30058	$35,630	1
72	30318	$30,712	3
73	30309	$41,990	1
74	30314	$46,800	3
75	30318	$65,064	3
76	30309	$81,870	2
77	30303	$26,780	2

78	30318	$46,988	1
79	30318	$16,800	1
80	30318	$37,440	1
81	30045	$26,720	1
82	11221	$42,240	1
83	30311	$41,528	2
84	30314	$34,840	2
85	30521	$14,004	2
86	30318	$28,364	1
87	30302	$29,008	1
88	30318	$40,200	2
89	30291	$34,658	2
90	30318	$44,920	1

Auburn Pointe **Date: April 6, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30034	$25,758	1
2	30032	$25,015	2
3	30067	$24,062	1
4	31012	$18,627	1
5	30032	$20,342	1
6	30312	$16,165	1
7	30310	$8,313	1
8	30309	$8,050	1
9	30088	$27,839	1
10	30315	$17,899	1
11	30088	$20,830	1
12	30314	$12,402	1
13	30311	$20,547	1
14	30088	$29,041	2
15	30313	$13,225	1
16	30316	$9,938	1
17	30315	$7,948	1
18	30310	$8,544	1
19	30311	$15,230	1
20	30350	$12,318	1
21	30032	$12,352	1
22	30310	$8,557	1
23	30331	$24,372	1
24	30312	$9,036	1
25	30305	$8,346	1
26	30312	$15,601	1
27	30096	$3,988	1
28	30315	$8,341	1
29	30315	$12,187	1
30	30309	$14,074	1
31	30032	$9,093	1
32	30052	$24,681	1
33	30308	$8,328	1
34	30303	$11,771	1
35	30311	$21,359	1
36	30087	$4,968	1
37	30021	$11,257	1

38	30021	$11,257	1
39	30331	$12,057	1
40	30331	$10,533	1
41	30213	$28,440	1
42	30030	$23,216	1
43	30084	$24,560	1
44	30305	$8,346	1
45	30111	$8,346	1
46	30314	$18,897	1
47	30314	$27,815	1
48	30331	$11,141	1
49	30312	$8,306	1
50	30314	$19,193	1
51	30318	$8,842	1
52	30310	$10,128	1
53	30094	$18,850	1
54	30312	$20,223	1
55	30313	$10,846	1
56	30309	$23,701	1
57	30083	$15,861	1
58	30310	$19,450	1
59	30312	$3,116	1
60	30294	$12,955	1
61	30312	$9,838	1
62	30312	$7,998	1
63	30083	$13,948	1
64	30312	$15,513	1
65	30083	$32,290	1
66	30312	$17,298	1

Centennial Place **Date: April 6, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30363	$56,000.00	1
2	30043	$72,000.00	2
3	30039	$48,652.00	1
4	30097	$58,200.00	2
5	30332	$62,500.00	4
6	30313	$31,200.00	2
7	30313	$33,772.00	3
8	30239	$36,000.00	3
9	30122	$31,600.00	2
10	30309	$31,000.00	2
11	30331	$38,000.00	1
12	30317	$30,000.00	1
13	19122	$38,000.00	1
14	30096	$40,000.00	3
15	30047	$42,000.00	2
16	30096	$38,400.00	1
17	30092	$36,000.00	1
18	30310	$38,210.00	1
19	303101	$36,850.00	1
20	30337	$42,500.00	1
21	30308	$45,060.00	3
22	30332	$30,332.00	1
23	30309	$32,500.00	1
24	29229	$80,400.00	1
25	30238	$45,000.00	1
26	30005	$43,200.00	2
27	30075	$29,800.00	1
28	30213	$36,000.00	1
29	30004	$77,059.00	4
30	30313	$30,332.00	2
31	30308	$30,000.00	1
32	30313	$32,046.00	2
33	28403	$31,600.00	1
34	30317	$60,000.00	1
35	39157	$29,000.00	1
36	30313	$24,000.00	2
37	30318	$24,000.00	1

38	30144	$86,400.00	2
39	30313	$26,000.00	2
40	30135	$75,000.00	3
41	30022	$82,000.00	4
42	30329	$32,880.00	1
43	30332	$32,000.00	1
44	30305	$83,000.00	1
45	30809	$32,000.00	2
46	30318	$36,000.00	1
47	91377	$19,200.00	1
48	30097	$100,000.00	5
49	30224	$40,000.00	2
50	30152	$78,000.00	2
51	30507	$33,400.00	2
52	31404	$95,300.00	3
53	31721	$78,000.00	2
54	30506	$46,000.00	1
55	10466	$33,000.00	1
56	30144	$74,000.00	2
57	30318	$32,000.00	1
58	30340	$38,000.00	1
59	30329	$33,200.00	1
60	30144	$32,000.00	1
61	30017	$45,200.00	2
62	30005	$55,000.00	2
63	22801	$33,000.00	1
64	65041	$38,000.00	2
65	19122	$42,000.00	2
66	30234	$38,000.00	2
67	30122	$28,700.00	2
68	30043	$65,800.00	1
69	30253	$41,500.00	2
70	22801	$67,000.00	2
71	30253	$70,000.00	3
72	30340	$31,500.00	1
73	30801	$29,000.00	1
74	60617	$28,800.00	1
75	30084	$48,300.00	1
76	30308	$53,300.00	2
77	38139	$33,000.00	2

78	29445	$53,200.00	3
79	29445	$2,880.00	2
80	30052	$48,300.00	1
81	30332	$70,800.00	3
82	30032	$56,000.00	2
83	92037	$60,000.00	2
84	36106	$63,000.00	2
85	30309	$32,000.00	1
86	30332	$28,917.00	2
87	30315	$33,250.00	1
88	30332	$56,184.00	2
89	30032	$53,400.00	4
90	30313	$42,421.00	3
91	30052	$58,200.00	3
92	30296	$52,800.00	1
93	77978	$65,000.00	1
94	30005	$43,000.00	1
95	30312	$46,000.00	2
96	30309	$86,000.00	3
97	30313	$56,000.00	2
98	30263	$33,969.00	1
99	30458	$31,200.00	1
100	30308	$75,600.00	2
101	40515	$32,500.00	2
102	29223	$26,460.00	1
103	29628	$30,000.00	2
104	30067	$50,000.00	2
105	30024	$39,800.00	2
106	30309	$48,000.00	2
107	30022	$69,500.00	2
108	30082	$73,000.00	2
109	37379	$33,000.00	1
110	30004	$35,000.00	1
111	91350	$31,200.00	1
112	30256	$45,500.00	1
113	30332	$78,000.00	3
114	30035	$52,580.00	2
115	30344	$29,500.00	1
116	30387	$30,470.00	1
117	30344	$38,000.00	2

118	30387	$43,200.00	2
119	30180	$42,500.00	2
120	30474	$42,000.00	5
121	30332	$30,342.00	2
122	30313	$68,838.00	3
123	30342	$48,800.00	2
124	20877	$30,300.00	2
125	30035	$147,000.00	5
126	560024	$45,000.00	1
127	30313	$39,600.00	2
128	30179	$46,800.00	2
129	30313	$42,100.00	2
130	30093	$40,790.00	2
131	30313	$34,000.00	1
132	30332	$52,200.00	4
133	30092	$45,567.00	1
134	30030	$33,888.00	1
135	30044	$49,076.00	2
136	30313	$35,000.00	1
137	30324	$43,100.00	2
138	30030	$35,750.00	1
139	30339	$28,000.00	1
140	30332	$57,850.00	3
141	30092	$59,605.00	2
142	30318	$77,590.00	3
143	30019	$40,608.00	2
144	94589	$48,500.00	1
145	30312	$36,440.00	2
146	30301	$26,400.00	1
147	31822	$32,882.00	1
148	30315	$40,001.00	2
149	30332	$40,950.00	3
150	30313	$32,750.00	1
151	30332	$38,482.00	1
152	30318	$42,000.00	2
153	30313	$134,000.00	4
154	48235	$43,000.00	1
155	30313	$30,000.00	1
156	30310	$20,652.00	2
157	30313	$33,216.00	2

158	30360	$91,200.00	1
159	30380	$32,302.00	1
160	30332	$31,200.00	3
161	30332	$91,200.00	2
162	30012	$150,500.00	4
163	31406	$36,000.00	1
164	30331	$42,500.00	2
165	30318	$65,820.00	3
166	30360	$40,000.00	2
167	80012	$43,586.00	2
168	30313	$67,582.00	3
169	30308	$37,000.00	2
170	30039	$26,500.00	2
171	30012	$63,300.00	2
172	30308	$46,800.00	1
173	30281	$48,000.00	1
174	30144	$90,000.00	2
175	30035	$30,000.00	1
176	30024	$42,586.00	1
177	31419	$37,850.00	2
178	30317	$24,840.00	2
179	30024	$26,330.00	1
180	30316	$44,520.00	1
181	30308	$31,676.00	2
182	30309	$34,520.00	1
183	30012	$35,050.00	2
184	30332	$31,676.00	1
185	30363	$33,969.00	2
186	90025	$74,750.00	1
187	30332	$50,001.00	1
188	30022	$48,520.00	2
189	30022	Missing data	4
190	30309	Missing data	2
191	30238	$29,600.00	1
192	30075	$38,520.00	2
193	31537	$29,584.00	1
194	30032	$33,058.00	1
195	92102	$378,500.00	1
196	30067	$58,500.00	1
197	30363	$46,520.00	2

