Habitat for Humanity of Greater Charlottesville

Economic, Community, and Partner Effects

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EXECUTIVE SUMMARY

Habitat for Humanity of the Greater Charlottesville Region (hereafter referred to as "Greater Charlottesville Habitat" or "Habitat") is a non-profit organization whose mission is to "create simple, decent, affordable housing in partnership with low income families and the communities of Greater Charlottesville." Since the early 1990s Habitat has helped more than 140 local, low-income families build and purchase homes and has several new subdivision projects in the acquisition, planning and development stages. In addition, it owns and operates a 346-unit trailer park that is home to more than 1,500 individuals.

This study examines the characteristics of Habitat and its economic and social impacts. These impacts include its contribution to the local economy, effects on local property values, impacts on the wellbeing of partner families, and other community fiscal, environmental and social benefits.

Habitat's Role in the Greater Charlottesville Region

The need for Charlottesville region housing assistance has become more acute in recent years and reflects both local and national conditions. During the last decade, housing in the U.S. became more unaffordable as measured by standard affordability metrics. Within the Charlottesville region, nearly thirty-five percent of local households spent more than 30 percent of their income on housing in 2008-2012. The affordability problem is most pronounced in the City of Charlottesville and for lower income households. Nearly forty-four percent of Charlottesville City residents and 85 percent of housings making less than $20,000 in the area spend more than 30 percent of their income on housing.

Habitat for Humanity addresses the local housing affordability problem using a "self-help" approach. Its guiding principle is a "hand up instead of a hand out" and it views program participants as "partners" rather than clients or consumers because of the substantial responsibility new homeowners assume and sweat equity they provide in improving their housing situation and economic prospects. Applicants are placed through a rigorous selection process to determine those most at need and at the same time most able to assume homeownership responsibilities. Habitat then cultivates partner skills by providing training, education, and individual counseling in areas such as personal and housing finance, housing maintenance, home safety, and community engagement.

Greater Charlottesville Habitat began in the early 1990s by building individual single-family homes on vacant lots and remodeling older homes on scattered sites located throughout the service region. In recent years, it has moved to building subdivision-sized developments and sponsoring "building blitzes" that involve brief periods of intensive home construction. This "clustered" building strategy has several advantages over diffuse housing construction in terms of administration, cost effectiveness, neighborhood cohesion, service delivery, and partner perceptions.

Greater Charlottesville Habitat has fused the clustering building strategy with other novel planning and design practices to create what it calls the "New Paradigm." The new subdivisions revitalize and redevelop previously substandard areas such as aging trailer parks. Habitat makes a concerted effort to retain existing residents and uses a community engagement process that involves appreciative inquiry, neighborhood surveys, focus group discussions, and community design charettes to involve residents in planning their new neighborhoods. It is also rebuilding the areas as mixed income neighborhoods that provide a variety of housing styles (e.g., single family homes, duplexes, row-houses, condominiums, and apartment buildings) that blend in with and enhance the architectural styles of the existing neighborhoods. Habitat houses feature universal design to accommodate disabled and senior residents and utilize green building practices such as EarthCraft certification, Energy Star appliances, and programmable thermostats for energy savings. Pervious roads and sidewalks aid in storm-water management. Subdivisions include formation

of homeowner associations and the provision of family recreation, health and social services on site. Through the "New Paradigm", Habitat has played a local leadership role in demonstrating the feasibility of mixed income housing, green building, and universal design to other public and social housing agencies and the private development community.

Habitat works exclusively with low-income households. Approximately 75 percent of Habitat partner households had incomes within the range of $20,000 to $34,999, which places them in the lower 30th decile of service area households. The mean partner household income is $28,594 compared to a service area average of $82,404, which places it at 35 percent of the area mean income. Habitat households are also, on average, larger than service area households with 3.4 persons compared to a service area average of 2.5. Householders are more likely to be members of an ethnic minority than service area residents with Black/African American householders making up 39.1 percent of partners and Hispanic/Latinos 13.0 percent compared to 13.0 percent and 4.6 percent respectively in the service region.

Habitat has a successful track record of placing and retaining homeowners. Since 1991, two homeowners have sold their homes on the open market, one homeowner resold his home to Habitat, and three homeowners have paid off their mortgages. Of the one hundred and thirty Habitat family partners over the period 1991-2013, only four foreclosures occurred for a total default rate of 3.1 percent. For comparison groups with loan to value ratios at origination of 91-95 percent, the default rate was 7.91 percent.

Habitat homes can be found throughout the service region. However, most Habitat owner-occupied housing units (79 units or 66 percent) are located within the City of Charlottesville, 24 (20 percent) are in Albemarle County, 13 homes (11 percent) are in Louisa County, and 4 (3 percent) are in Greene County. Within the City of Charlottesville, Habitat housing units can be found in eight of twelve census tracts. Two clusters of Habitat homes are recent Habitat subdivisions, including a 34-unit subdivision on Paton and Nunley Streets and Sunrise Park subdivision located in the Belmont-Carlton neighborhood.

Habitat Economic Impacts

Like Habitat affiliates elsewhere, the Charlottesville chapter depends on private donations, grants, volunteer labor, and the sweat equity of Habitat partner families to create affordable housing opportunities. In 2013, Habitat received approximately $1.0 million in private donations. Other sources of funds for operations expenditures include revenues from operations such as partner family mortgage payments, rent payments, and Habitat store profits, and grants from federal, state, and local governments and non-profit foundations.

Partner and volunteer labor also play a key role in the success of Habitat. During the year, Habitat enlisted the assistance of 5,138 volunteers and partners that contributed 42,411 hours of labor. The volunteer labor is estimated at 22.1 full-time equivalents and has an estimated economic value of $605,673. Thus, volunteers contributed approximately 42 percent of the labor effort towards Habitat goals.

The Greater Charlottesville Habitat budget in calendar year 2013 was more than $4.3 million. Of this total, an estimated $3.6 million (or 84 percent of total expenditures) were payments made to firms and individuals within the service region. Thirty-nine percent of budget was spent on home construction, 24 percent each on central office operations and rental property management, and 14 percent on the Habitat store. In addition, Habitat directly employed 31 full-time staff and workers during the year.

Habitat spending on local goods and services and payments to employees provide a stimulus to the local economy. This spending has further stimulative effects (also known as a "multiplier effect") that result from the purchases of goods and services and payments to employees. These impacts are estimating using IMPLAN (IMpact analysis for PLANning), an industry standard commercial economic impact model. The economic impact analysis is based on an IMPLAN model

constructed for the Habitat for Humanity of Greater Charlottesville service area using locality specific data for the constituent service area localities.

Economic impact results for 2013 indicate that Habitat operations produce a total labor income impact of $2.291 million, and total industrial output impact of $8.461 million. In addition to the 31 directly employed by Habitat, it indirectly supported 27 jobs in the service region for a total employment impact of 58 jobs. The largest employment impact was associated with central office functions inclusive of administration and all family services such as education and partner family support. However, the largest output impact was caused by housing construction. Habitat impacts can be found in various industries. For example, Habitat spending supported seven jobs in the construction sector, three jobs in professional, scientific, and technical services sector (which includes occupations such as accountants, attorneys, architects, and engineers), three in health and social services and retail trade industries, two in finance and insurance and six total jobs in various other sectors. In addition, the economic activity resulting from Habitat spending was associated with $101,837 state and local tax revenue.

Habitat Property Value Effects

Habitat housing has a favorable effect on neighboring property values. Difference in difference hedonic property regression analysis, which involves controlling for the features, timing, and location of single family and duplex housing, to identify the effect of Habitat proximity on home values, was used for 79 Habitat properties constructed from 1996 to 2013 using sales data from the City of Charlottesville Assessment Office and other sources. Results indicate that properties within 500, 1,000, and 1,500 feet appreciate by an estimated 6.2 percent, 8.7, and 6.6 percent. Consistent with other national affordable housing studies, no effects were found beyond 2,000 feet.

Although the precise mechanism by which this positive effect occurs is unknown, we speculate that this positive effect occurs for several reasons. First, Habitat constructs affordable housing in a way that maximizes the expected positive neighborhood benefits and minimizes the negative effects. Development removes disamenities by dismantling substandard housing or rehabilitating abandoned or poorly maintained lots and constructs new housing and renovates existing structures that result in a new neighborhood amenity. Habitat planners and architects strive to design homes and streets to conform to the style of the surrounding neighborhood and promotes pedestrian and transit oriented development such as transit-connections, open and public spaces, and interconnected grid-like street patterns. Habitat projects create a critical mass of investment that triggers neighborhood revitalization. Furthermore, it creates the conditions for private investment by offering development ready pad sites and working with private developers to construct market rate housing. Mixed income development establishes a diverse mix of tenants and homeowner socioeconomic levels that reduces the threat of income segregation and social stigma. Habitat provides appropriate urban infrastructure to accommodate a denser urban development pattern. Thus, the redeveloped areas are likely to increase population, which may in turn increase nearby commercial activity. Second, Habitat has a strong homeownership component which may create additional beneficial property value impacts by greater neighborhood stability due to lower residential turnover and residents who are more vested in maintaining the quality of their properties and neighborhoods. Third, Habitat property management may have beneficial effects by offering social, educational, recreational, and health care services to its newest tenant and homeowner communities and supports the creation of homeowners associations that may further mitigate any negative effects of low-income housing.

Habitat Family Partner Outcomes

A substantial amount of recent scholarship links new housing and homeownership with life improvements such as increased life satisfaction, greater financial security, human capital accumulation, and better mental and physical health. Improved outcomes have also been found for low-income homeowners. Habitat outcomes are expected to be even more positive because homeowners

move into new or substantially renovated homes that provide a better living environment. Habitat homes also provide an effective savings vehicle for households because of their unique affordable mortgage features and low propensity to default. Since its founding, Habitat has provided zero interest mortgages resulting in a net savings of $8.4 million for its partner families, based on a 5 percent market mortgage interest rate. Habitat may contribute to the social and educational improvement of its partners in various other ways, including participation in Habitat education and training, self-help and other volunteer experiences, and involvement in Habitat sponsored social and recreational activities.

Results obtained from a survey of Habitat partners indicate that they obtain broad benefits from the Habitat experience. One hundred percent of partners reported that the lives of family members had improved at least "a little" and seventy-percent reported that their lives had changed "a lot" or "completely" since becoming Habitat homeowners. Moreover, all but three respondents attribute at least "a little" and seventy-four percent at least "a lot" of the improvement to the Habitat homeownership experience.

Habitat partners also evaluated their neighborhood and community involvement, family life and education improvement, health and personal well-being, and financial progress. Among the various categories, partners rate improvement in their personal and family well-being highest (i.e., feelings of worth, feelings about the future, feelings about children's future, happiness with quality of life, spending quality time with family). They also saw improved child achievement (i.e., going to school, grades) and better household finances (i.e., feeling financially richer, feeling financially secure, feeling financially richer, ability to cover large bills). Respondents generally reported little change in neighborhood and community connectedness (e.g., interacting with groups and neighbors). Partners' assessments of neighborhood problems such as crime, noise, and litter were on average little changed from their previous residences. Lastly, health improvement measured by frequency of doctor visits for householders and family members was generally not different.

Most Habitat partners paid housing costs that were on average similar to their previous residences, in part because many previously received public housing assistance or lived with friends or relatives and because Habitat caps total housing costs at 21-27 percent of gross family income at time of sale. Most reported that their overall financial situations improved. A large portion of their monthly housing costs now represent down payment of principal and growing equity in their new homes. Also, family member sometimes obtained new and better jobs and obtained additional education. Thirty-six percent of partner households had family members who changed jobs. In seventy-two percent of these cases, the family member's job was better than previously. Thirty-five percent of respondents and nearly half of family members had obtained additional training or higher education, including certificates, Associate's degrees, and Bachelor's degrees. Partners were also much less likely to rely on various types of financial assistance such as Food Stamps/Food Assistance, TANF, Medicaid, and Energy Assistance.

Other Habitat Benefits

Charlottesville Region Habitat activities have other benefits. They include increased tax revenues for local government, improved environmental quality, increased housing affordability, avoided displacement costs for residents located in redeveloped areas, and avoided foreclosure costs for partners who might have otherwise had to rely on private mortgage finance.

Habitat housing result in new tax revenues for localities in the service region. As reported earlier, Habitat generated economic activity in 2013 that created an estimated $102 thousand state and local tax revenue impact. In addition, parcels that are redeveloped and rehabilitated properties are assessed at substantially higher values than they were before. For example, Sunrise Park replaced a trailer park assessed at $1.285 million in 2010 and an estimated $12,208 in City of Charlottesville real property tax revenues with a development (at two-thirds build-out) that is assessed at $6.344 million in 2014 and generated estimated real property tax revenue of $60,265. Lastly, Habitat development raises the values of homes within the vicinity. For

Sunrise Park, this property price appreciation is estimated to improve neighboring property values by $3,241,735 and result in an increase of $30,796 in Charlottesville City tax revenue.