198	30332	$89,582.00	3
199	20904	$123,708.00	3
200	30311	$29,900.00	1
201	30332	$61,522.00	3
202	30313	$35,350.00	2
203	30045	$37,850.00	3
204	30311	$27,300.00	2
205	30318	$42,500.00	3
206	21211	$67,850.00	2
207	30045	$24,000.00	1
208	32308	$37,500.00	2
209	32308	$28,950.00	2
210	30328	$33,200.00	2
211	30313	$30,250.00	2
212	30307	$33,434.00	1
213	30313	$40,025.00	1
214	37377	$20,000.00	2
215	30047	$81,811.00	1
216	30307	$37,568.00	1
217	30047	$96,000.00	4
218	30339	$35,800.00	1
219	32308	$42,000.00	1
220	30350	$72,036.00	5
221	30350	$66,880.00	1
222	30313	$70,200.00	2
223	30034	$36,000.00	2
224	30045	$26,792.00	1
225	30096	$42,520.00	2
226	30083	$34,500.00	1
227	10084	$50,437.00	4
228	30339	$36,000.00	1
229	30068	$30,000.00	1
230	45320	$24,917.00	1
231	32224	$72,500.00	3
232	32308	$42,000.00	2
233	75243	$38,000.00	3
234	30318	$41,700.00	2
235	30080	$50,400.00	2
236	30318	$60,000.00	1
237	30294	$30,389.00	1

238	30034	$32,000.00	1
239	30320	$30,329.00	1
240	30308	$31,515.00	1
241	30308	$30,969.00	1
242	98052	$27,713.00	2
243	30096	$52,600.00	2
244	30349	$28,000.00	1
245	30329	$36,000.00	1
246	30313	$57,000.00	1
247	30022	$40,097.00	2
248	33025	$86,000.00	3
249	30313	$43,350.00	1
250	30309	$68,660.00	2
251	30346	$105,600.00	3
252	30341	$50,000.00	3
253	30318	$39,200.00	2
254	30332	$46,329.00	2
255	30135	$20,748.00	1
256	30265	$36,200.00	1
257	30314	$30,000.00	1
258	30317	$28,640.00	1
259	30032	$28,800.00	1
260	30303	$28,000.00	1
261	30313	$23,858.00	3
262	30180	$29,000.00	1
263	30337	$39,000.00	1
264	30088	$34,581.00	1
265	30080	$41,521.00	1
266	33025	$47,511.00	1
267	30047	$33,251.00	1
268	30313	$34,544.00	1
269	30135	$34,786.00	1
270	30346	$24,000.00	1
271	30083	$28,500.00	3
272	30265	$78,966.00	3
273	30041	$34,500.00	2
274	30004	$47,850.00	2
275	30314	$44,472.00	1
276	30331	$85,600.00	3
277	30809	$32,000.00	1

278	30313	$27,900.00	1
279	30318	$297,459.00	1
280	30313	$58,500.00	3
281	30313	$64,000.00	3
282	30318	$89,548.00	3
283	30319	$47,800.00	2
284	60041	$57,600.00	5
285	3032	$65,736.00	3
286	30809	$72,000.00	3
287	30223	$22,100.00	1
288	30038	$63,000.00	2
289	30318	$55,000.00	2
290	30032	$45,000.00	1
291	30024	$87,600.00	2
292	30313	$48,528.00	2
293	30328	$25,000.00	1
294	30318	$42,200.00	1
295	48917	$56,982.00	2
296	45206	$21,600.00	1
297	30024	$35,687.00	1
298	80209	$81,000.00	4
299	30313	$65,822.00	2
300	30728	$35,842.00	1
301	30311	$74,321.00	3
302	30022	$31,588.00	1
303	30319	$53,202.00	2
304	30310	$26,913.00	2
305	30313	$25,800.00	2
306	30034	$36,400.00	4
307	30021	$19,420.00	1
308	30035	$28,425.00	1
309	30318	$26,000.00	1
310	30313	$29,175.00	1
311	30313	$26,977.00	1
312	30313	$26,000.00	1
313	30311	$23,689.00	1
314	30220	$25,120.00	1
315	30006	$25,200.00	1
316	30344	$27,761.00	1
317	30313	$25,896.00	2

318	30315	$22,960.00	1
318	3008	$29,745.00	1
319	30252	$24,440.00	1
320	30126	$22,578.00	1
321	30349	$24,492.00	2
322	30318	$28,608.00	1
323	30329	$22,495.00	1
324	30308	$29,189.00	1
325	30080	$28,401.00	1
326	30324	$28,166.00	1
327	30122	$19,715.00	1
328	30303	$20,241.00	1
329	30134	$36,476.00	4
330	30038	$26,900.00	3
331	30035	$29,290.00	2
332	30313	$26,832.00	1
333	30314	$19,822.00	1
334	30310	$28,800.00	2
335	30344	$37,108.00	4
336	30306	$25,209.00	1
337	30318	$23,400.00	2
338	30314	$26,400.00	1
339	31906	$27,227.00	2
340	30311	$28,974.00	1
341	30135	$28,686.00	2
342	30313	$20,980.00	1
343	30350	$25,811.00	1
344	37207	$20,440.00	1
345	30058	$29,407.00	1
346	30168	$26,982.00	1
347	30058	$29,468.00	2
348	30313	$29,848.00	1
349	30303	$22,800.00	1
350	30308	$24,854.00	1
351	30316	$22,334.00	1
352	30318	$22,360.00	1
353	30329	$26,000.00	1
354	30324	$31,200.00	2
355	30310	$21,100.00	1
356	30083	$28,400.00	1

357	30076	$31,200.00	2
358	30363	$25,750.00	1
359	30033	$32,834.00	2
360	30318	$28,032.00	1
361	30083	$22,880.00	1
362	30312	$28,732.00	1
363	30364	$19,240.00	1
364	30218	$28,882.00	2
365	30314	$28,000.00	4
366	30083	$26,000.00	2
367	30083	$26,023.00	2
368	30318	$28,773.00	1
369	30152	$24,240.00	1
370	30344	$25,740.00	1
371	30059	$23,526.00	1
372	60285	$27,800.00	1
373	30274	$25,138.00	1
374	30318	$26,832.00	2
375	30313	$27,788.00	1
376	30314	$28,185.00	1
377	30309	$28,206.00	1
378	30318	$23,709.00	2
379	30383	$22,568.00	1
380	31028	$33,332.00	2
381	30342	$28,644.00	1
382	30380	$25,559.00	1
383	30313	$29,452.00	1
384	30338	$33,572.00	1
385	30319	$19,500.00	1
387	60000	$24,465.00	1
388	30519	$23,694.00	1
389	30312	$25,006.00	1
390	30314	$29,813.00	1
391	30344	$23,140.00	1
392	30329	$25,187.00	1
393	30303	$25,106.00	4
394	30308	$27,550.00	1
395	30313	$24,960.00	1
396	30313	$23,608.00	2
397	37013	$23,461.00	1

398	30294	$29,540.00	1
399	30318	$23,150.00	1
400	43620	$23,935.00	2
401	30308	$24,960.00	1
402	30039	$26,536.00	2
403	30035	$25,162.00	1
404	30273	$21,999.00	1
405	30344	$22,921.00	1
406	30318	$26,000.00	1
407	30080	$26,657.00	1

(Please note zip-codes with 3 and 4 digits start with 0)

Villages at Castleberry Hill **Date: March 17, 2009**

Household	Previous Zip-Codes	Household Income	Members of HH
1	30331	$27,152	2
2	30314/48197	$10,320	2
3	30354	$23,115	1
4	30809	$10,320	2
5	75217	$9,300	1
6	30313	$16,640	1
7	30314	$10,320	2
8	17113	$33,192	1
9	30350	$26,000	1
10	33161	$9,540	1
11	11096	$10,320	1
12	10462	$9,300	2
13	30316	$36,237	1
14	29118	$9,540	1
15	30349	$26,169	1
16	30316	$36,237	1
17	30126	$31,861	1
18	20700	$12,600	2
19	30340	$48,251	3
20	30274	$21,632	1
21	33176/29301	$13,188	2
22	10553	$9,540	1
23	31406	$45,691	1
24	30313	$9,540	1
25	08854/60202	$12,000	2
26	6473	$14,580	2
27	30309	$52,220	2
28	30034 /38119	$12,300	2
29	23607	$12,600	1
30	30349	$67,903	1
31	32303/30038	$38,000	3
32	30311/30349	$9,840	2
33	30318	$31,450	1
34	10029/19143	$9,720	2
35	36502	$10,320	1
36	30087	$24,960	1

37	30309/30317	$10,320	2
38	30317/30306	$44,314	3
39	30314	$35,880	1
40	36830/30303	$8,100	2
41	30034/30314	$33,327	2
42	30032	$23,368	1
43	30318	$21,800	1
44	23227	$9,540	1
45	2119	$9,300	1
46	30349	$29,283	2
47	29063	$9,540	1
48	30303	$45,500	1
49	30060	$33,637	1
50	23234	$10,320	1
51	30135/06606	$10,320	2
52	30344/30092	$43,142	2
53	75043/11236	$10,320	2
54	30318	$10,320	1
55	30134	$35,867	1
56	30087	$20,800	1
57	30310	$40,028	1
58	30313	$32,844	1
59	30314	$26,260	1
60	30157	$28,000	1
61	30317	$21,781	1
62	30331	$24,960	1
63	30093	$27,200	1
64	30144	$9,540	1
65	30084	$9,540	1
66	30318	$26,936	1
67	31730	$9,540	1
68	30106/30083	$33,196	2
69	30307	$28,800	3
70	30314	$12,600	3
71	30310	$30,746	3
72	30315/30313	$10,320	2
73	30318	$10,320	1
74	30331	$24,234	1
75	48141	$42,564	2
76	33403/91910	$10,320	2

77	30314	$10,320	1
78	30127	$10,320	1
79	30034	$6,880	1
80	30324	$54,276	2
81	31401	$10,320	1
82	30038	$32,786	1
83	77115	$42,020	1
84	19003	$10,320	2
85	8048	$68,850	2
86	30087	$41,324	1
87	60615	$10,320	2
88	10044	$10,320	1
89	10027	$10,320	2
90	19119	$12,600	2
91	30034	$28,540	1
92	30318	$57,620	3
93	30349	$12,600	2
94	31429	$12,600	2
95	31404	$81,800	1
96	46205	$10,320	2
97	30318	$10,320	2
98	29730	$10,320	2
99	30016	$10,320	2
100	7060	$20,640	2
101	33179	$10,320	1
102	30310	$10,320	2
103	30349	$12,900	3
104	30094	$83,701	3
105	11433	$12,900	2
106	19144	$32,550	1
107	60173	$12,000	2
108	70122	$11,760	1
109	30314	$10,320	2
110	30236	$10,320	2
111	2131	$24,732	4
112	90621	$10,320	2
113	30038	$24,920	1
114	30213	$27,920	4
115	30314	$10,200	1
116	31313	$63,357	2

117	30314	$4,368	1
118	30349	$32,308	1
119	30315	$42,715	2
120	30314	$46,640	2
121	30318	$43,140	4
122	30311	$9,300	1
123	30314	$12,000	2
124	30314	$12,000	2
125	30311	$24,003	1
126	30312	$27,395	1
127	30324	$10,320	1
128	30033	$9,300	1
129	30313	$26,272	1
130	30076	$9,540	1
131	31206	$9,300	1
132	30329	$23,988	1
133	30329	$24,700	1
134	30032	$9,480	1
135	30032	$9,540	1
136	30311	$9,300	1
137	70114	$54,979	1
138	30314	$8,700	1
139	11203	$9,300	1
140	30314	$26,000	1
141	70461	$9,540	1
142	30067	$29,533	2
143	30314	$38,454	2
144	801	$9,720	1
145	30314	$10,320	2
146	20746	$34,181	2
147	19050	$24,576	1
148	30313	$38,723	2
149	77550	$9,480	1
150	30349	$29,700	3
151	30236	$10,320	2
152	2136	$10,320	2
153	30058	$37,440	1
154	75115	$10,320	2
155	30303	$10,320	2
156	30314	$77,016	2

157	18301	$10,320	2
158	30080	$9,720	1
159	30314	$10,320	2
160	60411	$10,320	2
161	30314	$42,869	4
162	30214	$10,320	2
163	20774	$34,181	2
164	31324	$9,540	1
165	15104	$12,000	1
166	30324	$10,320	1
167	30033	$9,300	1
168	30314	$9,720	1
169	70065	$9,626	2
170	30314	$10,320	2
171	94703	$9,720	2
172	30324	$9,540	2
173	77429	$9,540	1
174	30318	$9,540	1
175	30127	$23,979	1
176	30083	$10,320	2
177	30314	$12,600	3
178	24015	$12,600	3
179	7103	$94,331	4
180	10029	$37,800	3

Appendix B: Raw Data from the 2008 Consumer Expenditure Survey (U.S. Department of Labor; Bureau of Labor Statistics) *

Table 2: Income before taxes: Average annual expenditures and characteristics, Consumer Expenditure Survey, 2008

Item	$5,000 to $9,999	$10,000 to $14,999	$15,000 to 19,999	$20,000 to $29,999	$30,000 to $39,999	$40,000 to $49,999	$50,000 to $69,999	$70,000 and more
# Consumer units (in thousands)	5,340	7,883	7,625	14,700	12,198	11,287	18,287	38,987
Consumer unit characteristics:								
Income before taxes	$8,003	$12,662	$17,461	$24,896	$34,708	$44,733	$59,319	$128,930
Income after taxes	$8,214	$13,119	$17,840	$25,355	$35,027	$44,621	$58,610	$123,254
Age of reference person	48.9	56.2	55.6	52.5	49.4	47.9	47.0	47.1
Average number in consumer unit:								
Persons	1.6	1.7	1.8	2.1	2.3	2.5	2.7	3.1
Children under 18	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.8
Persons 65 and over	0.3	0.5	0.5	0.5	0.4	0.3	0.2	0.2
Earners	0.4	0.5	0.6	0.9	1.1	1.3	1.6	1.9
Vehicles	0.8	1.0	1.2	1.5	1.7	1.9	2.2	2.7
Percent distribution:								
Sex of reference person:								
Male	39	31	40	42	44	47	49	54
Female	61	69	60	58	56	53	51	46
Housing tenure:								
Homeowner	29	42	50	56	60	64	73	88
With mortgage	9	11	15	22	30	40	51	70
Without mortgage	20	31	35	34	29	24	22	18
Renter	71	58	50	44	40	36	27	12
Race of reference person:								
Black or African-American	24	18	14	15	15	14	10	7
White, Asian, and all other races	76	82	86	85	85	86	90	93
Hispanic or Latino Origin								
Hispanic or Latino	15	12	15	15	15	13	12	7
Not Hispanic or Latino	85	88	85	85	85	87	88	93
Education of reference person:								
Elementary (1-8)	14	10	8	8	6	4	3	1
High school (9-12)	42	50	50	48	44	38	35	20
College	42	39	41	43	51	57	62	79
Never attended and other	1	a/	1	a/	a/	a/	a/	a/
At least one vehicle owned or leased	57	69	80	87	91	94	96	98
Average annual expenditures	$19,125	$21,120	$25,536	$30,367	$35,778	$40,527	$50,465	$83,700
Food	$3,184	$3,320	$3,556	$4,209	$5,130	$5,446	$6,388	$9,884
Food at home	$2,166	$2,286	$2,474	$2,751	$3,243	$3,338	$3,762	$5,253
Cereals and bakery products	$281	$330	$343	$361	$425	$437	$508	$720

Cereals and cereal products	$94	$126	$119	$119	$150	$149	$168	$233
Bakery products	$188	$203	$224	$242	$275	$289	$340	$487
Meats, poultry, fish, and eggs	$537	$532	$540	$669	$791	$794	$848	$1,133
Beef	$134	$132	$151	$170	$240	$233	$233	$328
Pork	$103	$125	$107	$144	$143	$161	$169	$205
Other meats	$64	$60	$64	$76	$103	$101	$114	$143
Poultry	$120	$104	$102	$131	$140	$142	$162	$209
Fish and seafood	$82	$74	$72	$105	$118	$103	$117	$185
Eggs	$34	$36	$44	$44	$46	$54	$52	$62
Dairy products	$253	$261	$310	$299	$379	$371	$417	$612
Fresh milk and cream	$114	$115	$128	$130	$159	$147	$161	$226
Other dairy products	$139	$147	$181	$169	$220	$223	$256	$386
Fruits and vegetables	$391	$391	$421	$492	$570	$556	$662	$929
Fresh fruits	$131	$139	$129	$164	$191	$181	$227	$319
Fresh vegetables	$128	$123	$134	$158	$184	$175	$207	$303
Processed fruits	$71	$63	$81	$82	$98	$102	$121	$164
Processed vegetables	$61	$65	$77	$88	$97	$97	$107	$142
Other food at home	$704	$771	$860	$930	$1,079	$1,181	$1,327	$1,859
Sugar and other sweets	$60	$80	$91	$98	$108	$120	$127	$182
Fats and oils	$66	$79	$91	$80	$95	$97	$103	$136
Miscellaneous foods	$378	$389	$421	$468	$550	$623	$698	$982
Nonalcoholic beverages	$192	$213	$233	$256	$296	$306	$354	$471
Food prepared out of town trips	$8	$10	$23	$28	$29	$35	$45	$89
Food away from home	$1,018	$1,035	$1,081	$1,458	$1,887	$2,108	$2,626	$4,631
Alcoholic beverages	$175	$190	$137	$230	$317	$374	$445	$749
Housing	$7,640	$8,657	$10,083	$11,241	$12,541	$14,599	$17,056	$26,789
Shelter	$4,595	$4,879	$5,874	$6,502	$7,266	$8,590	$10,062	$16,171
Owned dwellings	$1,323	$1,593	$2,267	$2,984	$3,673	$5,080	$6,789	$12,788
Mortgage interest and charges	$549	$517	$814	$1,294	$1,916	$2,761	$3,933	$7,631
Property taxes	$399	$635	$765	$927	$1,099	$1,357	$1,630	$3,181
Maintenance, repairs, insurance	$375	$441	$689	$763	$657	$963	$1,226	$1,975
Rented dwellings	$3,147	$3,135	$3,453	$3,258	$3,292	$3,183	$2,759	$1,858
Other lodging	$125	$151	$153	$260	$301	$328	$514	$1,525
Utilities, fuels, and public services	$1,967	$2,359	$2,595	$2,971	$3,244	$3,488	$3,876	$4,875
Natural gas	$292	$331	$340	$411	$474	$507	$536	$742
Electricity	$771	$966	$1,078	$1,168	$1,216	$1,284	$1,428	$1,731
Fuel oil and other fuels	$92	$103	$115	$156	$190	$165	$178	$282
Telephone services	$614	$683	$752	$899	$973	$1,118	$1,253	$1,499
Water and other public services	$198	$277	$309	$337	$390	$414	$481	$620
Household operations	$234	$374	$483	$505	$541	$620	$940	$1,878
Personal services	b/ 57	$113	$126	$166	$171	$194	$396	$770
Other household expenses	$177	$261	$357	$339	$370	$426	$544	$1,108
Housekeeping supplies	$280	$420	$388	$443	$515	$533	$630	$1,007
Laundry and cleaning supplies	$93	$115	$96	$112	$132	$131	$149	$200
Other household products	$142	$207	$201	$195	$263	$268	$329	$578