The Greater Charlottesville Habitat improves the local environment. It removes older housing and redevelops poorly maintained or polluted land that may contribute to environmental contamination such as heavy metal deposition and volatile organic compounds dispersion that results from building age and exposure, decaying automobiles, household junk storage and unsafe waste material disposal. Moreover, aging and failing septic systems can cause nutrient and chemical contamination of ground and surface water and transmit bacteria and disease. Habitat replaces housing with high-energy consumption due to inadequate insulation and inefficient appliances and HVAC systems with more energy efficient homes. Habitat construction features green building design and its developments adhere to smart growth design principles. In addition, the residents of newer compact clusters may be less likely to endure long commutes from remote locations and may be more inclined to use local public transit which saves on fuel costs and reduces air pollution. The Habitat store also plays an environmentally beneficial role with some of the recycled materials being repurposed for housing renovations rather than disposed of in local landfills.

Greater Charlottesville Habitat activities increase the stock of local affordable housing stock. Lack of affordable housing can place an additional economic burden on low-income residents. Affordable housing has been linked with improving regional economic competitiveness, business attraction, and local economic growth. Employers often cite housing availability and costs as important "quality of life" factors in facility site location decisions. Lack of affordable housing and higher housing costs can also hinder local employment growth.

Habitat households and host communities also avoid the costs associated with foreclosures that occur at much higher rates for private mortgage finance. Although Habitat targets households unlikely to otherwise enter homeownership, some Habitat homeowners may have eventually been eligible for private mortgage finance. However, they might have been at higher risk of default without Habitat partnership. If these future homeowners had then defaulted, they would have created spillover costs for neighborhoods, lenders, and local governments. Foreclosed properties can create physical and social disorder and lower the values of nearby homes. Financial institutions also incur substantial losses during the foreclosure process. Foreclosure can create costs for local governments such as code enforcement, public safety, and legal expenses and lost utility revenue.

Habitat's New Paradigm minimizes residential displacement and its associated economic and social costs. Displacement often occurs when urban renewal, re-gentrification of older housing districts, and infill housing development displaces existing, often low-income residents. Displaced residents experience time costs searching for replacement housing and financial costs of moving , higher monthly housing costs at their new location, and experience social dislocation costs that arise from losing close access to friends and family, social activities, and informal economic relationships such as babysitting. These costs are estimated to be in the thousands of dollars per household, with costs varying by size of household, length of tenure, and moving costs. Habitat estimates that the case management and housing cost savings for the 400 low-income families who will remain at its Southwood Park redevelopment site will be as much as $21.4 million over a 54 month period.

INTRODUCTION

Habitat for Humanity of the Greater Charlottesville Region (hereafter referred to as "Greater Charlottesville Habitat or "Habitat") is a non-profit organization whose mission is to "create simple, decent, affordable housing in partnership with low income families and the communities of Greater Charlottesville." Since the early 1990s Habitat has helped more than 140 local, low-income* families build and purchase homes and has several new subdivision projects in the acquisition, planning and development stages. In addition, it owns and operates a 346-unit trailer park that is home to more than 1,500 individuals.

After 25 years, it is time to take stock of the progress made, identify the features of the new investments, and assess their impacts on family partners, neighborhood revitalization, the Charlottesville region's economy and in other areas. This study analyzes such information using several methodological tools and draws from a variety of sources, including Habitat reports and literature, Habitat financial and partner assistance records, local real estate assessment files, surveys of partners, and scholarly literature to develop a comprehensive picture of Habitat effects.

This study is divided into five sections. The first section describes characteristics of the Charlottesville region housing market and the mission, service area, and programmatic features of the Greater Charlottesville Habitat. It also assesses how the Habitat housing development approach has changed over time and exhibits best practices vis-à-vis selecting, nurturing and sustaining low-income homeowners. The second section provides a regional economic impact analysis of Habitat self-help housing construction and operations. This section uses an input-output analysis tool called IMPLAN in combination with Greater Charlottesville Habitat financial data to quantify the economic spinoff effects of Habitat spending in the region. The third section examines the effect of Greater Charlottesville Habitat construction on nearby property values. The section utilizes information from the Charlottesville Computer-Assisted Mass Appraisal (CAMA) database and difference-in-difference hedonic property regression to help identify the Habitat contribution. The fourth section evaluates the effect of Habitat programs on the welfare of partner families. This section relies on survey data collected from 81 Habitat partner respondents who provided self-assessments of changes in their wellbeing since becoming Habitat homeowners. The fifth section discusses other potential benefits of Habitat activities and program features. These benefits are organized into the categories of fiscal benefits, environment, housing affordability, residential displacement avoidance, and foreclosure cost avoidance.

* Low-income residents of the community earn between 25 and 60 percent of the area median income, or about $18,000 to $45,000, depending on family size.

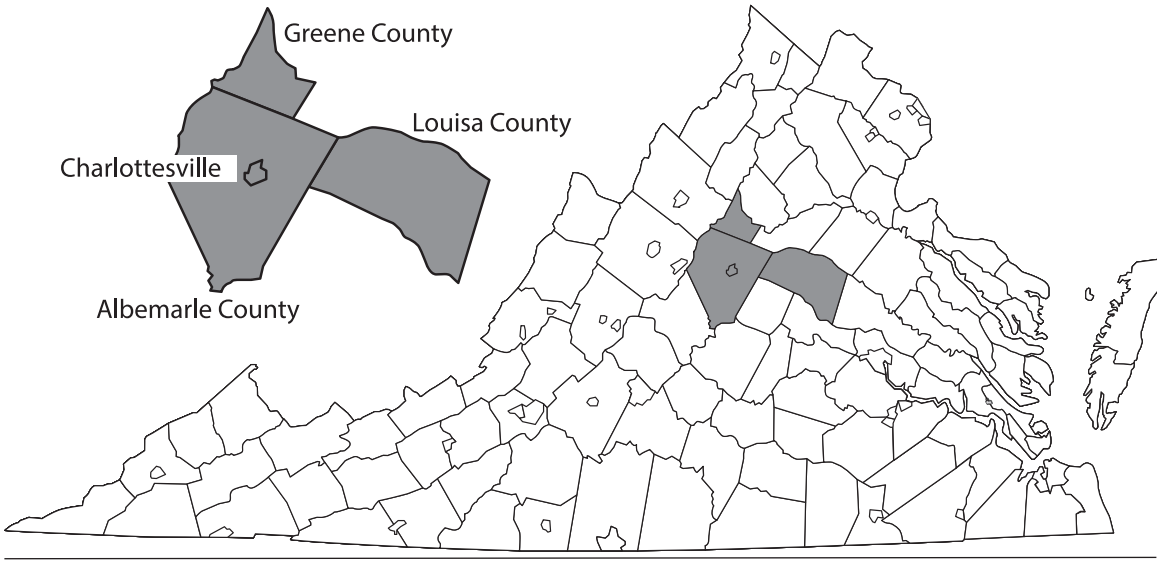
SECTION 1
HABITAT SERVICE AREA, PROGRAM, PARTNER AND HOUSING CHARACTERISTICS

The Greater Charlottesville Habitat started building homes in 1991. Its service region consists of the City of Charlottesville, Albemarle County, Greene County, and Louisa County (see **Figure 1.1**). It has also built homes in Buckingham County. Since opening its doors, it has sold homes to more than 140 low-income families currently provides affordable housing to over 2,000 low-income residents in either owner-occupied or rental housing within the region. The escalation of local housing costs and declining affordability for lower income residents has increased the need for affordable housing programs like Habitat. In response, Habitat has scaled up its efforts and adopted several novel program features that have increased its impact. This section examines characteristics of the local housing market, the Habitat model for housing affordability and comparison to best practices, and partner family and housing characteristics.

Service Area Housing Market Characteristics and Trends

During the last decade, housing has became more unaffordable as measured by the percentage of renters paying more than 30 percent of household income in rent (Joint Center for Housing Studies 2013; Quigley and Raphael 2004). At the national level the problem has been exacerbated by several factors including: (a) lagging incomes of lower-skilled workers due to increased competition from low-cost global industry, increased industry education and technology demands, and labor market structural changes, (b) demographic changes such as an higher influx of immigrants and movement of baby boomers into retirement, (c) the huge run-up in housing prices that accompanied the housing bubble, (d) declining federal government support for affordable housing and social insurance programs, (e) stricter land use regulations, and (f) improvements in housing quality that command higher market prices (Quigley and Raphael 2004).

Figure 1.1 Habitat for Humanity of Greater Charlottesville Service Area



At the local level, the Charlottesville region appears to have a greater affordability problem than either the Commonwealth of Virginia or country at large. According to the Coalition for Housing Opportunity, one-third of Thomas Jefferson Planning District (consisting of the City of Charlottesville, and the counties of Albemarle, Greene, Louisa, Fluvanna and Nelson) households spent more than 30 percent of their income on housing in 2007-2011, with 14 percent of households spending more than 50 percent. More recent affordability data from the U.S. Census Bureau presented in **Table 1.1** indicates that the affordability problem is most pronounced in the City of Charlottesville with 43.9 percent of households spending more than 30 percent of their income on housing compared to 34.8 percent in the Habitat service region. Nearly 85 percent of households making less than $20,000 in the Habitat service region during the period 2008-2012 had housing costs equal or greater than 30 percent of household income compared to 79.5 percent for Virginia residents and 82.3 percent for U.S. residents. A higher share of service area residents in the $20,000 to $34,999 and $35,000 to $49,999 income categories also paid 30 percent or more in housing costs compared to the state and nation.

Several explanations can be offered for lower measured affordability in the Charlottesville region for lower-income residents. First, a large and expanding pool of students attending the University of Virginia occupy rental housing in the region. During the 2005-06 academic year, UVA student renters occupied an estimated 6,064 rental units or 53 percent of the City of Charlottesville rental stock (Cavell et al. 2006). Since most of these students have external sources of support that may not be reflected in household income (e.g., family support, grants, scholarships, and loans), they may artificially inflate this measure of housing unaffordability. When students are removed from the Charlottesville household count, the percentage of residents paying more than 30 percent of household income in housing costs drops substantially. Using more recent data, the Workforce Development Strategic Action Team Report to City Council (2013) estimates that the percentage drops from 45.4 percent of all households to 22.6 percent. Second, over the last

Table 1.1 Percentage of Households with Housing Costs 30 Percent or More of Household Income in Past 12 Months

	Albemarle County	Greene County	Louisa County	Charlottesville City	Service Region	Virginia	United States
Owner-occupied housing units:	25.8	30.2	26.5	27.5	26.7	29.8	28.2
Less than $20,000:	78.4	84.6	60.2	77.9	73.1	69.0	73.1
$20,000 to $34,999:	47.9	51.1	51.3	49.0	49.3	47.8	49.5
$35,000 to $49,999:	42.7	49.3	44.0	47.0	44.8	42.3	39.5
$50,000 to $74,999:	31.3	35.8	17.6	28.4	28.0	32.8	28.3
$75,000 or more:	12.2	8.3	7.9	8.1	10.5	13.5	12.3
Renter-occupied housing units:	47.8	54.0	41.8	56.7	50.9	52.1	49.7
Less than $20,000:	97.3	100.0	89.5	90.3	93.0	87.9	88.5
$20,000 to $34,999:	79.7	95.3	59.8	84.4	80.9	76.2	71.2
$35,000 to $49,999:	51.7	42.8	27.0	51.0	49.0	50.1	39.1
$50,000 to $74,999:	17.4	16.9	0.0	16.9	15.6	27.9	18.7
$75,000 or more:	4.2	0.0	4.0	4.4	4.0	7.0	5.3
Total housing units:	32.8	34.7	29.2	43.9	34.8	37.1	34.8
Less than $20,000:	88.6	88.9	70.0	88.2	84.9	79.5	82.3
$20,000 to $34,999:	63.6	68.5	53.7	73.2	65.1	60.5	59.4
$35,000 to $49,999:	47.3	47.7	41.2	49.5	46.6	45.4	39.4
$50,000 to $74,999:	25.8	32.6	14.8	22.3	23.6	31.3	25.5
$75,000 or more:	11.1	7.7	7.5	7.0	9.5	12.4	11.3

Source: U.S. Census Bureau, American Community Survey, 2008-2012, Table B25106

fifteen years, the rate of housing price appreciation in the Charlottesville metropolitan area and Virginia markets has outpaced the national rate (see **Figure 1.2**). The reasons for the Charlottesville difference is not entirely clear, but it may in part reflect the presence of significant cultural and scenic amenities that are capitalized into local property values. Relatively hilly and mountainous terrain and restrictive land use regulations may also increase housing prices by constraining housing supply responsiveness to housing demand changes relative to other areas (Saiz 2010).