Postage and stationery	$46	$98	$91	$136	$120	$133	$152	$229
Household furnishings and equipment	$564	$625	$744	$819	$975	$1,369	$1,548	$2,858
Household textiles	$33	$50	$63	$84	$77	$89	$104	$224
Furniture	$156	$160	$120	$207	$207	$281	$348	$714
Floor coverings	$38	$6	$64	$14	$17	$36	$39	$79
Major appliances	$120	$54	$99	$123	$140	$145	$223	$340
Small appliances, misc.	$33	$61	$39	$66	$80	$107	$106	$188
Misc. household equipment	$184	$293	$359	$326	$455	$711	$729	$1,312
Apparel and services	$845	$983	$929	$1,105	$1,381	$1,241	$1,713	$2,945
Men and boys	$139	$197	$160	$208	$350	$260	$430	$739
Men, 16 and over	$105	$164	$120	$155	$280	$197	$343	$611
Boys, 2 to 15	$34	$32	$40	$53	$69	$63	$86	$127
Women and girls	$342	$393	$418	$443	$543	$482	$654	$1,196
Women, 16 and over	$319	$342	$337	$371	$462	$378	$536	$993
Girls, 2 to 15	$24	$51	$81	$72	$81	$105	$118	$203
Children under 2	$42	$64	$39	$82	$74	$74	$99	$132
Footwear	$219	$225	$167	$221	$275	$241	$322	$447
Other apparel goods, services	$101	$104	$144	$150	$141	$184	$209	$432
Transportation	$2,931	$2,987	$4,457	$5,591	$6,436	$7,225	$9,359	$13,805
Vehicle purchases (net outlay)	$810	$606	$1,346	$1,770	$2,069	$2,098	$3,093	$4,615
Cars and trucks, new	b/ 239	b/ 201	$537	$610	$727	$909	$1,228	$2,567
Cars and trucks, used	$533	$346	$627	$1,087	$1,259	$1,166	$1,682	$1,836
Other vehicles	b/ 38	b/ 59	b/ 182	b/ 73	b/ 83	b/ 24	$182	$212
Gasoline and motor oil	$1,090	$1,179	$1,464	$1,922	$2,310	$2,620	$3,033	$3,967
Other vehicle expenses	$755	$1,006	$1,494	$1,688	$1,803	$2,248	$2,841	$4,192
Vehicle finance charges	$48	$78	$89	$172	$249	$309	$386	$505
Maintenance and repairs	$249	$271	$419	$482	$572	$537	$785	$1,178
Vehicle insurance	b/ 315	$522	$825	$796	$729	$1,071	$1,253	$1,624
Rental, leases, licenses, other	$143	$135	$161	$238	$253	$331	$418	$884
Public transportation	$277	$196	$153	$211	$254	$259	$393	$1,031
Healthcare	$1,207	$1,660	$2,108	$2,403	$2,696	$2,741	$3,229	$4,087
Health insurance	$613	$1,112	$1,324	$1,423	$1,560	$1,607	$1,730	$2,165
Medical services	$271	$282	$313	$448	$557	$565	$857	$1,153
Drugs	$254	$197	$408	$453	$494	$480	$525	$597
Medical supplies	$69	$68	$62	$79	$85	$89	$117	$173
Entertainment	$917	$961	$1,169	$1,629	$1,874	$2,122	$2,936	$4,875
Fees and admissions	$117	$132	$176	$196	$265	$359	$485	$1,317
Audio visual equip, services	$476	$525	$623	$701	$797	$883	$1,141	$1,553
Pets, toys, hobbies, playground equp.	$185	$233	$265	$442	$457	$491	$747	$1,209
Other supplies, equipment, services	$140	$72	$104	$290	$355	$389	$562	$795
Personal care products and services	$254	$277	$336	$378	$467	$503	$591	$994
Reading	$40	$50	$73	$74	$77	$91	$118	$190
Education	$839	$489	$286	$316	$406	$495	$613	$2,171
Tobacco prods; smoking supplies	$241	$305	$264	$313	$317	$347	$392	$307
Miscellaneous	$191	$236	$441	$440	$623	$693	$899	$1,414

Cash contributions	$362	$545	$834	$865	$1,106	$1,188	$1,529	$3,262
Personal insurance and pensions	$299	$461	$865	$1,573	$2,406	$3,462	$5,197	$12,228
Life and other personal insurance	$47	$98	$83	$142	$181	$211	$282	$625
Pensions and Social Security	$252	$363	$782	$1,431	$2,226	$3,251	$4,915	$11,603
Sources of income and personal taxes:								
Money income before taxes	$8,003	$12,662	$17,461	$24,896	$34,708	$44,733	$59,319	$128,930
Wages and salaries	$2,503	$4,044	$7,336	$14,454	$23,877	$34,055	$48,197	$109,710
Self-employment income	b/ -85	$30	$242	$408	$1,016	$1,544	$2,187	$8,652
Social Security, private/ govt. retirement	$3,040	$6,597	$8,049	$8,265	$7,991	$7,279	$6,855	$6,012
Interest, dividends, rental, other property	$110	$164	$316	$534	$631	$838	$1,100	$3,386
Unemploy. / Workers Comp; Veterans	$125	$159	$137	$226	$179	$288	$250	$274
Public Assistance, SSI, food stamps	$1,470	$984	$752	$510	$397	$228	$168	$100
Regular contributions for support	$423	$384	$366	$326	$431	$399	$375	$601
Other income	$418	$300	$263	$173	$185	$101	$187	$194
Personal taxes	-$211	-$457	-$379	-$459	-$319	$112	$710	$5,677
Federal income taxes	-$45	-$179	-$66	-$27	$153	$583	$1,095	$4,968
2008 Tax stimulus (new UCC Q20082)	-$205	-$325	-$478	-$594	-$717	-$904	-$998	-$1,024
State and local income taxes	$11	-$7	$78	$63	$128	$244	$410	$1,335
Other taxes	$29	$53	$87	$99	$117	$189	$203	$397
Income after taxes	$8,214	$13,119	$17,840	$25,355	$35,027	$44,621	$58,610	$123,254
Addenda:								
Net change in total assets and liabilities	$418	-$387	-$2,100	-$1,116	-$1,469	$594	-$3,293	-$9,235
Net change in total assets	$2,467	$1,888	$425	$3,910	$3,669	$3,738	$6,477	$15,169
Net change in total liabilities	$2,048	$2,275	$2,525	$5,026	$5,137	$3,144	$9,769	$24,404
Other financial information:								
Other money receipts	$219	$102	$145	$204	$199	$892	$344	$928
Mortgage principal paid owned property	-$286	-$358	-$533	-$689	-$971	-$1,482	-$2,069	-$4,835
Estimated market value of owned home	$43,918	$69,788	$84,920	$96,118	$106,462	$125,687	$161,642	$299,410
Estimated monthly rental value of owned home	$257	$384	$468	$544	$620	$706	$866	$1,462
Gifts of goods and services	$453	$529	$429	$583	$593	$870	$1,012	$2,299
Food	$26	$34	$33	$43	$52	$70	$71	$196
Alcoholic beverages	b/ 16	$11	b/ 6	$11	$7	$4	$6	$28
Housing	$80	$124	$89	$134	$127	$164	$180	$423
Housekeeping supplies	b/ 11	$29	$10	$14	$18	$28	$35	$51
Household textiles	a/	b/ 5	b/ 7	$6	B/ 6	b/ 7	$5	$29
Appliances, misc. housewares	a/	b/ 3	b/ 9	$12	$7	$10	$23	$42
Major appliances	c/	b/ 1	b/ 6	$5	$4	b/ 2	$5	$13
Small appliances, misc.	a/	b/ 2	b/ 3	$6	B/ 3	$8	$18	$29
Miscellaneous household equipment	b/ 17	$36	b/ 11	$30	$32	$40	$45	$109
Other housing	$51	$52	$52	$72	$64	$79	$72	$193
Apparel and services	$78	$136	$154	$151	$191	$168	$230	$325
Males, 2 and over	$21	$17	$54	$28	$43	$24	$46	$74
Females, 2 and over	b/ 16	$44	$53	$53	$61	$49	$91	$120

Children under 2	$25	$30	$17	$45	$34	$35	$49	$77
Other apparel products and services	b/ 15	$45	b/ 29	$24	$53	$59	$43	$54
Jewelry and watches	b/ 11	b/ 6	b/ 5	$7	$19	$24	$23	$19
All other apparel goods, services	b/ 4	b/ 39	b/ 24	$17	$34	$35	$21	$35
Transportation	$72	$27	$12	$67	$56	$126	$73	$175
Health care	b/ 4	b/ 19	b/ 7	b/ 7	b/ 10	b/ 10	$42	$33
Entertainment	b/ 33	$48	$37	$54	$51	$53	$96	$147
Toys, games, arts, crafts, bikes	b/ 6	b/ 27	b/ 13	b/ 19	b/ 26	b/ 23	$32	$41
Other entertainment	$27	$21	$24	$35	$25	$30	$63	$106
Personal care products and services	b/ 6	b/ 7	b/ 2	$6	$8	$5	$17	$20
Reading	a/	a/	b/ 1	$1	B/ 1	$1	$1	$2
Education	b/ 3	$106	b/ 41	$48	$54	$198	$191	$780
All other gifts	$136	$16	$48	$62	$38	$72	$106	$169

a Value is less than or equal to 0.5.

b Data are likely to have large sampling errors.

c No data reported.

Notes:

* The columns for “All consumer units” and “Less than $5,000” in income are not reproduced, since they were not used in the analysis. Some categories of spending were abbreviated or slightly reworded so as to better fit into the table.

Expenditure categories in bold lettering represent main expenditure headings, while non-bold lettering indicates sub-categories. Adding all bolded main categories will yield the “Average annual expenditure” total indicated for each income grouping, shown in bold italics.

Appendix C: Consumer Expenditure Survey Information

Answers to important methodological questions (from the Bureau of Labor Statistics, BLS): (Note that the order of these questions is not necessarily the same as on the BLS website, but has been arranged to be of greatest relevance to this study).

1. What is the Consumer Expenditure Survey?

The Consumer Expenditure Survey collects information from the Nation's households and families on their buying habits (expenditures), income, and household characteristics. The strength of the survey is that it allows data users to relate the expenditures and income of consumers to the characteristics of those consumers. The survey consists of two components, a quarterly Interview Survey and a weekly Diary Survey, each with its own questionnaire and sample.

2. How are the Consumer Expenditure Survey data collected?

Data collection is carried out by the U.S. Census Bureau under contract with Bureau of Labor Statistics. In the Interview Survey, each consumer unit is interviewed every 3 months over five calendar quarters. In the initial interview, information is collected on demographic and family characteristics and on the consumer unit's inventory of major durable goods. Expenditure information also is collected in this interview, but is used only to prevent duplicate reporting in subsequent interviews. Expenditure information is collected in the second through the fifth interviews using uniform questionnaires. Income and employment information is collected in the second and fifth interviews. In the fifth interview, a supplemental section is administered in order to account for changes in assets and liabilities over a one-year period.

In the Diary Survey, respondents are asked to keep track of all their purchases made each day for two consecutive 1-week periods. Participants receive each weekly diary during a separate visit by a Census Bureau interviewer.

3. What is a consumer unit?

A consumer unit consists of any of the following: (1) All members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; (2) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent; or (3) two or more persons living together who use their incomes to make joint expenditure decisions. Financial independence is determined by spending behavior with regard to the three major expense categories: Housing, food, and other living expenses. To be considered financially independent, the respondent must provide at least two of the three major expenditure categories, either entirely or in part.

The terms consumer unit, family, and household are often used interchangeably for convenience. However, the proper technical term for purposes of the Consumer Expenditure Survey is consumer unit.

4. Who is the reference person?

The reference person of the consumer unit is the first member mentioned by the respondent when asked to "Start with the name of the person or one of the persons who owns or rents the home." It is with respect to this person that the relationship of the other consumer unit members is determined.

5. What geographic areas are covered?

Region of residence is one of the standard variables by which expenditure data are classified. Region tables, which show data for the Northeast, Midwest, South, and West, are included in Consumer Expenditure Survey reports and on the program's Web site. A region variable also is included on the public-use CD-ROMs.

Consumer expenditure data for selected Metropolitan Statistical Areas also are published in the biennial report. The tables presenting these data show annual averages over a 2-year period for 18 areas. Two years' worth of data is used so as to have sufficiently large samples for publication. For confidentiality reasons, area identifiers are not included on the public-use microdata on CD-ROMs. However, the Bureau of Labor Statistics now makes State identifiers available for use with the public-use CD-ROMs, although some States are not identified for confidentiality reasons. Further information about geographic identifiers can be obtained from the Bureau's Division of Consumer Expenditure Surveys, by email or by telephone at (202) 691-6900.

6. Why do average annual expenditures exceed income for some of the demographic groups? How can consumer units spend more than they earn?

Data users may notice that average annual expenditures presented in the income tables sometimes exceed income before taxes for the lower income groups. For data prior to 2004, the primary reason for that is believed to be non-response to questions about income, a common problem in household surveys. The average incomes shown in the published tables for 2003 and earlier are derived from information provided by complete income reporters (consumer units that provide information for at least one of the major sources of their income, such as wages and salaries, self-employment income, or retirement income). However, even complete income reporters may not have provided a full accounting of all income from all sources. Research has shown that some complete reporter consumer units classified in the lower income classes have expenditure levels that are more typical of upper income consumer units. Their expenditures raise the average expenditure levels of the income class in which they are classified.

Beginning in 2001 for the Interview Survey and 2004 for the Diary Survey, the income data include information collected from respondents using income ranges or brackets—for example $2,000-$2,499—in addition to discrete income amounts, as provided in the past. Respondents who are unable or unwilling to provide a specific dollar amount may be able or willing to estimate a range for their incomes. The use of bracketing in data collection provides more reliable income estimates to the extent that it increases the percentage of households providing income data.

In addition, starting in 2004, the Consumer Expenditure Survey uses imputation to fill in missing values for income data. The published tables now include income data from all consumer units—not just complete reporters. (See FAQ 21.) Income imputation has reduced the gap between income and expenditures when negative, and increased it when positive. For example, in 2003 (the last year prior to imputation), expenditures exceed income on average for all complete reporters who report less than $40,000 in income. In 2004, expenditures exceed income on average for all consumer units for whom less than $30,000 is reported or imputed. Similarly, in 2003, income exceeds expenditures for total complete reporters by less than $8,400; in 2004, income exceeds expenditures for all consumer units by more than $11,000.

However, there are reasons why expenditures exceed income for the lower income groups despite the use of imputed income data. Consumer units whose members experience a spell of unemployment may draw on their savings to maintain their expenditures. Self-employed consumers may experience business losses that result in low or even negative incomes, but are able to maintain their expenditures by borrowing or relying on savings. Students may get by on loans while they are in school, and retirees may rely on savings and investments.

7. Why doesn't the Bureau of Labor Statistics publish more detailed expenditures?

Average expenditures on items at finer levels of detail might not be as reliable as those published for more aggregate levels because there are sometimes few reports of expenditures on more detailed items. A small number of unusually large purchases of infrequently reported items or an increase in the number of consumers reporting such expenditures might cause a large change in the average expenditure from one period to the next. The tables published in the two-year reports, and on the Consumer Expenditure Survey Web site, show the expenditure component level at which the estimates are considered to be reliable. However, even in those tables, data in some cells are footnoted as being likely to have large sampling errors due to the scarcity of reports.

8. Do the data show cost-of-living differences among areas?

No. The Consumer Expenditure Survey data in published tables show average expenditures and incomes of consumer units. The expenditure levels may vary across areas for a number of reasons. These include demographic and economic differences in

age levels, income levels, size of consumer units, tastes, and personal preferences. A commonly used method of comparing the cost of living among areas involves developing an estimate of the cost of a similar bundle of goods and services for each area. The Consumer Expenditure Survey makes no attempt to measure the cost of a standard bundle of goods and services, but instead provides actual expenditure levels of consumer units.

9. Why do some expenditure levels, such as those for vehicle purchases, appear to be so low?

The data shown in the published tables are averages for all consumer units, or for all the consumer units in a particular demographic group. For example, the expenditures, income, and characteristics for the group with a reference person under age 25 are averaged across all consumer units with that characteristic. Because not all consumer units purchase each item during the survey period, the average expenditure for an item is generally considerably lower than the expenditure by those consumer units that purchased that item. The less frequently an item is purchased, the greater the difference between the average for all consumer units and the average for those purchasing the item.

10. Are reimbursed expenditures, such as those for medical expenses or car repairs, included in the published totals?

No. Expenditures shown in the published tables are direct out-of-pocket expenditures. The amounts are net of reimbursements.