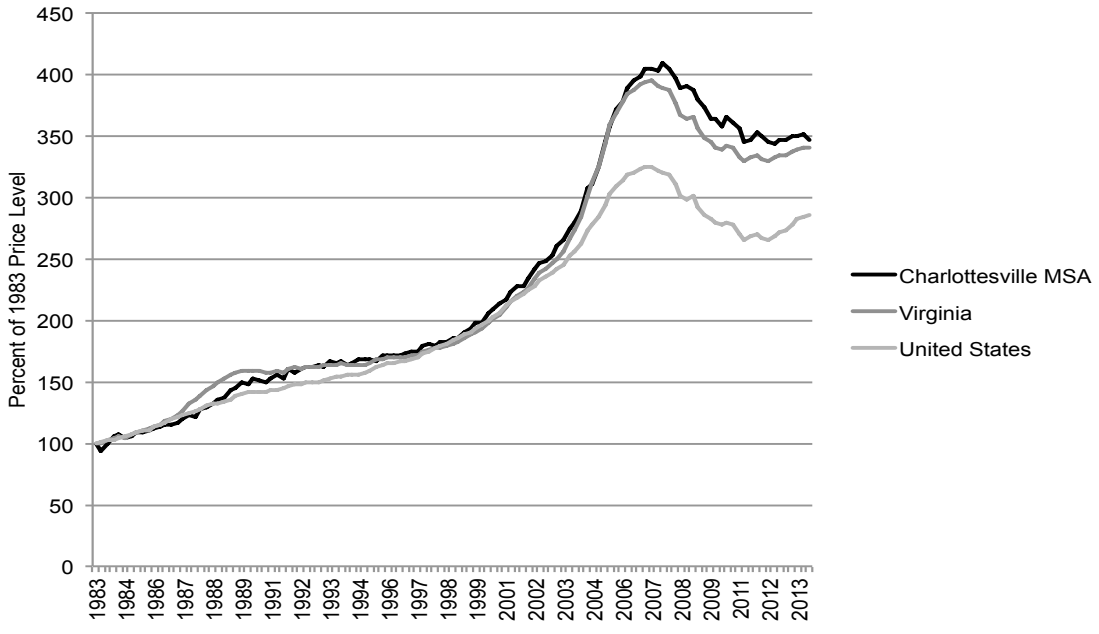
Lack of local affordable housing may have a detrimental effect on residents in several ways. First, low-income workers may need to endure long commutes to find more affordable housing options in outlying communities. These longer commutes are linked with health problems such as obesity and contribute to lower quality of life by restricting leisure and family time. Second, some may respond to the housing challenges by overcrowding tenements, renting sub-standard housing, or becoming homeless. Third, spending on transportation and housing displaces spending on other goods and services, including education and health care.

Habitat Program Features

Building Strategy

Greater Charlottesville Habitat began in the early 1990s by building individual single-family homes on vacant lots and remodeling older homes on scattered sites located throughout the service region. In recent years, it has moved to building subdivision-sized developments and sponsoring "building blitzes" that involve brief periods of intensive home construction, practices adopted by other larger Habitat chapters elsewhere in the nation (Smith 2013).

Figure 1.2 Housing Prices, Charlottesville Metropolitan Area, Virginia, and United States, 1983-2014



Source: Federal Housing Finance Agency

A clustered building strategy has several advantages over diffuse housing construction. It:

1. Lowers costs by creating construction economies of scale. These economies result from improved management and coordination of laborers and volunteers, lower costs of supplies procured in bulk quantities, and reduced costs of transporting supplies and equipment (Smith 2013).
2. Facilitates the building of social capital by creating a community of residents with similar experiences. Habitat's practice of forming homeowner associations and facilitating a year-long "Good Neighbor" program can further assist residents in building connections with neighbors (Applied Real Estate Analysis, Inc. 1998).
3. Builds a critical mass of residents that enables housing to serve as a "platform for opportunity" by providing support services for employment, recreation, health, etc.
4. Provides residents with an increased level of comfort and security and helps them be more likely to feel positive about their neighborhoods. (Applied Real Estate Analysis, Inc. 1998)

Greater Charlottesville Habitat has fused the clustering building strategy with other planning and design practices to create what it calls the "New Paradigm." The new subdivisions revitalize and redevelop previously substandard areas such as aging trailer parks. Habitat makes a concerted effort to retain existing residents and uses a community engagement process that involves appreciative inquiry, neighborhood surveys, focus group discussions, and community design charettes to involve residents in planning their new neighborhoods. It is also rebuilding the areas as mixed income neighborhoods that provide a variety of housing styles (e.g., single family homes, duplexes, row-houses, condominiums, and apartment buildings) that blend in with and enhance the architectural styles of the existing neighborhoods. Habitat houses feature universal design to accommodate disabled and senior residents and utilize green building practices such as EarthCraft certification, Energy Star appliances, and programmable thermostats for energy savings. Pervious roads and sidewalks aid in storm-water management. Subdivisions include formation of homeowner associations and the provision of family recreation, health and social services on site. Through the "New Paradigm", Habitat has played a local leadership role in demonstrating the feasibility of mixed income housing, green building, and universal design to other public and social housing agencies and the private development community.

Partner Family Selection and Retention

Habitat operates according to the guiding principle of a "hand up instead of a hand out" and views program participants as "partners" rather than clients because the Partner Families assume substantial responsibility for and use their own sweat equity to improve their housing situation and economic prospects. It also endorses an asset-based approach that recognizes that partners have undiscovered talents and capabilities that can be utilized and developed. It cultivates these skills by providing training, education, and individual counseling in areas such as personal and housing finance, housing maintenance, home safety, and community engagement.

Applicants are identified through a rigorous selection process to determine those most at need[1] and at the same time most able to assume homeownership responsibilities. They must complete a formal written application and provide documentation including income tax returns, pay stubs, bank statements, utility bills, proof of work authorization, bankruptcy discharge papers and schedule of debts, and proof of public housing or housing voucher.[2] Habitat then orders a credit

1 Since demand and the number of qualified applicants far out-strip the available supply (i.e., the capacity of Greater Charlottesville Habitat to secure funding and build homes), applicants are prioritized based on need as follows: homeless or living in transitional housing, substandard or overcrowding housing, high crime neighborhoods, public or private subsidized housing or who are receiving a housing voucher.

2 Applicants must meet certain requirements. They must have acceptable credit ratings, workable debt-to income ratios, household incomes between 25-60 percent of Area Median Income (AMI), have stable and documentable incomes, be residents of the area for at least one year, and have U.S work

report for the household to verify their eligibility. Applicants who pass a financial interview receive home visits and must indicate a willingness to provide sweat equity (dedicating between 200 and 500 hours to helping to build their own, and other partner families houses), attend classes and sessions with credit and housing counselors, participate in partnership and Good Neighbor meetings once a month, and pledge to responsibly maintain their new home.

Habitat uses a different selection process than conventional mortgage financers. For example, conventional mortgages usually require down payments of 20 percent of home cost or regular personal mortgage insurance (PMI) payments to cover the amount of down payment in the event of default. These payments represent a form of "skin in the game." A Habitat partner family demonstrates "skin in the game" by their willingness to provide the sweat equity and stay current with their monthly mortgage payments. This model makes homeownership projects work with less capital and income.

The typical Charlottesville Region Habitat partner's cash down payment amounts to just one percent of property value or less. Although even small down payments reduce the likelihood of default (Green, Painter and White 2012), Habitat relies on supplemental selection criteria. In addition to credit reports and financial ratio computations, this information includes assessments of the character of the applicant, a requirement of invested "sweat equity," and mandated completion of education, training, and counseling modules to improve applicant financial planning, money management, and homeownership skills.

Habitat has a successful track record of retaining homeowners. Most of the exits from the program can also be regarded as successes. Since Charlottesville Region Habitat started, two homeowners sold their homes on the open market, one homeowner resold his home to Habitat, and three homeowners have paid off their mortgages. Of the one hundred and thirty Habitat family partners over the period 1991-2013, only four foreclosures occurred for a total default rate of 3.1 percent.[3] Moreover, the 60-90 day delinquency rate is almost always less than 10 percent and is usually at about 3 percent.

Greater Charlottesville Habitat partners maintain low default for several reasons. First, Habitat works with families who demonstrate a willingness to partner and provides training to improve their financial skills and ability to manage homeownership responsibilities. Second, housing construction costs are reduced through contributions of material, labor and land by businesses, foundations, non-profit organizations, and individuals. Third, zero interest mortgage amortization reduces monthly housing costs below what would otherwise be possible. Fourth, Habitat holds a second mortgage equivalent to the difference between the home appraisal value and first mortgage. This second mortgage is fully forgiven after the amortization period. This financial bonus provides an additional incentive for partners to stay current on their payments and remain in their homes. Fifth, most Habitat homes are newly constructed and have energy saving features such as Energy Star appliances and insulation, which lower initial maintenance and utility costs. Sixth, homeowners are better able to minimize home maintenance costs by utilizing skills and knowledge gained through Habitat training and "sweat equity" construction experiences, reducing the need for paid

authorization. The affiliate recently introduced a two-phase program for those who are not able to qualify because of poor credit histories. It provides follow-up counseling and financial literacy training to enable these applicants to repair their credit and thus improve their eligibility prospects.

3 This rate is slightly higher than a reported national Habitat foreclosure of approximately two percent (Applied Real Estate Analysis, Inc. 1998) and a national rate of 2.66 percent reported for all low-income homeowners (less than 60 percent of Metropolitan Statistical Area median income) in an earlier study (Van Order and Zorn 2000). However, most of the households in that sample had much higher equity levels at loan origination. For comparison groups with loan to value ratios at origination of 91-95 percent, the default rate was 7.91 percent. Moreover, the comparison data are based on loans originating from 1975 through 1983 and tracked through 1992. In all likelihood, these foreclosure rates rose after the housing bubble rupture and ensuing foreclosure crisis. The housing crisis hit lower-income, sub-prime mortgagees particularly hard but up-to-date information using a more recent cohort comparable to the local Habitat partners is not available.

assistance. Seventh, Habitat continues to play a role in the success of partners after they occupy their homes. Habitat holds a small amount of the monthly mortgage in a maintenance escrow account that helps to offset the costs of unexpected maintenance emergencies such as HVAC failures and roofing repairs. Moreover, Habitat will work with partners who experience economic crises due to employment or health problems.

Comparison to Low-Income Home-ownership Best Practices

Low-income housing ownership and homeownership initiatives have come under closer scrutiny, especially after the implosion of the housing market and high foreclosure rates that resulted from defaults caused partly by high-risk sub-prime mortgages, lax underwriting standards, and aggressive financial institution recruitment of low-income consumers (Shlay 2006). Some question whether homeownership is sustainable and produces long-term financial benefits for low-income populations. They argue that low-income homeowners are often not prepared to be homeowners, that housing and maintenance costs are highly variable and can be particularly burdensome to low income households, and that low-income households may be more vulnerable to financial distress triggered by crises such as job loss, health problems, and divorce. Moreover, homeownership alone seems unlikely to overcome more deeply entrenched and systemic social and economic impediments to economic success. Some low-income housing programs have been criticized for displacing even lower income residents or for causing low-income homeowners to be further segregated in residential enclaves. Low-income homeownership programs have also been described as faulty or economically inefficient. For example, Collins (2014) argues that many federal homeownership programs and policies are too small, untargeted, ineffective, administratively costly, or not optimally designed to maximally leverage community and homeowner impacts and minimize default risk.

Criticisms of low-income homeownership and other homeownership programs are not especially pertinent to Habitat because it produces both low default rates and high homeowner satisfaction (see **Table 1.2**). Indeed, it addresses and attempts to ameliorate nearly every plausible obstacle to low-income homeownership success identified in the literature. These impediments include homebuyer education and financial literacy, high ownership costs due to sub-optimal mortgage terms and high maintenance costs, and household crises that interrupt payment continuity (Herbert and Belsky 2008). Programs can promote success by targeting pre-purchase education and counseling, maintenance education, affordable finance terms, maintenance escrow, and loss mitigation. In each of these areas, Habitat has program features that exhibit best practices. Indeed, more federal, state, and local housing programs are adopting features of Habitat programs. Many programs now provide prospective homeowner counseling and training, down-payment assistance, and mortgage-interest rate subsidies (Applied Real Estate Analysis, Inc. 1998). For example, the federal Home Investment Partnerships Program (HOME) provides home purchase counseling, down payment and closing cost assistance, low interest mortgages and subsidized development costs (Schwartz 2010). The federal Self-Help Homeownership Opportunity (SHOP) Program, created in 1996, provides funding to non-profit programs that require homeowners to contribute “sweat equity” in the building of their homes (Smith 2013).

Habitat Partner and Housing Characteristics

The Charlottesville Habitat chapter has served 140 families. **Table 1.3** shows selected household characteristics of 69 current partners for which full applicant demographic data is available. Approximately 75 percent of Habitat partner households have incomes within the range of $20,000 to $34,999, which places them in the lower third decile of service area households. The mean partner household income is $28,594 compared to a service area average of $82,404, which places

Table 1.2 Criticisms of Affordable Housing Programs and Habitat Program Features

Criticism	Habitat Features
Low-income household homeownership is unaffordable or unsustainable.	(1) Selection criteria identify motivated households willing to enter into partnership. (2) Partners receive homeownership and personal finance training that further builds success. (3) In-kind contributions, volunteer labor and cash donations bring down cost of first mortgage payments. (4) Home maintenance and utility costs are reduced by new housing quality and energy efficiency features. (5) Home maintenance cost lumpiness is smoothed with escrow account. (6) Homeowners learn home maintenance skills through "sweaty equity" program features that reduce costs of maintenance. (7) Habitat works with homeowners in crisis to restructure mortgages. (8) Partners earn a zero interest first mortgage on a note that is indexed to their ability to pay at the time of purchase. Even as their income rises, their payments stay the same. (9) Habitat works with partners to provide low-interest and/or forgivable subordinate mortgages. (10) Habitat provides a final, forgivable mortgage that dissolves over time, earning families equity simply by staying in and caring for their homes.
Scattered type housing causes resident isolation.	Habitat housing is constructed increasingly in clustered developments built in partnership with their neighbors.
Clustering of low-income residents causes ghettoization.	(1) New subdivisions replace substandard housing enclaves such as older trailer parks. (2) New subdivisions include mix of market rate housing. (3) Habitat development raises neighborhood property values (see Section 3). (4) Habitat families take "good neighbor training," helping them develop skills to get involved in the larger community.
Existing low-income residents are displaced by redevelopment.	(1) Habitat reincorporates existing residents in new owner-occupied or rental housing. Their payments generally stay the same or go down even as they move into new, energy-efficient homes. (2) Existing residents are encouraged to participate in all aspects of neighborhood design and governance to create the new community that meets their needs.
Housing doesn't solve systemic economic and social problems of low-income households.	(1) Homeownership program targets households most likely to be helped by homeownership. (2) Habitat subdivisions foster sense of community through homeowner associations, good neighbor training and neighborhood events. (3) New subdivisions incorporate family recreational, health and social services. (4) Habitat self-help experience and training imparts economic and social problem-solving skills. (5) Habitat program stimulates local economy (See Section 2). (6) Habitat homeownership and new housing lead to positive economic and social outcomes (see Section 4).
Homeownership programs have faulty designs and are inefficient.	(1) Habitat program has sufficient scale to serve many local first-time low income households. (2) Habitat targets only low-income buyers. (3) Most Habitat partners were unlikely to own without Habitat assistance. (4) Habitat has efficient administration. (5) Habitat recaptures purchase subsidy if homeowners sell early and imposes covenants that restrict renting. (6) Habitat New Paradigm seeks to revitalize distressed neighborhoods and leverage private investment. (7) Habitat seeks to lower loan default risk through program design. (8) Habitat has the right to purchase homes of Habitat partners who need to move or sell because of employment opportunities and household changes.