Appendix D: Construction Cost Data for the Eleven (11) Master Plan/Signature Communities

Appendix D: Table 1:

Summary and Three Selected Master Plan/Signature Communities

SOURCES of FUNDS

COMMUNITY NAME	**Summary**	**Perry**	**Centennial**	**Grady**
Direct Project Costs				
HOPE VI	$109,783,014	$5,341,926	$23,139,200	$5,520,027
HOPE VI Reimbursement	$843,842		$843,842	
HOPE VI Demo	$0	$0		$0
HUD Funds	$24,632,000			
Bonds	$7,400,000			
Replacement Housing Funds	$29,164,604	$0		$11,211,204
Clark Howell Funds	$0	$0		$0
MTW Funds	$0	$0		$0
AHA Development Funds	$11,665,000			
AHA Program Income	$2,625,000	$0		$1,225,000
Other AHA Funds	$23,318,288	$12,186,970		$11,131,318
Other Public Funds	$12,037,158			
Public Housing Funds	$5,112,000			
First Mortgage	$412,516,849	$163,530,037		$0
AHP Funds	$500,000			
Private Funds	$114,440,546		$47,287,769	
Private Funds: Debt	$136,608,741	$0		$38,664,124
Private Funds: Deferred Developer Fee	$6,496,736	$0		$193,486
Private Funds: Equity	$89,116,366	$0		$46,664,804
Other Public Funds	$8,865,868		$8,502,868	
Tax Credit Equity	$15,016,970	$0		$0
Deferred Costs	$3,108,226	$2,233,318		$0
Deferred Developer Fee	$668,732			
City Funds	$24,156,042			
Grants	$3,550,000			
Low Rent Funds	$0			
Tax-Exempt Bonds	$3,819,969			
AHA Funds	$755,300			
Tax Credit Equity- Federal	$4,444,751			
Tax Credit Equity- State	$1,139,692			
Tax Credit/Private Funds	$106,504,278	$37,374,289		
Equity	$57,510,853	$7,461,078		$0
SUBTOTAL	**$1,215,800,824**	**$228,127,618**	**$79,773,679**	**$114,609,962**

Indirect Project Costs				
HOPE VI	$116,157,978	$25,502,879	$16,648,775	$14,479,973
HOPE VI Reimbursement	$1,260,361		$1,260,361	
HOPE VI Demo	$18,657,311			$4,177,935
HUD Funds	$9,500,576			
Bonds	$0			
Replacement Housing Funds	$22,202,588			$13,352,716
Clark Howell Funds	$7,365,234			$7,365,234
MTW Funds	$3,232,511			$3,151,536
AHA Development Funds	$1,357,803			
AHA Program Income	$3,917,559			$352,076
Other AHA Funds	$29,713,781	$11,736,146	$3,531,216	
Other Public Funds	$0			
Public Housing Funds	$460,340			
First Mortgage	$0			
AHP Funds	$0			
Private Funds	$0			
Private Funds: Debt	$5,650,000			
Private Funds: Deferred Developer Fee	$0			
Private Funds: Equity	$0			
Other Public Funds	$1,200,000		$1,200,000	
Tax Credit Equity	$123,000			
Deferred Costs	$886,650	$886,650		
Deferred Developer Fee	$0			
City Funds	$21,245,485			$6,130,000
Grants	$0			
Low Rent Funds	$42,954			
Tax-Exempt Bonds	$272,442			
AHA Funds	$0			
Tax Credit Equity- Federal	$0			
Tax Credit Equity- State	$0			
Tax Credit/Private Funds	$330,000			
Equity	$0			
SUBTOTAL	**$243,576,572**	**$38,125,675**	**$22,640,352**	**$49,009,470**
TOTAL		**$266,253,294**	**$102,414,031**	**$163,619,432**

USES of FUNDS

COMMUNITY NAME	**Summary**	**Perry**	**Centennial**	**Grady**
Direct Project Uses				
Construction Costs	$881,930,781	$173,765,591	$62,078,814	$83,743,224
Public Improvements	$13,744,439	$142,407	$0	$0
Soft Costs	$320,027,699	$54,219,618	$17,694,865	$30,866,733
SUBTOTAL	**$1,215,702,920**	**$228,127,617**	**$79,773,679**	**$114,609,957**

Indirect Project Uses				
Soft Costs and Infrastructure	$243,674,474	$38,125,676	$22,640,352	$49,009,470
SUBTOTAL	**$243,674,474**	**$38,125,676**	**$22,640,352**	**$49,009,470**
TOTAL		**$266,253,293**	**$102,414,031**	**$163,619,427**

Notes:

A. The Perry Homes construction expense data apply to the rental assistance development for seniors, Columbia Heritage, as well as to the following new mixed-income communities relevant to the household expenditure analysis:

1. Columbia Creste
2. Columbia Park Citi
3. Columbia Grove
4. Columbia Estates

B. The Centennial construction expense data apply those mixed-income communities replacing Techwood Homes and Clark Howell Homes, specifically:

1. Centennial Place
2. Columbia Commons
3. Ashley Terrace at West End

C. The Grady construction expense data apply to the mixed income community (Revitalization Master Plan) Auburn Pointe, also known during the residential development construction phases as Veranda at Auburn Pointe.

Appendix D: Table 2
Four Selected Master Plan/Signature Communities

SOURCES of FUNDS

COMMUNITY NAME	Harris	East Lake	Ashley Courts/Kimberly	Magnolia
Direct Project Costs				
HOPE VI	$20,541,000			$5,896,000
HOPE VI Reimbursement				
HOPE VI Demo	$0			
HUD Funds		$12,032,000		
Bonds		$7,400,000		
Replacement Housing Funds	$1,000,000			
Clark Howell Funds				
MTW Funds	$0			
AHA Development Funds		$5,824,000	$1,305,000	$4,536,000
AHA Program Income	$1,400,000			
Other AHA Funds				
Other Public Funds	$12,037,158			
Public Housing Funds			$5,112,000	
First Mortgage			$8,772,800	$4,000,000
AHP Funds				
Private Funds		$24,862,222		$10,276,978
Private Funds: Debt	$96,254,617			
Private Funds: Deferred Developer Fee	$749,253			
Private Funds: Equity	$39,095,812			
Other Public Funds				
Tax Credit Equity		$2,843,970	$12,173,000	
Deferred Costs			$37,535	$208,454
Deferred Developer Fee			$668,732	
City Funds	$2,614,700			
Grants				
Low Rent Funds				
Tax-Exempt Bonds				
AHA Funds				$755,300
Tax Credit Equity- Federal				$4,444,751
Tax Credit Equity- State				$1,139,692
Tax Credit/Private Funds				
Equity			$5,078,000	
SUBTOTAL	**$173,692,540**	**$52,962,192**	**$33,147,067**	**$31,257,175**
Indirect Project Costs				
HOPE VI	$14,459,000			$3,852,812

HOPE VI Reimbursement				
HOPE VI Demo	$3,891,547			
HUD Funds		$5,098,723		
Bonds				
Replacement Housing Funds	$3,367,963			
Clark Howell Funds				
MTW Funds	$80,975			
AHA Development Funds		$268,903	$1,088,900	
AHA Program Income	$3,565,483			
Other AHA Funds				
Other Public Funds				
Public Housing Funds			$460,340	
First Mortgage				
AHP Funds				
Private Funds				
Private Funds: Debt				
Private Funds: Deferred Developer Fee				
Private Funds: Equity				
Other Public Funds				
Tax Credit Equity			$123,000	
Deferred Costs				
Deferred Developer Fee				
City Funds	$15,115,485			
Grants				
Low Rent Funds			$42,954	
Tax-Exempt Bonds				
AHA Funds				
Tax Credit Equity- Federal				
Tax Credit Equity- State				
Tax Credit/Private Funds				
Equity				
SUBTOTAL	**$40,480,452**	**$5,367,626**	**$1,715,194**	**$3,852,812**
TOTAL	**$214,172,993**	**$58,329,818**	**$34,862,261**	**$35,109,987**

USES of FUNDS

COMMUNITY NAME

Direct Project Uses	**Harris**	**East Lake**	**Ashley Courts/Kimberly**	**Magnolia**
Construction Costs	$119,509,531	$33,994,268	$25,196,835	$21,887,987
Public Improvements				
Soft Costs	$54,183,011	$18,967,924	$7,950,232	$9,271,287
SUBTOTAL	**$173,692,542**	**$52,962,192**	**$33,147,067**	**$31,159,274**

Indirect Project Uses	$40,480,452	$5,367,626	$1,715,194	$3,950,713
Soft Costs and Infrastructure				
SUBTOTAL	$40,480,452	$5,367,626	$1,715,194	$3,950,713
TOTAL	**$214,172,993**	**$58,329,818**	**$34,862,261**	**$35,109,987**

Notes:

A. The Harris Homes construction expense data apply to the Revitalization Master Plan community CollegeTown at Westend, and to the rental assistance development community for seniors, Veranda at Collegetown, as well as Gardens at Collegetown. The data also apply to the following mixed income communities relevant to the household expenditure analysis:

1. Ashley Collegetown
2. Atrium at Collegetown

B. The East Lake construction expense data apply to the mixed income communities Columbia Village, and the Villages of East Lake.

C. The Ashley Courts/Kimberly construction expense data apply to the mixed income community Ashley Courts at Cascade.

D. The Magnolia construction cost expense data apply to the former public housing project John Eagan Homes, and the mixed income community (and Revitalization Master Plan community) Magnolia Park.

Appendix D: Table 3
Four Selected Master Plan/Signature Communities

SOURCES of FUNDS

COMMUNITY NAME	McDaniel Glenn	Castleberry	Carver	Capitol Homes
Direct Project Costs				
HOPE VI	$9,570,000		$22,870,000	$16,904,861
HOPE VI Reimbursement				
HOPE VI Demo	$0			
HUD Funds		$12,600,000		
Bonds				
Replacement Housing Funds	$16,953,400			
Clark Howell Funds				
MTW Funds				
AHA Development Funds				
AHA Program Income				
Other AHA Funds	$0			
Other Public Funds				
Public Housing Funds				
First Mortgage	$66,035,337		$65,862,225	$104,316,449
AHP Funds			$500,000	
Private Funds		$32,013,577		
Private Funds: Debt			$1,690,000	
Private Funds: Deferred Developer Fee	$4,277,205			$1,276,792
Private Funds: Equity			$3,355,750	
Other Public Funds		$363,000		
Tax Credit Equity				
Deferred Costs			$628,918	
Deferred Developer Fee				
City Funds			$13,602,032	$7,939,310
Grants				$3,550,000
Low Rent Funds				
Tax-Exempt Bonds			$3,819,969	
AHA Funds				
Tax Credit Equity- Federal				
Tax Credit Equity- State				
Tax Credit/Private Funds	$33,162,456		$35,967,533	
Equity	$11,195,378			$33,776,397
SUBTOTAL	**$141,193,776**	**$44,976,577**	**$148,296,428**	**$167,763,809**
Indirect Project Costs				
HOPE VI	$10,430,000		$12,689,400	$18,095,140

HOPE VI Reimbursement				
HOPE VI Demo	$599,541		$9,988,288	
HUD Funds		$4,401,853		
Bonds				
Replacement Housing Funds	$5,481,909			
Clark Howell Funds				
MTW Funds				
AHA Development Funds				
AHA Program Income				
Other AHA Funds	$14,407,607		$38,812	
Other Public Funds				
Public Housing Funds				
First Mortgage				
AHP Funds				
Private Funds				
Private Funds: Debt			$5,650,000	
Private Funds: Deferred Developer Fee				
Private Funds: Equity				
Other Public Funds				
Tax Credit Equity				
Deferred Costs				
Deferred Developer Fee				
City Funds				
Grants				
Low Rent Funds				
Tax-Exempt Bonds			$272,442	
AHA Funds				
Tax Credit Equity- Federal				
Tax Credit Equity- State				
Tax Credit/Private Funds			$330,000	
Equity				
SUBTOTAL	**$30,919,057**	**$4,401,853**	**$28,968,941**	**$18,095,140**
TOTAL	**$172,112,833**	**$49,378,430**	**$177,265,369**	**$185,858,949**

USES of FUNDS

COMMUNITY NAME

Direct Project Uses	**McDaniel Glenn**	**Castleberry**	**Carver**	**Capitol Homes**
Construction Costs	$108,116,915	$28,848,655	$99,853,540	$124,935,422
Public Improvements			$13,602,032	
Soft Costs	$33,076,864	$16,127,922	$34,840,854	$42,828,389
SUBTOTAL	**$141,193,778**	**$44,976,577**	**$148,296,426**	**$167,763,811**
Indirect Project Uses	**$30,919,057**	**$4,401,853**	**$28,968,941**	**$18,095,140**

Soft Costs and Infrastructure

SUBTOTAL	**$30,919,057**	**$4,401,853**	**$28,968,941**	**$18,095,140**
TOTAL	**$172,112,833**	**$49,378,430**	**$177,265,369**	**$185,858,949**

Notes:

A. The McDaniel Glenn construction expense data do not apply to any mixed income communities for which the household expenditure analysis was performed. The relevant Revitalization Master Plan community is Mechanicsville, and the related mixed-income residential phase communities are:

1. Columbia Mechanicsville Apartments
2. Columbia Senior Residences at Mechanicsville
3. Mechanicsville Crossing
4. Mechanicsville Station

B. The Castleberry construction expense data apply to the former public housing project John Hope Homes and are applicable to the Revitalization Master Plan and mixed-income residential phase community The Villages of Castleberry Hill.

C. The Carver construction expense data apply to the former public housing project Carver Homes, and to the Revitalization Master Plan community The Villages at Carver, and to the mixed income community applicable to the household expenditure data, The Villages at Carver. Those data also apply to the rental assistance development for seniors, Veranda at Carver.

D. The Capitol Homes construction expense data apply to the Capitol Gateway Revitalization Master Plan community, and to the mixed-income community Capitol Gateway.

Appendix E: Methodological Note: Comparison to Other Relevant Studies

I. Overview

The individual community and aggregate economic impacts derived in this Phase I study differ from most of the results reported for either the specific Atlanta Housing Authority revitalization strategy or for more generalized efforts to revitalize public housing. As noted in Section I (Introduction), this uniqueness is the result of defining economic impact in the way that it is defined in "traditional" regional impact models, i.e., as the direct, indirect and induced effects of injections of net incremental regional spending on output, personal income, employment and tax revenues. Economists recognize that this is not the only way that economic impact can be conceptualized, and it can be viewed as focusing on only a subset of the full economic impact of any program, institution, or event. For example, Seaman (2011; 2003) distinguishes such shorter term spending impacts from longer term and more "fundamental" impacts on long run economic growth, and the more intangible (but potentially measurable) "consumption value" or "total surplus" impacts.

For example, a study of the economic impacts of ongoing household relocation spending and finite period construction spending is not designed to measure the additional "consumer surplus" of the direct residents of the new communities (i.e., the difference between what they would be willing to pay for such high quality housing and what they actually pay), a surplus value that is almost certainly higher for those former public housing residents who relocate to the revitalized communities, and may well be higher than alternative housing options for residents who were not formerly public housing clients. And positive externalities (spillover effects on surrounding areas) are not limited to the more measurable property value increases, commercial rent per square foot improvements, or possibly lower crime rates, but could manifest themselves in higher "contingent valuations" (willingness to pay magnitudes) for financing mixed income community projects even for those Atlanta residents not directly affected by the razing of the old public housing projects and the emergence of revitalized neighborhoods.

And to the extent that revitalized housing can in fact improve the educational and employment outcomes of those formerly living in sub-standard and socially problematic public housing projects, and generate a more attractive urban environment for a city, longer term economic growth is likely to accompany the resulting improvements in labor productivity, and the potential additional investment and in-migration of a more talented population. Furthermore, there can be substantial potential fiscal benefits to city budgets if lower crime rates can be linked to mixed income community revitalization, since policing costs can be reduced or police resources reallocated to more effectively protect the entire city rather than having to excessively focus on very high crime public housing areas. To the extent that city tax revenues are devoted to various social services to the poor and undereducated, further fiscal savings are possible. However, some of these fiscal savings would accrue to state and federal budgets, and to private sector employers,

as lower welfare and unemployment insurance costs, higher income tax revenues, and lower Medicaid spending. Since any such fiscal benefits would have to be linked to a causal demonstration of the beneficial effects of the community revitalization program on individual residents (particularly former residents of the razed public housing projects) they are beyond the scope of this particular study, but have been the primary focus of Boston's research (see, e.g. Boston 2005a, 2005b, and 2007).

A particularly comprehensive study of one particular Atlanta project (McDaniel Glenn) was recently completed (see the Emory study by Rich, 2010). While this study contains extensive (and mixed) evidence regarding factors such as crime rates, educational outcomes (including test results and students eligibility status for reduced price lunches), voter registration, voluntary participation rates in the neighborhood, food stamp program participation rates, home sale prices and foreclosure rates (complicated, of course, by the real estate collapse starting in 2007-2008), and subjective resident perceptions of neighborhood quality of life, no effort is made to "monetize" the overall economic impact of all of these factors. And being a single case study, there is of course no reporting of any aggregate city-wide economic impacts.

In fact, most of the previous studies of revitalized mixed income communities (as well as Phase II of this study) attempt to identify and measure these other types of impacts. Some studies (including Rich, 2010, as just discussed) attempt to develop the type of evidence that potentially could be translated into annualized dollar magnitudes of economic impact. It is such annualized dollar impacts that distinguish the findings of the instant study, such as the results reported above in Section III that the aggregate household spending impact of the sixteen communities has been $165.785 million, with the combined household spending and construction impact being $1.707 billion, accompanied by the equivalent of 1,346.63 annualized jobs. For example, Matthews et al. (2006) did a preliminary analysis of the neighborhood effects of the Harris Homes transformation into what eventually became the two Collegetown revitalized communities (see Table 1 in Section II above), and concluded that over the period 1998-2004 there was a slight increase in population into the neighborhood, and some increase in per capita income and decline in the poverty rate (but in all cases lagging the more favorable experiences of the city of Atlanta and the state of Georgia), Other mixed findings abound in that study, such as the only slightly greater decline in crime rates relative to the rest of Atlanta, and the minimal change in the number of business establishments, employment and annual wages in the surrounding neighborhood.

They found better results for education and student outcomes, with the student dropout rate falling dramatically and the completion rate increasing notably. But these preliminary results, obtained far too early to really generate compelling findings, were not well designed to translate into annual or multiple year economic impact magnitudes. Similarly, even the econometrically sophisticated and quite favorable individual employment results for "program based housing moves" out of public housing reported in Anil et al. (2010; see also footnote 3 above) were not intended to contribute to any

findings of overall regional economic impacts, and in any case were stronger for public housing movers choosing the housing voucher option and moving to more middle class neighborhoods, not necessarily moving into the new mixed income communities that are the focus of the current study.