Table 1.3 Characteristics of Habitat Partners* Compared to Service Area Population

Characteristic	Habitat %	Service Area %
Household Annual Income		
Total:	100.0	100.0
Less than $10,000	0.0	8.0
$10,000 to $14,999	1.4	4.1
$15,000 to $19,999	5.8	3.6
$20,000 to $24,999	30.4	4.3
$25,000 to $29,999	30.4	4.7
$30,000 to $34,999	14.5	4.7
$35,000 to $39,999	5.8	4.6
$40,000 to $44,999	4.3	4.6
$45,000 to $49,999	5.8	4.3
$50,000 or more	1.4	57.2
Average Household Income	$28,594	$82,404
Household Size		
Total:	100.0	100.0
One	14.5	29.4
Two	14.5	35.9
Three	26.1	15.1
Four	24.6	12.1
Five	7.2	5.2
Six	7.2	1.4
Seven or more	5.8	0.9
Average Household Size	3.4	2.5
Race/Ethnicity**		
Total:	100.0	100.0
Other	0.0	2.6
Asian or Pacific Islander, non-Hispanic	2.9	3.8
Hispanic or Latino (of any race)	13.0	4.6
Black, African-American, non-Hispanic	39.1	13.0
White, non-Hispanic	44.9	76.0

Source: Habitat for Humanity for Greater Charlottesville; U.S. Census Bureau, American Community Survey, 2008-2012

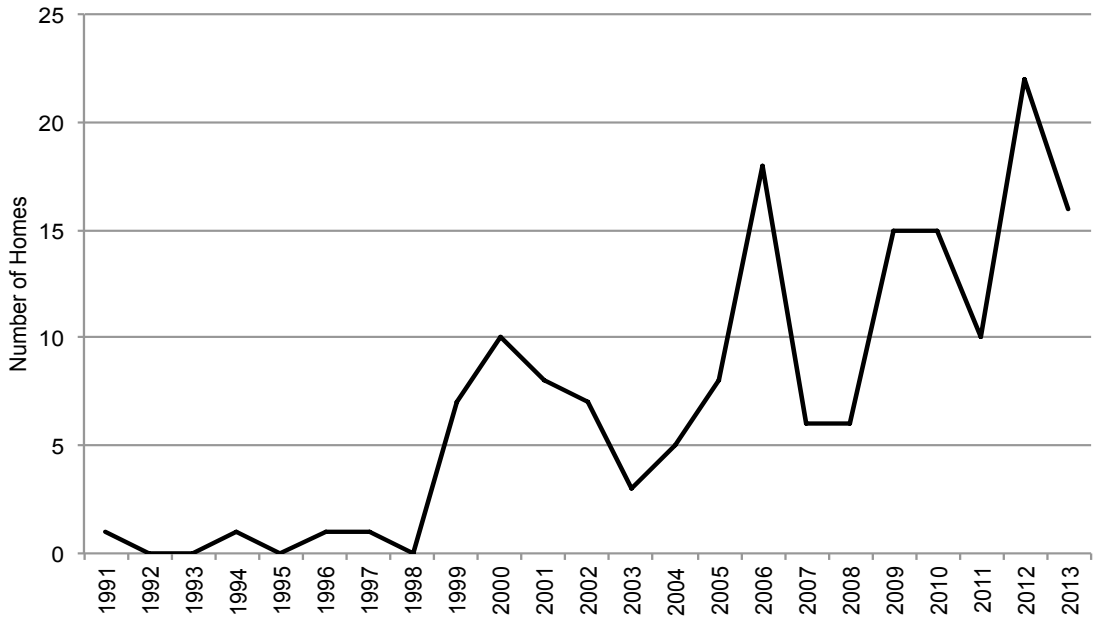
* Includes only 69 Habitat partners with closing dates between 12/06 and 11/13

** Habitat race/ethnicity is based on householder count. Service area race/ethnicity is based on resident population count.

it at 35 percent of the area mean income. Habitat households are also, on average, larger than service area households. The average Habitat household has 3.4 persons compared to a service area average of 2.5. Finally, Habitat householders are more likely to be members of an ethnic minority than service area residents. Black/African American householders make up 39.1 percent of partners and Hispanic/Latinos consist of 13.0 percent. These figures compare to 13.0 percent and 4.6 percent respectively in the service region.

The Greater Charlottesville Habitat has built and remodeled 160 homes from 1991 to 2013. As **Figure 1.3** indicates, the volume of construction activity has been trending upward since the start of the last decade because of housing clustering and "building blitzes." This trajectory is projected to continue upward with the assembly of a large land bank of vacant land and substandard housing tracts and adoption of a new "Project 20" initiative in which Habitat has committed to building at least 20 Habitat homes each year.

Figure 1.3 Habitat Home Construction by Year



Source: Habitat for Humanity of Greater Charlottesville

Of the 120 current Habitat partner owned housing units built between 1991 and 2013, seventy-nine (66 percent) are located within the City of Charlottesville, 24 (20 percent) are in Albemarle County, 13 homes (11 percent) are in Louisa County, and 4 (3 percent) are in Greene County. **Figure 1.4** shows a graduated symbol map where each dot size is calibrated to represent the number of Habitat homes constructed within the census tract. Aside from Charlottesville, the Esmont area in Albemarle and eastern Louisa County have received more than 10 housing units.

Within the City of Charlottesville, Habitat housing units can be found in eight of twelve census tracts (see **Figure 1.5**). Two clusters of Habitat homes are in recent Habitat mixed-income subdivisions. The first is located in the Fifeville neighborhood on Paton and Nunley Streets, a 34-unit subdivision which includes 22 partner homes. The neighborhood, completed in 2011, contains 12 single family detached homes, 16 single family attached housing units, two workforce housing single family attached homes, a group home, and a four unit apartment building. The Sunrise Park subdivision is located on the site of a former 16-unit trailer park in the Belmont-Carlton neighborhood. It consists of 22 partner homes, including 16 single family attached homes built in 2012 and 2013 and six condo units. It also features 14 owner-occupied market rate single family homes and pads plus a parcel for up to 18 more market rate units. A 16-unit apartment building contains six partner condos and 10 affordable rentals. When built out, the neighborhood will feature up to 66 units, with roughly half of them market rate units, and the rest either workforce affordable (25-60 percent of AMI) or deeply affordable (less than 25 percent AMI).

As part of the New Paradigm Habitat is either in the process of developing or building in several additional subdivision projects. They include Burnet Commons II: The Woods, a 50-unit mixed-income development by Southern Development Homes near Cherry Avenue that began construction in 2013 and Burnet Commons III, a 46 unit mixed-income development built on a fully remediated former City dumping ground that will contain 18 Habitat homes, 28 market-rate homes, potentially a group home for adults with special needs, and a pre-

Figure 1.4 Geographical Distribution of Habitat Homes in Service Area by Census Tract

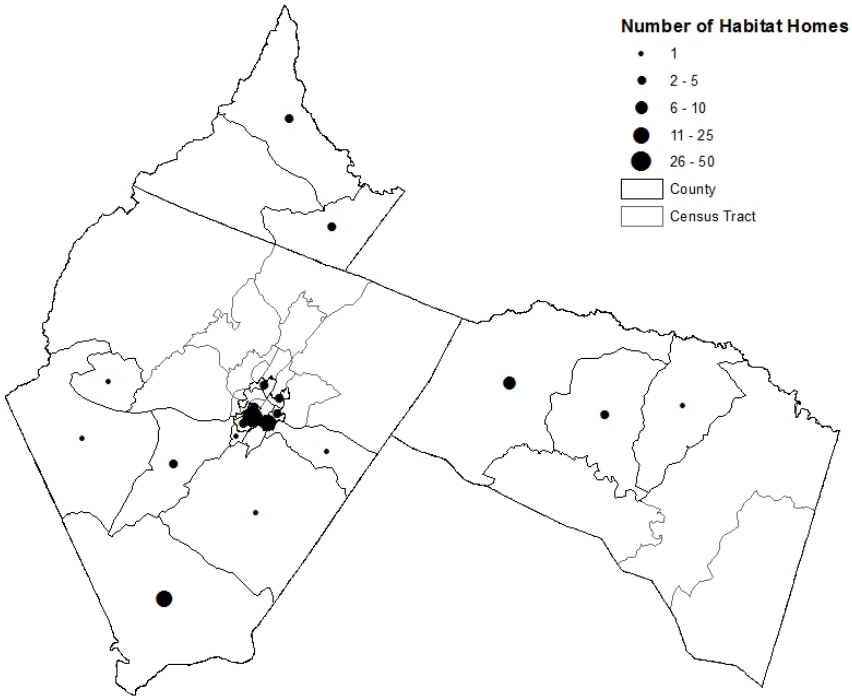


Figure 1.5 Geographical Distribution of Habitat Homes in City of Charlottesville

school at Elliott Avenue that will begin construction in 2014. Belmont Cottages, a 15-unit mixed-income development on Avon Street is slated to be complete in summer 2014. And Harmony Ridge, a 14 unit mixed income development on 5th Street is scheduled to begin in early 2015. The three projects near the Ridge/5th/Cherry Intersection will yield 110 homes (33 of them affordable Habitat family partner homes).

The largest future local Habitat undertaking is the Southwood Mobile Home Park project, a 100-acre site currently occupied by 346 trailers and approximately 1,500 residents located south of Charlottesville that was purchased in 2007. Greater Charlottesville Habitat has spent the last several years rehabilitating the site to reduce its and the residents' costs and improve quality of life by upgrading the electrical grid and sanitary sewer system. It also converted a run down commercial building into a neighborhood center, and provides the Charlottesville Boys and Girls Club free rent to run afterschool programming for approximately 120 neighborhood children. Redevelopment of the site is currently in the planning and design stage.

Habitat often constructs or rehabilitates housing in areas that contain substandard housing, such as

Table 1.4 Characteristics of Greater Charlottesville Habitat Build Census Tracts to Service Region

Characteristics	Habitat Tracts	Service Region
Race/Ethnicity		
Black (%)	26.3	13
Hispanic (%)	5.6	4.6
Educational Attainment		
H.S. Graduate or GED (%)	82	87.6
College degree (%)	33.6	42.3
Economic		
Unemployment Rate	7.1	5.2
Mean Household Income	$62,437	$82,403
Housing		
Vacancy Rate	9.5	12.5
Owner-occupied housing units (%)	55.3	63.6
Single-detached (%)	60.1	66.6
Manufactured housing (%)	3.7	5.1
% of Housing Constructed Before 1970	43.8	29.0

Source: U.S. Census Bureau, American Community Survey, 2008-2012

Habitat census tracts are weighted by number of Greater Charlottesville Habitat owner-occupied housing units in census tract.

older trailer parks, and blighted or vacant property. Thus, build areas are slightly different from the service region at large. **Table 1.4** compares selected economic, housing, and demographic characteristic of Habitat census tracts to the service region. Results indicate that the census tracts with clusters of Habitat homes tend to have more older housing, lower proportions of owner-occupied and single detached housing units and a lower vacancy rate (which may indicate the absence of seasonal housing or vacation homes). The Habitat mixed-income model addresses the fact that these census tracts on average have lower educational attainment, higher unemployment rates, lower mean household incomes and higher percentages of racial/ethnic minorities.

SECTION 2
LOCAL ECONOMIC IMPACTS

This section presents an economic impact analysis to quantify the economic impact of the Greater Charlottesville Habitat in the Greater Charlottesville Habitat service region (i.e., City of Charlottesville, Albemarle County, Greene County, and Louisa County). For this study, Habitat spending made on local goods and services is counted as a direct injection into the local economy and this initial injection has further stimulative effects that result from the purchases of goods and services and payments to employees. The stimulus causes a "multiplier effect" that results when money is re-spent in the local economy. The section estimates the employment, labor income, output, and state and local government revenue impacts of Habitat operations. Results show that Habitat's impacts in 2013 were 58 jobs, $2.291 million in labor income, $8.461 in total industrial output and $101,837 in state and local tax revenue.