The difficulty of deriving overall regional economic impacts was also the case with the very early efforts by the Strata Real Estate Alliance, LLP, which attempted to generate tables of comparative values for 1990 vs. 2000 for each target revitalized community, focusing on economic impacts defined not in aggregate dollar terms, but in "critical success factors" such as improvements in rates of home ownership vs. leasing, average home values, median household income, number of business licenses, number of housing units sold, population size, and square footage measures of office, industrial, hotel and condominium commercial property. For each community, a "primary impact area" was defined based on the unique geographical features of the revitalization project, hence yielding varying sizes for such impact areas. In any case, these databases were developed prior to the bulk of the community revitalizations coming to fruition, and no effort was made to generate any dollar magnitude of community economic impact. However, Phase II of this study is extending much of this analysis to a comparison of such metrics over the period 1990, 2000 and 2010 (as the new census and other data become available), although the impact areas are either census tracts or various radii from the revitalization project.

Somewhat more complementary methodological approaches were taken in the studies done by the Urban Institute (Turner et al., 2007a and 2007b), and especially Econsult Corporation (2007), which generated total economic impacts (including total related jobs) of public housing authority annual capital and maintenance expenditures on various cities using regional multipliers and distinguishing direct, indirect and induced expenditures. While the Econsult study did not address household relocation spending as a key source of the net injections of new economic activity into the cities, it did focus upon public housing funding for capital and maintenance purposes that comes to local housing authorities from the federal government, funding that it states "can be thought of as representing new expenditures into the local economy," hence having a notable similarity to the analysis of the construction spending impacts in this study (see Section V above). Finally, the various important studies conducted by Boston (2005a, 2005b, and 2007), despite being focused on the fates over time of individual former public housing clients as they transition away from those razed properties, have made some useful methodological observations of relevance to the issue of aggregate regional economic impact. The relevant contributions of particular studies are briefly discussed in Part II of this Appendix.

II. Brief Summary of Specific Studies

A. Urban Institute Studies (Turner et al., 2007a and 2007b)

The March 2007 shorter report (2007a), *Severely Distressed Public Housing: The Costs of Inaction*, was a preview of the more comprehensive methodological report distributed in June (2007b), *Estimating the Public Costs and Benefits of HOPE VI Investments: Methodological Report.* Both reports were a response to the Bush administration's criticisms of the "high costs of the program" and its proposals to cut back or even eliminate HOPE VI. In endnote 3 to the shorter report, previewing the longer study, it is noted that:

> "Unlike traditional cost-benefit analyses, this study does not attempt to monetize all the human and community costs and benefits associated with distressed public housing. Instead we focus on public sector costs and savings that can be expected to result from outcomes for residents, housing developments, and the surrounding communities."

Hence, their efforts were similar to a fiscal impact analysis (e.g., Seaman 2005, regarding the Atlanta Beltline) as opposed not only to a full cost-benefit analysis, but to a "regional economic impact analysis" focused on spending flows (as described above). The authors also observe ruefully in Chapter One (p. 1) of the longer study (2007b) that:

> "It is important to acknowledge that no rigorous evaluation of the costs and benefits of HOPE VI redevelopment has yet been conducted, that the availability of empirical evidence about the likely trajectory of both distressed properties and redeveloped properties is severely limited, and the future of both market and policy environments is uncertain."

Therefore, the approach taken in the instant study, and the aggregated economic impact findings (reported above in Section III) derived from an analysis of relocated household spending impacts and construction phase spending impacts, should be understood as an effort to address this gap in knowledge and available data by focusing on concrete (although limited) types of economic impacts that can be subject to careful analysis using methods well-known to economists, and capable of being translated into measureable and aggregated economic impacts.

Selected Important Findings of the Urban Institute Studies/Reports:

1. Between 1997 and 2007 the HOPE VI program invested over $6 billion in federal funds for replacing and revitalizing severely distressed public housing developments. As of the March 2007, over 78,100 distressed units were demolished, with another 10,400 scheduled for demolition.

2. Empirical research on the impacts of HOPE VI investments on property values is extremely limited, but some evidence from Philadelphia and Minnesota suggests that an "effective redevelopment of the prototype project" could "reasonably" be expected to

increase local property tax revenues by an average of $490,000 per year compared to doing nothing (the status quo housing situation).

3. There is some evidence that enhanced well being of original public housing residents, who either relocate to other neighborhoods via vouchers, or to the same neighborhood but living in the newly revitalized mixed-income development, can result in reduced welfare and unemployment insurance expenses, higher local income tax revenues, lower Medicaid payments, and lower criminal justice system spending summing to a total of $313,000 per year in public sector savings.

4. Potentially lower annual operating and capital costs for a "prototypical project" (as a result of lower vacancy rates, lower crime rates and less severe repair and maintenance expenses) as well as higher per unit tenant rent contributions toward revenues, can reduce annual housing subsidy costs as much as $3.9 million (after demolition and redevelopment) when compared to the status quo of maintaining the original "distressed property."

5. In total, for the proto-typical distressed housing project, the *net 20-year present value* lower cost of investment resulting from the demolition and mixed income redevelopment option in contrast to the "no intervention" option is about $22 million (see Table 3, p. 4 of Turner et al., 2007a). That is, after considering public development costs, project costs, the "public costs of resident needs," resident income taxes, and new property tax revenues, a "basic" redevelopment strategy has a 20-year present value cost of $155.6 million (it is $155.3 million for the so-called "enhanced" version), in contrast to a 20-year present value cost for the "no intervention" (keep and maintain the old public housing) of $177.6 million – a difference of essentially $22.0 million.

Comparison to the instant study, Seaman (2011):

1. Seaman (2011) positive economic impacts are in the form of net increases in local output, personal income, jobs and tax revenues as a result of the injection of new spending into Atlanta from non-local sources, either via household relocation or construction (demolition and rebuilding) financing. The Urban Institute (2007) positive economic impacts are in the form of reduced costs of building and maintaining mixed income revitalized housing properties relative to keeping the original properties.

2. Seaman (2011) focuses on economic impacts on the city of Atlanta, treating federal and state "public development costs" as at least partial benefits (after making various adjustments; see the construction impact analysis)

3. If the proto-typical project economic benefit from the Urban Institute study of $22.0 million is treated as the equivalent of $1.1 million per year for each project, the total net economic benefits (economic impact) for sixteen projects over an average number of years to date per project of 6.5 years would sum to $114.40 million. The comparable

Seaman (2011) economic impact, as measured by incremental gross regional product (city output), for the household relocation spending component alone is $165.785 million. When economic impact is measured by personal income (wage and salary earnings in the city), the comparable result is $76.695 million. Interestingly, the average of the Seaman (2011) output and income impacts is $121.24 million, only about 6.0% different from the Urban Institute result. However, the construction spending impacts in Atlanta of $1.707 billion (again, treated as local benefits rather than overall national costs) "ruin" any such contrived similarity of results (not to mention that averaging the output and wage/salary income impacts is not conventional).

B. Econsult Corporation Study: *Assessing the Economic Benefits of Public Housing: Final Report* (January 2007)

As described above, the Econsult study did not address household relocation spending as a key source of the net injections of new economic activity into the cities, but it did focus upon public housing funding for capital and maintenance purposes that comes to local housing authorities from the federal government, funding that "can be thought of as representing new expenditures into the local economy," hence having a notable similarity to the analysis of the construction spending impacts in this study (see Section V above). The study also examines the regional economic impact of public housing operating expenditures. While that has not been a part of this study, one might treat such ongoing spending flows as at least analogous to the ongoing spending flows created by newly in-migrated households to the Atlanta revitalized communities.

Therefore, it is of some use to briefly compare the results of the Econsult study, since those are also reported as aggregate impacts at the local city level. It is important to note that the RIMS II model multipliers are <u>not</u> adjusted downward as they have been in the Seaman study, and are based on the much larger respective Metropolitan Statistical Areas (MSAs). Therefore, it is no surprise that the multipliers are larger than the 1.3 used herein for the household spending impacts and the 1.547 used for the construction spending. By contrast, the average "regional multiplier" across nine (9) MSAs in the Econsult study is 2.12 for "capital and maintenance" expenditures (somewhat similar, but not identical to the construction investment spending in this study), and 1.93 for "operating expenditures."

While these MSA's vary greatly, from Akron and New Bedford, to Miami and Dallas (and also include Boston, Kansas City, Oakland, San Diego and Seattle), and cannot easily be compared to the City of Atlanta, at least some useful information can be obtained regarding the total economic output impact and employment impact that Econsult reports relative to the overall "injection of new spending" for both operating and capital purposes. The average 2005 operating expenditures were $20.4 million across the nine MSA's with a calculated total economic impact of $40.1 million and 1,187 "total related jobs." By contrast, the Seaman study derived a total adjusted direct spending impact (for the residential spending component) on an annual basis of $15.826 million

and a total economic output impact of $20.573 million. It is highly notable that if Econsult had used an output multiplier of 1.3, its average output impact would have been $26.52 million rather than $40.1 million. And given that the adjusted Atlanta direct spending impact for the household spending analysis was only 0.7758 of the (seemingly less carefully adjusted) operating direct impact in the Econsult study, these results are astonishingly almost identical. That is 0.7758 x $26.52 = $20.57 million, compared to the Seaman study result of $20.573 million.

Regarding the capital spending, it turns out to be much more difficult to make the comparison since the Econsult study reports the capital and maintenance budget on an annual basis, while the Seaman study had access to total construction phase spending over multiple years. However, given the strongly confirming evidence regarding the legitimacy of the methodology obtained by examining the approach and the results in the Econsult study regarding operating budget spending, it is highly likely that the construction impact analysis in the Seaman study is fully consistent with the methods and findings of that other study.

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