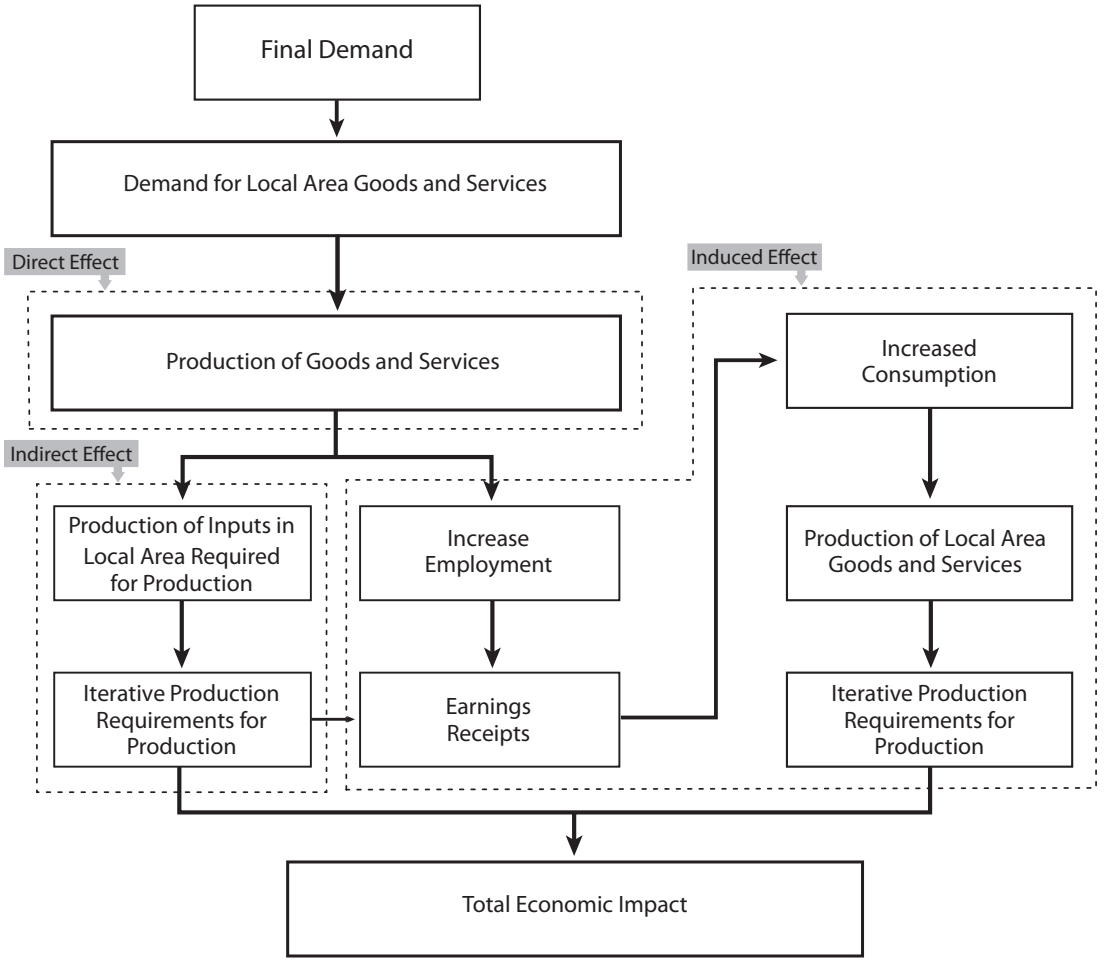
Economic Impact Methodology

This study uses IMPLAN (IMpact analysis for PLANning), an industry standard input-output model that has been used in many economic impact studies, including several studies for Habitat for Humanity chapters located elsewhere in the nation (Hendershot 2010; Holloway, Jamal, and Joubert 2011). The economic impact analysis is based on an IMPLAN model constructed for the Habitat for Humanity of Greater Charlottesville service area using locality specific data for the constituent service area localities.

Input output models are based on input-output tables, which show flows of purchases and sales among sectors of the economy (Miller and Blair 2009). Economic multipliers are derived from these tables. These multipliers allow one to measure the total impact of Habitat expenditures on the local economy. The total impact of this activity consists of three parts, a "direct effect," "an indirect effect," and an "induced effect" (see **Figure 2.1**). The "direct effect" consists of Habitat expenditures. The "indirect effect" measures the cumulative change that results from Habitat good and service input purchases including subsequent rounds of firm good and service purchases needed to supply other producers. For example, Habitat purchases electrical services from Charlottesville area contractors, which causes an additional "ripple effect" on the local economy when money is re-spent by these contractors on tools, supplies, business services and other goods and services from local businesses. These businesses spend a portion of their sales revenues on their supplies and services from other local firms who, in turn, purchase a portion of their supplies and services from other local firms. This cascading sequence of spending continues until the subsequent rounds of spending dissipate due to leakages in the form of saving or spending outside the area. The sum of these cascading rounds of inter-industry purchases constitutes the "indirect effect." The final component of total impact (the "induced effect" or "induced impact") is attributable to the spending of households as a result of employee compensation. These households purchase goods and services from area firms who in turn receive a portion of their labor, material and service inputs from within the region. Again leakages occur at each round due to purchases of goods and services outside the state. The "induced effect" is the sum of the industry impacts associated with these household purchases.

The first stage of estimating economic impact was to convert Habitat operational expenditures into local final demand by accounting for initial spending leakages outside the area. Habitat provided information on its expenses for different functions and estimated the percentage of local payroll that went to service area households and percentage of supplies and services purchased from service area contractors and businesses for major categories of spending. The next stage involved mapping the expenditures onto the appropriate IMPLAN sector. Local expenditures were modeled in IMPLAN by a method called "Analysis-by-parts" (ABP). This method separates the modeling into two tasks: modeling the purchase of goods and services from local firms as an expenditure for IMPLAN industries and the payment of wages and salaries

Figure 2.1 Economic Impact Diagram



as an increase in local resident labor income. The third stage involves running the IMPLAN model and generating the economic impact results.

Results are presented for three different economic measures: employment, labor income, and total industrial output. Also, a government fiscal impact measure is estimated for state and local revenues. Employment includes both full-time and part-time employment. Labor income represents flows to workers and business owners in the form of employee compensation and proprietary income. Total industry output is the total value of industry production during a period. It measures sales of intermediate inputs for use in production as well as sales of products to final consumers. State and local tax revenues include taxes, fees and fines, and charges for service.

Habitat Financial and Employment Data

Table 2.1 shows Habitat expenditures for the 2013 calendar year. Total expenditures amounted to slightly more than $4.3 million with 39 percent spent on home construction, 24 percent each on central office operations[4] and rental property

4 The segregation of central office operations from other Habitat operations is done to simplify accounting and make it easier to identify the marginal contribution of each additional activity. The Habitat Central Office provides administrative support services for Habitat rental, store, education, and construction activities.

Table 2.1 Habitat Expenditures by Function, 2013

Category	Central Office	Rental Properties/ Property Management	Habitat Store	Housing Construction	Total
Payroll	$529,327	$202,992	$210,842	$221,232	$1,164,393
Facility					
Building cleaning, janitorial	$742	$974	$0	$0	$1,716
Building maintenance/repair	$2,765	$165,656	$0	$0	$168,421
Utilities					
Internet	$3,723	$0	$1,676	$0	$5,399
Telecom	$13,922	$7,588	$0	$416	$21,926
Electricity	$5,956	$10,955	$8,297	$0	$25,208
Natural gas	$0	$0	$2,065	$0	$2,065
Refuse/garbage collection	$0	$95,579	$3,784	$0	$99,363
Telephone	$0	$3,036	$1,676	$0	$4,712
Water	$3,128	$157,165	$1,033	$0	$161,326
Sewage	$0	$87,072	$1,033	$0	$88,105
Wholesale and retail purchases					
Computer purchases	$10,906	$0	$0	$0	$10,906
Equipment	$2,646	$9,826	$1,210	$0	$13,682
Office supplies	$15,399	$3,229	$3,410	$281	$22,319
Building materials and supplies and hardware	$0	$0	$120,618	$0	$120,618
Eating and drinking	$2,690	$0	$0	$0	$2,690
Other wholesale and retail	$0	$0	$3,475	$0	$3,475
General services					
Accounting/auditing/bookkeeping services	$53,640	$0	$0	$0	$53,640
Advertising/marketing/promotion	$102,892	$0	$11,937	$0	$114,829
Banking fees	$24,832	$7,833	$17,213	$0	$49,878
Computer/data processing services	$6,435	$4,108	$1,579	$0	$12,122
Educational services	$0	$795	$596	$0	$1,391
Electric repair services	$0	$0	$2,905	$0	$2,905
Hotel and lodging	$10,908	$0	$0	$0	$10,908
Legal services	$32,219	$2,170	$722	$0	$35,111
Management/consulting services	$1,135	$0	$0	$950	$2,085
Transportation					
Local passenger	$489	$0	$0	$0	$489
Motor freight transport and warehousing	$0	$0	$10,098	$0	$10,098
Vehicle expenses					
Maintenance and repair	$0	$0	$3,020	$735	$3,755
Gasoline	$0	$0	$2,552	$4,033	$6,585

Table 2.1 Habitat Expenditures by Function, 2013 (continued)

Category	Central Office	Rental Properties/ Property Management	Habitat Store	Housing Construction	Total
Incidentals					
Insurance	$14,816	$22,136	$3,822	$17,912	$58,686
Postal	$3,375	$2,053	$0	$0	$5,428
Printing	$682	$1,643	$0	$20	$2,345
Other					
Facilities rent	$0	$0	$185,938	$4,405	$190,343
Small tools	$0	$0	$0	$9,428	$9,428
Warranty	$0	$0	$0	$10,474	$10,474
Professional development	$2,468	$0	$0	$611	$3,079
Clothing stipend	$0	$0	$0	$877	$877
Volunteer management	$14,719	$0	$0	$0	$14,719
Family services	$20,623	$0	$0	$0	$20,623
HOA dues	$991	$0	$0	$0	$991
Real estate taxes	$3,751	$0	$0	$0	$3,751
Interest	$116,858	$240,000	$0	$0	$356,858
Land development costs	$14,332	$0	$0	$0	$14,332
Subcontracts - home construction	$0	$0	$0	$555,976	$555,976
Materials - home construction	$0	$0	$0	$833,964	$833,964
Grand total	$1,016,369	$1,024,810	$599,500	$1,661,314	$4,301,993

Source: Habitat for Humanity of Greater Charlottesville

management, and 14 percent on the Habitat store. Habitat rental properties include a mid-sized apartment building with 9 rental units in the Sunrise Park development and 346 mobile home park lease sites in Southwood that is slated for re-development beginning in 2016. The Habitat store is a home improvement retail operation that sells new and used building materials, appliances, and household furnishings at discounted prices. In addition, Habitat received $75,355 in building material donations from local businesses and the public. Although not represented in the table, the value of these donations will be treated the same as expenditures for the purpose of the impact analysis. It will be assumed that these materials were purchased by business and citizen donors from local businesses in the same proportion in which Habitat sourced its other building materials from the service area.

Habitat directly employed 31 staff and workers during the year (see **Table 2.2**). All were full-time employees. Partner and volunteer labor also play a key role in the success of Habitat. During the year, Habitat enlisted the assistance of 5,138 volunteers and partners that contributed 42,411 hours of labor. The volunteer labor is estimated at 22.1 full-time equivalents and has an estimated economic value of $605,673.[5] Thus, volunteers contributed approximately 42 percent of the labor effort towards Habitat goals. The imputed value of this voluntary labor was added to labor income in estimating total output by Habitat function but was not otherwise used in calculating indirect and induced impacts.

Table 2.3 shows Greater Charlottesville Habitat expenditures within the local service region and assigned to IMPLAN sector. Habitat made estimates of the proportion of total expenditures

5 Full-time equivalent was estimated assumed a 40-hour workweek for 48 weeks each year. The estimate of the value of voluntary labor was made by valuing voluntary labor at 73 percent of the value of compensation for an average hourly worker by Habitat function (e.g., Central Office=$37,909, rental properties=$50,748, Habitat Store=$35,140; Home Construction=$31,605). Brown (1999) suggests using this percentage adjustment factor to translate volunteer time into recipient-oriented measure of value.

Table 2.2 Habitat Employee and Volunteer Statistics by Function, 2013

	Central Office	Rental Properties	Habitat Store	Home Construction	Total
Number of Full-time Employees	14	4	6	7	31
Number of Volunteers	1,244	267	845	2,782	5,138
Volunteer Hours	4,921	469	11,904	25,117	42,411
Volunteer Full-Time-Equivalent (FTE)	2.56	0.24	6.20	13.08	22.09
Volunteer Estimated Value	$70,741	$9,049	$159,045	$301,814	$605,673

Source: Habitat for Humanity and Author's Calculations

made in the service region by major expenditure category (e.g., payroll, facility, utilities). According to these estimate, $3.619 million, which represents 84 percent of total expenditures were made within the service region. These data elements served as final demand inputs for the IMPLAN model.

Habitat Economic Impact Results

Table 2.4 shows the 2013 Habitat economic impacts by function for employment, labor income, and total industrial output. Habitat operations indirectly support 27 jobs in the service region in addition to the 31 employees on Habitat payroll. Habitat has a total employment impact of 58 jobs, total labor income impact of $2.291 million, and total industrial output impact of $8.461 million. The largest employment impact is associated with central office functions inclusive of administration and all family services such as education and partner family support. However, the largest output impact is caused by housing construction followed by rental properties and property management. The employment impact is proportionally lower for housing construction because the bulk of labor inputs are provided by volunteers (13.1 FTE) and are not reflected in the direct or total effects.

Table 2.5 shows a breakdown of economic impacts by 2-digit North American Industrial Classification System (NAICS) industry affected. In assigning Habitat direct economic effects, Habitat functions were assigned to the industry that best characterizes the type of activity. The central office functions were assigned to IMPLAN Sector 401 (Community food, housing, and other relief services, including rehabilitation services), rental property and property management to IMPLAN Sector 360 (Real estate establishments), Habitat store to IMPLAN Sector 323 (Retail Stores—Building material and garden supply), and home construction to IMPLAN Sector 37 (Construction of new residential permanent site single- and multi-family structures). Therefore, the direct employment, labor income, and output impacts are found in the construction, retail trade, real estate and rental, and health and social services industries.

Habitat procurement spending and related employee spending on local goods and services indirectly supports seven jobs in the construction sector, three jobs in professional, scientific, and technical services sector (which includes occupations such as accountants, attorneys, architects, and engineers), three in health and social services and retail trade industries, two in finance and insurance and six total jobs in various other sectors.

Table 2.6 provides estimates for state and local tax revenue collections associated with Greater Charlottesville Habitat indirect and induced impacts. As a non-profit entity, Habitat is exempt from many taxes such as income and retail sales taxes. Therefore, tax impacts associated with the direct effects and the initial procurement spending counted in the indirect effect is not included. However, employees and suppliers within the Habitat supply chain do pay taxes and the tax collections associated with them are represented in the calculations. The table indicates economic activity resulting from Habitat spending is associated with $101,837 state and local tax revenue. Tax revenue collected from individuals such as personal income taxes and property taxes are

Table 2.3 Habitat Local Expenditures by Function and IMPLAN Sector

IMPLAN Code	Description	Central Office	Rental Properties	Habitat Store	Home Construction	Total
31	Electric power generation, transmission, and distribution	$5,956	$10,955	$8,297	$0	$25,208
32	Natural gas distribution	$0	$0	$2,065	$0	$2,065
33	Water, sewage and other treatment and delivery systems	$3,128	$244,237	$2,066	$0	$249,431
36	Construction of other new nonresidential structures	$14,332	$0	$0	$0	$14,332
37	Construction of new residential permanent site single- and multi-family structures	$0	$0	$0	$444,781	$444,781
39	Maintenance and repair construction of nonresidential structures	$2,765	$165,656	$2,905	$0	$171,326
113	Printing	$116	$279	$0	$0	$395
319	Wholesale trade businesses	$0	$0	$7,446	$667,171	$674,617
322	Retail Stores - Electronics and appliances	$10,906	$0	$0	$0	$10,906
323	Retail Stores - Building material and garden supply	$0	$0	$0	$7,542	$7,542
324	Retail Stores - Food and beverage	$2,690	$0	$0	$0	$2,690
326	Retail Stores - Gasoline stations	$0	$0	$2,552	$4,033	$6,585
327	Retail Stores - Clothing and clothing accessories	$0	$0	$0	$702	$702
330	Retail Stores – Miscellaneous	$18,045	$13,055	$277	$281	$31,658
336	Transit and ground passenger transportation	$489	$0	$0	$0	$489
351	Telecommunications	$17,645	$10,624	$3,352	$416	$32,037
354	Monetary authorities and depository credit intermediation activities	$139,207	$247,833	$17,213	$0	$404,253
357	Insurance carriers	$0	$0	$0	$8,379	$8,379
358	Insurance agencies, brokerages, and related activities	$2,519	$3,763	$0	$0	$6,282
360	Real estate establishments	$0	$0	$0	$3,524	$3,524
367	Legal services	$28,997	$2,170	$722	$0	$31,889
368	Accounting, tax preparation, book-keeping, and payroll services	$48,276	$0	$0	$0	$48,276
371	Custom computer programming services	$5,792	$4,108	$1,579	$0	$11,479
374	Management, scientific, and technical consulting services	$1,022	$0	$0	$950	$1,972
377	Advertising and related services	$92,603	$0	$11,937	$0	$104,540
384	Office administrative services	$14,719	$0	$0	$0	$14,719
388	Services to buildings and dwellings	$742	$974	$0	$0	$1,716
390	Waste management and remediation services	$0	$95,579	$3,784	$0	$99,363
393	Other private educational services	$2,468	$795	$596	$489	$4,348
400	Individual and family services	$20,623	$0	$0	$0	$20,623
411	Hotels and motels, including casino hotels	$9,817	$0	$0	$0	$9,817
414	Automotive repair and maintenance, except car washes	$0	$0	$3,020	$735	$3,755
424	Grantmaking, giving, and social advocacy organizations	$991	$0	$0	$0	$991
427	US Postal Service	$574	$349	$0	$0	$923
437	Employment and payroll only (state & local government, non-education)	$1,838	$0	$0	$0	$1,838
438	Employment and payroll only (state & local government, education)	$1,913	$0	$0	$0	$1,913
5001	Labor income	$529,327	$202,992	$210,842	$221,232	$1,164,393
Total		$977,498	$1,003,369	$278,652	$1,360,235	$3,619,755

Source: Habitat for Humanity and Author's Calculations

Table 2.4 Habitat Employment, Labor Income, and Total Industrial Output Impacts by Function

Component	Effect	Employment	Labor Income	Total Industrial Output
Central Office	Direct	14	$529,327	$1,080,785
	Indirect	4	$185,405	$542,004
	Induced	3	$132,216	$414,801
	Total	22	$846,948	$2,037,590
Rental Properties	Direct	4	$202,992	$1,025,998
	Indirect	7	$327,775	$1,038,258
	Induced	3	$98,779	$309,851
	Total	13	$629,546	$2,374,107
Habitat Store	Direct	6	$210,842	$758,545
	Indirect	0	$21,849	$75,496
	Induced	1	$42,920	$134,662
	Total	8	$275,611	$968,703
Home Construction	Direct	7	$221,232	$2,038,463
	Indirect	6	$232,963	$776,863
	Induced	2	$84,557	$265,225
	Total	15	$538,753	$3,080,551
Total	Direct	31	$1,164,393	$4,903,791
	Indirect	17	$767,992	$2,432,621
	Induced	9	$358,472	$1,124,538
	Total	58	$2,290,858	$8,460,951

$13,102.[6] These estimates include only tax revenue impacts associated with Habitat operations. They do not reflect additional real property taxes collected from new residential construction, property rehabilitation, and neighborhood property value appreciation that result from Habitat activities, a topic that will be addressed in Section 5.

Although we call these results "economic impacts," from a technical standpoint the phrase "economic contribution" or "economic footprint" would better describe results of the analysis (Watson et al. 2007). An "economic contribution" analysis traces the gross economic activity that results from a given expenditure. It is not a "with and without" analysis. As such it does not consider whether the expenditure used to generate the economic activity might have been used elsewhere in the economy to generate economic activity and gauge the comparative effect of that alternative activity. For example, if a local Habitat chapter were not available, local donors might have elected to donate funds to another local charitable activity or spend the funds on local goods and services. In addition, some customers at the Habitat store might have shopped at another local home improvement store or purchased secondhand goods from owners if the Habitat store were not available.[7] Habitat

6 Taxes collected on business entities are $86,320, including sales tax ($31,442), real and personal property taxes ($40,498), and corporate income tax ($2.068). The remainder is payroll tax.

7 The Habitat store injects new expenditure into the service region to the extent that it: (a) sells products to customers outside the service region (export effect), (b) induces service area consumers to purchase home improvement items from within the region (import substitution effect), and (c) offers retail productivity improvements that result in lower sales prices to existing consumers in the service area. The economic impact would be restricted to the retail sales margin. The salvage or remanufacturing activities of Habitat

Table 2.5 Habitat Employment, Labor Income, and Total Industrial Output Impacts by Industry

	Direct	Indirect	Induced	Total
Employment				
Total	31	17	9	58
Agriculture, forestry, fishing & hunting	0	0	0	0
Mining	0	0	0	0
Utilities	0	1	0	1
Construction	7	7	0	14
Manufacturing	0	0	0	0
Wholesale trade	0	1	0	1
Retail trade	6	1	2	9
Transportation & warehousing	0	0	0	0
Information	0	0	0	0
Finance & insurance	0	2	0	2
Real estate & rental	4	0	1	5
Professional, scientific & technical services	0	2	0	3
Management of companies	0	0	0	0
Administrative & waste services	0	1	0	2
Educational services	0	0	0	0
Health & social services	14	1	2	16
Arts, entertainment & recreation	0	0	0	0
Accommodation & food services	0	0	1	1
Other services	0	0	1	1
Government & other	0	0	0	0
Labor Income				
Total	$1,164,393	$767,992	$358,472	$2,290,858
Agriculture, forestry, fishing & hunting	$0	$304	$354	$658
Mining	$0	$1,631	$123	$1,754
Utilities	$0	$94,170	$4,582	$98,752
Construction	$221,232	$196,709	$3,668	$421,609
Manufacturing	$0	$4,654	$1,811	$6,465
Wholesale trade	$0	$53,206	$12,285	$65,491
Retail trade	$210,842	$29,908	$62,377	$303,128
Transportation & warehousing		$6,472	$6,862	$13,334
Information	$0	$13,510	$9,213	$22,722
Finance & insurance	$0	$124,335	$37,156	$161,491
Real estate & rental	$202,992	$4,003	$8,684	$215,680
Professional, scientific & technical services	$0	$130,764	$23,371	$154,136
Management of companies	$0	$4,544	$2,804	$7,348
Administrative & waste services	$0	$59,935	$13,379	$73,314
Educational services	$0	$1,959	$8,672	$10,632
Health & social services	$529,327	$11,714	$93,138	$634,180
Arts, entertainment & recreation	$0	$1,815	$6,968	$8,783
Accommodation & food services	$0	$7,857	$24,614	$32,470
Other services	$0	$12,707	$32,796	$45,504
Government & other	$0	$7,796	$5,614	$13,410

Table 2.5 Habitat Employment, Labor Income, and Total Industrial Output Impacts by Industry (continued)

Description	Direct	Indirect	Induced	Total
Total Industrial Output				
Total	$4,903,791	$2,432,621	$1,124,538	$8,460,951
Agriculture, forestry, fishing & hunting	$0	$1,336	$1,511	$2,847
Mining	$0	$12,274	$3,743	$16,017
Utilities	$0	$286,228	$31,193	$317,421
Construction	$2,038,463	$670,153	$11,071	$2,719,687
Manufacturing	$0	$26,355	$15,256	$41,611
Wholesale trade	$0	$148,965	$34,396	$183,360
Retail trade	$758,545	$67,888	$143,928	$970,361
Transportation & warehousing	$0	$20,042	$23,041	$43,083
Information	$0	$71,266	$42,408	$113,674
Finance & insurance	$0	$528,615	$126,919	$655,534
Real estate & rental	$1,025,998	$44,882	$278,473	$1,349,353
Professional, scientific & technical services	$0	$304,076	$50,170	$354,246
Management of companies	$0	$10,811	$6,672	$17,483
Administrative & waste services	$0	$154,329	$26,813	$181,142
Educational services	$0	$4,588	$15,680	$20,267
Health & social services	$1,080,785	$20,625	$160,259	$1,261,669
Arts, entertainment & recreation	$0	$5,711	$19,961	$25,672
Accommodation & food services	$0	$23,683	$67,329	$91,012
Other services	$0	$20,432	$52,707	$73,140
Government & other	$0	$10,363	$13,010	$23,373

tenants might have continued to make payments to local landlords if Habitat rental opportunities were not available.

While it is difficult to estimate the percentage of the Habitat economic contribution that is a true economic impact, clearly a significant part of the economic impact would not be realized without the presence of Habitat. Habitat attracts volunteer labor and donations that might not have been made or might have otherwise been made outside of the Habitat service region. Without Habitat, the region would not attract state and federal government grant funds for site development and rental subsidies.

A few potential sources of Habitat impact are not included. First, many Habitat partners realize savings in housing costs as a result of lower monthly housing payments. These savings might be spent on other local goods and services. To the extent that these additional payments would have gone to non-resident landlords or spent on housing services such as electric and gas utilities with significant leakages, this additional spending represents a new direct injection of expenditure into the local economy. Second, local spending associated with volunteers who reside outside the service region is not counted. Third, no attempt is made to quantify private housing construction "crowd-in" or "crowd-out" effects that could have induced more or less local private construction activity and spending. Without

store operations would be another source of economic impact, but they were not independently modeled. Recycling and salvage are not currently adequately represented in input-output models (Jackson, Choi, and Leigh 2008).

Table 2.6 Habitat State and Local Tax Revenue Impacts by Function

Function	Revenue
Central Office	$32,837
Rental Properties	$30,369
Habitat Store	$9,830
Home Construction	$28,801
Total	$101,837

Habitat construction activities, the private market may have provided additional housing units. For example, new private low-income housing projects may slightly reduce nearby private rental unit construction, a "crowd out" effect that may be more pronounced for gentrifying areas (Baum-Snow and Marion 2009). "Crowd in" effects are also possible. Habitat activities could induce the private market to construct more units than it would have otherwise as a result of the neighborhood improvements that Habitat fostered as part of its "New Paradigm." By working with private developers and offering construction ready pad sites Habitat has stimulated mixed income market-rate private housing construction within its new developments.

SECTION 3
PROPERTY VALUE EFFECTS

Habitat housing, like other types of affordable housing, can potentially affect neighborhood property values. This section assesses the arguments and counterarguments for finding such effects, drawing on evidence from the scholarly literature. It also describes how hedonic property analysis and double difference methodology can be used to assess the effect of Habitat construction and rehabilitation activities on property values of nearby residences. Using property sales and assessment data for the City of Charlottesville, results are presented on the effects of Habitat homes in the City of Charlottesville on the values of nearby residences.

Affordable Housing Effects on Neighborhood Property Values

Neighbors sometimes oppose construction of affordable housing because they fear a decrease in their property values and the possible deterioration in neighborhood conditions. Most evidence, however, suggests that new or rehabilitated affordable housing can have modest positive effects on adjoining properties. These effects depend on features of the housing investments, development sites, neighborhoods, and housing management and occupancy characteristics.

Features of the development site before rehabilitation and housing construction quality and design are key factors. New housing construction often improves the physical appearance of a neighborhood by removing a dis-amenity. Thus, the direction and magnitude of effect may vary depending on whether the housing replaces substandard or blighted housing sites, vacant urban land or more highly valued greenfield space (Ooi and Le 2013). The replacement construction also results in newer, cleaner, and modern structures. Developers can enhance the positive impacts of affordable housing construction by investing in architectural design and making the development compatible with the existing neighborhood (Funderberg and MacDonald 2010).

Neighborhood conditions also matter. New affordable housing investment can improve the average housing stock in distressed neighborhoods but may have little effect in middle-quality neighborhoods and negative effects in higher-quality neighborhoods (Freeman and Botein 2002). Recent empirical work indicates that Low Income Tax Credit program (LIHTC) developments boost housing values for "declining and stable" neighborhoods but not for "gentrifying areas" (Baum-Snow and Marion 2009). Distressed neighborhood investments can also demonstrate the viability of new residential investment that stimulates additional private investment (Ellen et al. 2001). Too much subsidized low-income housing, however, can be detrimental to low-income neighborhoods by reinforcing residential income segregation patterns and creating a stigma effect that results in reduced property values (Freeman and Botein 2002; Galster, Tatian and Smith 1999; Nguyen 2005).

The capacity of the neighborhood to absorb the housing units without overwhelming existing infrastructure or creating congestion externalities may also affect property value impacts (Ooi and Le 2013). Otherwise, denser housing occupancy should have largely positive effects. The additional population growth improves local retail and services business opportunities and creates a more vibrant community. Another important consideration is the ability of the local housing markets to absorb new units. Since new housing units increase the housing stock, the additional supply could potentially decrease housing prices in an area (Baum-Snow and Marion 2009; Ooi and Le 2013), particularly in housing markets with high vacancy rates or slow population growth.

Affordable housing property value effects can be expected to vary by distance, scale, and project timing. Clustered development creates a larger effect than scattered unit housing (Schwartz 2010). Moreover, neighborhood revitalization may require

achieving a certain critical mass of investment (Galster, Tatian, and Accordino 2006). Most studies generally observe that positive property value impacts occur within a few city blocks (500-2,000 feet) of the affordable housing site (Edmiston 2012; Ellen et al. 2001; Galster, Tatian, and Smith 1999; Schwartz et al. 2006). Property value effects also vary by phase of property development (Ooi and Le 2013; Schwartz et al. 2006). Property price appreciation may occur at the project announcement, acquisition, preparation, or marketing phases as area residents and developers create expectations about local impacts. Projects involving the removal of dilapidated or substandard properties may see further effects with the commencement of construction activities and the removal of urban blight. Completed construction of the new housing creates a new amenity and may further enhance local property values. The final phase is housing occupancy, which could be either positive or negative depending on the relative magnitude of the population growth and congestion effects (Ooi and Le 2013).

Property management and occupant characteristics can also affect property values. Rental housing managed by public housing authorities may have more negative impacts on neighborhood property values than that managed by entities such as community development corporations (Funderburg and MacDonald 2010). Moreover, senior targeted housing may be less likely to reduce property values than housing for lower income families (Funderberg and MacDonald 2010; Freeman and Botein 2002). These effects may partly be shaped by the behavior and attitudes of neighborhood residents, in particular their attitudes towards the poor and ethnic minorities (Freeman and Botein 2002; Nguyen 2005).

There are reasons to expect Charlottesville Region Habitat housing to have more favorable neighborhood property value effects than other types of affordable housing development (see **Table 3.1** for a summary).

First, Charlottesville Region Habitat emphasizes constructing affordable housing in a way that maximizes the expected positive neighborhood benefits and minimizes the negative effects. Development removes disamenities by dismantling substandard housing or rehabilitating abandoned or poorly maintained lots (termed a "removal effect" by Ellen (2006)). More recently the focus has been on replacing mobile home parks, which are generally thought to have negative effects on nearby property values (Munneke and Slawson 1999). Habitat constructs new housing and renovates existing structures that result in a new amenity (called a "physical structure effect" by Ellen (2006)). Habitat planners and architects strive to design homes and streets to conform to the style of the surrounding neighborhood (neighborhood design effect). New developments reflect the influence of the New Urbanism that promotes pedestrian and transit oriented development such as transit-connections, open and public spaces, and interconnected grid-like street patterns (New Urbanism effect). These features are valued by many households and have been found to have salutary effects on property values (Bartholomew and Ewing 2011). Habitat's clustering strategy contributes towards a critical mass of investment that may result in neighborhood revitalization and highly visible transformations to the landscape (scale effect). Furthermore, it creates the conditions for private investment by offering development ready pad sites and working with private developers to construct market rate housing (termed a "market effect" by Ellen 2006). Mixed income development establishes a diverse mix of tenants and homeowner socioeconomic levels that reduces the threat of income segregation and social stigma (termed a "population mix effect" by Ellen (2006)). Habitat provides appropriate urban infrastructure to accommodate a denser urban development pattern (infrastructure effect). Thus, the redeveloped areas are likely to increase population, which may in turn increase nearby commercial activity (referred to as a "population effect" by Ellen (2006)).

Second, in contrast to many low-income housing programs, Habitat has a strong homeownership component. Owner-occupied housing can be expected have additional beneficial effects on neighborhood property values (Coulson, Hwang, and Imai 2003; Rohe and Stewart 1996). These positive neighborhood effects (homeownership

Table 3.1 Determinants of Affordable Housing Effects on Local Property Values

Effect	Description	Habitat Feature
Removal Effect	Development removes blighted or problem properties	Habitat New Paradigm emphasizes removal of substandard housing and poorly maintained vacant lots
Physical Structure Effect	Construction of new, modern housing or renovation of existing housing	Habitat builds new and rehabilitates older housing
Neighborhood Design Effect	Complementarity with design of surrounding neighborhoods	Habitat strives to adopt or improve upon architectural style of surrounding housing
New Urbanism Effect	Transit and pedestrian oriented development pattern	Habitat builds near transit connections, provides open and public spaces, and adopts grid street pattern
Scale Effect	Housing developments built to critical mass threshold to affect neighborhood revitalization	Habitat New Paradigm emphasizes building housing in clusters
Population Mix Effect	Mix of socioeconomic levels and race/ethnicities	Habitat New Paradigm promotes mixed income development
Infrastructure Effect	Revitalized and expanded urban infrastructure such as streets, sidewalks, and storm water pipes	Habitat New Paradigm revitalizes and expands infrastructure to adequately accommodate higher density
Population Effect	Greater population density supports increased commercial activity	Habitat New Paradigm emphasizes smart growth development, including higher density housing
Market Effect	Affordable housing development may stimulate private market-rate housing development	Habitat New Paradigm provides market rate housing building sites and works with private developers
Homeownership Effect	Homeowners are more vested in maintaining their homes and neighborhoods	Habitat is a homeownership program
Property Management Effect	Rental properties are adequately maintained and secured	Habitat provides good property management services
Human and Social Capital Effects	Provision of resident services and promotion of homeowners associations helps reduce negative externalities	Habitat provides resident recreational, educational, and health care programming and helps create community by fostering homeowner associations

effect) can be attributed to greater neighborhood stability due to lower residential turnover and residents who are more vested in maintaining the quality of their properties and neighborhoods (Rohe and Stewart 1996).

Third, Habitat rental management may have beneficial effects. It provides good property management (property management effect). It also offers social, educational, recreational, and health care services to its newest tenant and homeowner communities and supports the creation of homeowners associations (human and social capital effects) that may further mitigate any negative effects of low-income housing (Funderburg and MacDonald 2010).

Hedonic Property and Difference In Difference Analyses

Unlike many commodities, housing is highly differentiated. No two houses are exactly the same. Housing units differ in a wide variety of ways, including dwelling characteristics, geographical location, and other features that consumers value. This situation complicates economic analysis because it precludes analyzing market prices as a single market for a homogenous good. Hedonic analysis instead assumes that there are multiple implicit markets,

one for each housing characteristic. By making some simplifying assumptions about consumer and producer behavior, hedonic price theory allows the market-clearing prices of individual characteristics to be estimated (Rosen 1974, Sheppard 1999). The basic procedure is to estimate a hedonic function by regressing property values (P) on a vector of property-related features $Z=[z_1, z_2, . .z_m]$ using a cross-section of i=1., . . , N properties. The value of the corresponding coefficient represents the value of the particular feature:

$$(1)\ P_i=\alpha+\beta Z_i+\varepsilon_i$$

Since the goal of hedonic property analysis is usually to value a particular amenity or dis-amenity for which market information is not readily available, hedonic studies must control for numerous features of residential properties that add value. These features can be organized into the categories of: (1) dwelling characteristics such as the design, size, age, condition, and building materials used for the housing unit, (2) lot characteristics such as size, presence of infrastructure such as sidewalks and driveways, and availability of accessory structures such as sheds and garages, (3) neighborhood characteristics such as housing composition and demographics of neighborhood, and (4) distance to a particular amenity or dis-amenity. In this analysis, proximity to Habitat properties– the construction and occupancy of Habitat homes—is the key local feature that we seek to assign a value. If Habitat properties create a local dis-amenity effect, we expect the coefficient corresponding to the Habitat proximity variable to be negative. If it creates a local amenity, we expect the coefficient to be positive.

Conventional hedonic analysis on cross-sectional data (i.e., data on housing sales and characteristics in a local housing market for one period of time such as a year) has an important limitation which more recent methodological innovations such as difference in difference analysis attempt to overcome. A key problem is the inability to assign causation to the "treatment" variable of interest, in this case a change in exposure to a Habitat house. This problem arises because Habitat construction is not a truly exogenous event as would occur with random assignment of construction sites. As the first section indicated, Habitat properties are more likely to be located in census tracts with older housing, proportionally fewer single-family homes, lower incomes, and lower educational attainment. Habitat's New Paradigm uses explicit locational criteria that prioritize replacing older trailer parks with new housing. Moreover, the need for Habitat to provide affordable housing options means that less costly land parcels need to be assembled from relatively low cost tracts such as vacant parcels and donated properties. These development sites are likely located in areas with a greater concentration of lower-valued properties. The problem with conventional hedonic property analysis is that it will attribute the proximity to these lower valued development sites as the treatment effect. In other words, since Habitat properties will tend to be located in areas with weaker housing markets and lower property prices, it will be more likely to appear as if the Habitat property is causing the relative price decline. This problem would not occur if the houses were randomly sited. The difference in difference method helps to lessen the type of bias that occurs because neighborhoods that host Habitat homes differ systematically from other neighborhoods in the city.[8]

Several recently published property value studies have employed quasi-experimental, difference-in-difference estimation to estimate the effect of programs where nonrandom program placement occurs (Parmeter and Pope 2009). Recent applications also include assessments of low-income and infill housing development (e.g., Ellen et al. 2001; Galster, Tatian, and Smith 1999; Ooi and Le 2013). A difference-in-difference approach requires modifying the basic one-period cross-sectional hedonic regression equation described in (1) to allow for pooled property sales data over time:

$$(2)\ P_{ijt}=\alpha+\beta Z_{ijt}+\lambda Y_t+\gamma X_j+\delta M_{jt}+\varepsilon_{ijt}$$

8 The method assumes that unobserved factors causing participation heterogeneity are time invariant (i.e., time invariant selection bias is present). If they are vary over time, bias may still occur and other statistical methods (e.g., instrumental variables) may be appropriate (Khandker, Koolwal, and Samad 2010).

Z_{ijt} is a vector of property-related characteristics as earlier while Y_t is a time effect marking when the property was sold, and X_j is a spatial effect indicating if the property is in close proximity to a Habitat property. M_{jt} captures both the timing and spatial effect. It is equal to one if a house was sold after a Habitat home was constructed in close proximity and zero otherwise. The subscripts refer to property (i), spatial proximity group (j), and time period (i).

In an effort to further reduce bias, inverse probability weighted (IPW) least squares was used (Guo and Fraser 2009; Holmes 2014).[9] A propensity score, which represents the probability of a unit receiving a treatment, is computed for each Charlottesville property to assess the likelihood of its being "treated" by having a Habitat house constructed in its vicinity (defined as various distances from the Habitat site) during the period 1996-2013. The score is estimated using 1990 U.S. Census block data representing neighborhood housing and demographic conditions in a period before Habitat commenced activities in Charlottesville.

Data

The hedonic property analysis for Habitat used data from the City of Charlottesville. This choice was motivated by several considerations. First, approximately two-thirds of Habitat properties are located within the city limits. Second, major current and planned subdivision projects such as Burnet Commons II: The Woods, Burnet Commons III, and Belmont Cottages are located within the city as well. Third, it would have been a much more formidable task to assemble data from the four constituent localities in the entire service area region and reconcile differences in assessment data definitions and measurement to conduct an analysis of property values for the entire service area.

Most of the data used was obtained from the sales and main assessment tables of the Real Estate Assessment System obtained from the City of Charlottesville Assessment Office and ARCGIS shapefiles from the City Geographic Information System (GIS) website including the parcel point shapefile. 2013 TIGER/Iine census tract shapefiles were downloaded from the U.S. Census Bureau website. We restricted the period of analysis to sales that occurred 1989-2013. Habitat provided a list of Habitat properties by date of construction. These properties were assigned to exact parcels using address and owner information in order to precisely locate each Habitat property within the geographic grid resulting in a total of 79 Habitat properties with property identification numbers. Actual sales were used instead of assessed values. The parcel point shapefile included the geographical location of each parcel in the system and was used to assign parcels to census tracts and census blocks and to calculate sale property distances to Habitat properties. Sales included in the regressions were restricted to arms-length transactions (identified as "Valid Sale" or SALE_CLASS=1) and to homes that were identified as either detached single-family dwellings or duplexes. The regression used a semi-log functional form.[10] **Table 3.2** lists variables (and their definitions) used in the estimations.

Propensity scores for Charlottesville parcels were computed using Census Block level data derived from the 1990 U.S. Census.[11] The propensity score

9 If we denote the propensity score as P, the treated observation receives a weight of 1/P and the other observations receive a weight of 1/(1-P). These weights are introduced using analytic weights in STATA with the regress function.

10 We utilize a semi-log specification for conceptual, practical, econometric and empirical reasons described by Coulson (2008). A log specification is more consistent with diminishing marginal utility, which is a more accurate depiction of consumer behavior. Moreover, it does not imply that housing characteristics can be unbundled and sold as a linear specification does. A semi-log form can also help remediate regression heteroscedacity problems. Lastly, the semi-log specification is the most commonly employed functional form in hedonic property analyses.

11 The 1990 Census Block geographic information system (GIS) shapefiles were downloaded from NHGIS (National Historical Geographic Information System) website. 1990 Census Block data was downloaded from the Socioeconomic Data and Applications Center (SEDAC) at Columbia University (http://sedac.ciesin.columbia.edu/data/set/acrp-census-block-stats-1990).

Table 3.2 Hedonic Regression Variable Definitions

Variable	Description
LNP	Natural log of sales price
CONSTANT	Constant term
YEAR[#]	Vector of year of sale dummy variables (1990-2013)
TRACT[#]	Vector of census tract dummy variables indicating location of sale house (i.e., 201, 202, 302, 401, 402, 502, 600, 700, 800, and 900)
POST	Dummy variable indicating if sale occurred after Habitat home construction commenced (i.e., 1995)
DISTVAR	Dummy variable indicating if sale occurs within close proximity to current or future Habitat home
INTVAR	Dummy variable indicating if sale occurred within close proximity to current Habitat home
SQFTBUILD	Building size in square feet
AGE	Years since constructed
BATH2	Two bathrooms; Yes=1, No=0
BATH3P	Three or more bathrooms; Yes=1, No=0
CENTAIR	Central air; Yes=1, No=0
AIR	Forced air heating; Yes=1, No=0
RADIANT	Radiant heating; Yes=1, No=0
WALL	Wall heating; Yes=1, No=0
ROOMS	Total rooms
FIRE0	No fireplace; Yes=1, No=0
FIRE2P	2 or more fireplaces; Yes=1, No=0
WOOD	Wood exterior; Yes=1, No=0
BRICK	Brick exterior; Yes=1, No=0
ALUMINUM	Aluminum siding exterior; Yes=1, No=0
STUCCO	Stucco exterior; Yes=1, No=0
SINGLE	Detached single family; Yes=1, No=0

is estimated using logit regression.[12] The dependent variable is "treatment" of a Charlottesville property by Habitat construction within a specified distance (i.e., 100 feet, 250 feet, 500 feet, 1,000 feet, 1,500 feet, and 2,000 feet) where Habitat houses were sited. Independent variables used in the analysis are described in **Table 3.3**.

12 The logit model relies on the logistic function which characterizes the probability or propensity using the logistic function:

$$prob(y=1|x) = \frac{e^{x\beta}}{1+e^{x\beta}}$$

Table 3.3 Logit Regression Variable Definitions

Variable	Description
CONSTANT	Constant term
POPDEN	Population per square mile
PERMIN	Percent of population Black
PERMULTI	Percent of housing units in structures with 10 or more units
PER1HH	Percent of households that are single person
PERYOUNG	Percent of population under 18 years of age
HOUSEVALUE	Mean value of owner-occupied housing units
RENTVALUE	Mean contract rent for renter-occupied housing units
PEROWNOCC	Percent of housing units owner-occupied

Results

For reference purposes, we estimated several regression equations with different methodological assumptions for a treatment boundary fixed at 500 feet. The first estimates a conventional cross-sectional ordinary least squares (OLS) hedonic equation using 2013 sales data. Results are shown as column (1) in **Table 3.4**. This regression equation includes property features, census tract dummies, and a Habitat housing 500 feet proximity treatment variable. The difference-in-difference (DiD) estimation shown in the second column builds on equation (2) above by including year of sale dummy variables to represent the time dimension that captures house price movements in the Charlottesville housing market and census tract dummies to capture tract-level fixed effects. Other difference-in-difference equation variables represent sales that occurred within 500 feet of a current or future Habitat property (DISTVAR) and sales that occurred within 500 feet of a current Habitat property (INTVAR). The third difference-in-difference equation is estimated using inverse probability weighted (IPW) least squares.

Table 3.5 shows the estimated propensity scores for various Habitat proximity boundary "treatment effects." The results indicate that properties near future Habitat home sites tended to be located in census blocks that in 1990 contained

Table 3.4 Regression Results for Alternative Hedonic Regression Models

	(OLS)		(DiD)		(DiD, IPW)	
Variable	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)
YEAR90			0.1040230	0.000	0.1058007	0.000
YEAR91			0.1093913	0.000	0.1075119	0.000
YEAR92			0.1004675	0.000	0.0999636	0.000
YEAR93			0.0939134	0.000	0.0916383	0.000
YEAR94			0.1202099	0.000	0.1108106	0.000
YEAR95			0.1696963	0.000	0.1646704	0.000
YEAR96			0.1747577	0.000	0.1699837	0.000
YEAR97			0.1434923	0.000	0.1299843	0.000
YEAR98			0.2636087	0.000	0.2584034	0.000
YEAR99			0.3058435	0.000	0.3016121	0.000
YEAR00			0.3890680	0.000	0.3824088	0.000
YEAR01			0.5069346	0.000	0.4981362	0.000
YEAR02			0.6071991	0.000	0.5938261	0.000
YEAR03			0.8118492	0.000	0.8069814	0.000
YEAR04			0.9736472	0.000	0.9730085	0.000
YEAR05			1.1226390	0.000	1.1262000	0.000
YEAR06			1.2574380	0.000	1.2615530	0.000
YEAR07			1.2467080	0.000	1.2540380	0.000
YEAR08			1.2148530	0.000	1.2171960	0.000
YEAR09			1.1769360	0.000	1.1812750	0.000
YEAR10			1.1649060	0.000	1.1684830	0.000
YEAR11			1.1310910	0.000	1.1356530	0.000
YEAR12			1.1053030	0.000	1.1050640	0.000
YEAR13			1.1659750	0.000	1.1742310	0.000
TRACT201	-0.2066305	0.013	-0.2408367	0.000	-0.2510565	0.000
TRACT202	-0.3785240	0.000	-0.4921731	0.000	-0.4786651	0.000
TRACT302	-0.2930714	0.000	-0.1937805	0.000	-0.1773099	0.000
TRACT401	-0.3736376	0.000	-0.3396418	0.000	-0.3323391	0.000
TRACT402	-0.3378577	0.000	-0.2576113	0.000	-0.2340463	0.000
TRACT501	-0.4081325	0.000	-0.4262775	0.000	-0.4222223	0.000
TRACT502	-0.3477927	0.000	-0.2125572	0.000	-0.1998604	0.000
TRACT600	-0.3330621	0.007	-0.2069619	0.000	-0.1977290	0.000
TRACT700	0.8899620	0.182	0.1491852	0.000	0.1583211	0.000
TRACT800	-0.2997378	0.000	-0.1904115	0.001	-0.1818456	0.000
TRACT900	-0.4637655	0.000	-0.1645431	0.000	-0.1514295	0.000
AGE	-0.0094535	0.000	-0.0039128	0.000	-0.0040864	0.000
AGE2	0.0001024	0.000	0.0000522	0.000	0.0000532	0.000
SQFTBUILD	0.0001458	0.002	0.0001681	0.000	0.0001726	0.000
ROOMS	0.3784240	0.000	0.0521531	0.000	0.0527942	0.000
BATH2	0.2017145	0.000	0.1867039	0.000	0.1883379	0.000
BATH3P	0.3039639	0.000	0.3741018	0.000	0.3768982	0.000
AIR	-0.0815901	0.071	-0.0124214	0.278	-0.0056358	0.625
RADIANT	-0.0860792	0.315	-0.2020762	0.000	-0.2002581	0.000
CENTAIR	0.0450431	0.235	0.0513459	0.000	0.0518721	0.000

Table 3.4 Regression Results for Alternative Hedonic Regression Models (continued)

	(OLS)		(DiD)		(DiD, IPW)	
Variable	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)
FIRE0	-0.0405356	0.220	-0.1578135	0.000	-0.1624181	0.000
FIRE2P	-0.0302371	0.571	0.0661224	0.000	0.0652029	0.000
WOOD	0.0946025	0.037	0.0478338	0.000	0.0470655	0.000
BRICK	0.1451852	0.002	0.0825947	0.000	0.0838606	0.000
ALUMINUM	-0.0011608	0.983	-0.0129232	0.318	-0.0115401	0.376
STUCCO	-0.0703226	0.346	0.0317726	0.037	0.0126499	0.411
SINGLE	0.2853110	0.000	0.1031144	0.000	0.1054113	0.000
DISTVAR	-0.2780999	0.000	-0.0805107	0.000	-0.0692990	0.000
INTVAR			0.0630975	0.029	0.0598621	0.048
CONSTANT	12.0721	0.000	10.84839	0.000	10.8255	0.000
NUM	311		10381		10356	
R^2	0.7202		0.8032		0.8017	

higher population densities, higher percentages of black residents, lower percentages of owner-occupied housing, higher percentages of minors, higher percentages of one-person households, lower housing values, lower rental values, and higher percentages of multiunit residential housing.

Column (1) of Table 3.4 shows that the property structural characteristics have the expected signs. Building age is entered in quadratic form to allow for both depreciation and vintage effects. Building depreciation increases with age, resulting in lower market value but design and construction materials used for older buildings may be valued for their historical importance and uniqueness (Coulson 2008). These competing effects may result in a U-shaped pattern with higher values observed for both new and very old housing. The coefficients indicate that a home built in 1910 would have the same value as one built today, holding all other characteristics constant. Consistent with expectations, housing size and number of bathrooms are associated with higher sales values. Also, structures with brick facades have higher values. Neighborhood features are also important. The negative and statistically coefficient for DISTVAR (located within 500 feet of a Habitat home) has the expected negative sign because homes near Habitat home sites tend to be located in areas with lower housing values. Column (2) shows the Difference-in-Difference results. This regression largely preserves the direction and statistical significance of the housing locational and structural attribute variables. The YEAR dummy variables indicate that Charlottesville home sale values generally increased until 2008 and decreased until 2012, which is consistent with the market price direction coinciding with the recent housing market downturn. DISTVAR indicates that homes within a 500-foot ring of Habitat properties have lower values than ones located outside that zone both before and after Habitat construction. INTVAR is the variable of primary interest, which indicates whether a property sale was located within 500 feet of a Charlottesville Habitat home after the Habitat home was constructed. The positive and statistically significant coefficient at α=.05 indicates that proximity after construction raised the sale price of the nearby property. Column (3) shows the Inverse Probability Weighted Difference-in-Difference estimation. This estimation slightly reduces the magnitude and level of statistical significance of the independent variables including the INTVAR variable. However, it is still statistically significant at the α=.05 level

Table 3.6 shows a sensitivity analysis of three alternative propensity score weighted least squares difference-in-difference specifications: one with only time, spatial, and interactive space and time effects (identified as column (1)); one that further adds year and tract dummies to correct for price

Table 3.5 Regression Results for Logit Propensity Score Regressions by Distance

	(100 feet)		(250 feet)		(500 feet)		(1000 feet)		(1500 feet)		(2000 feet)	
Variable	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)
POPDEN	0.0001169	0.000	0.0000944	0.000	0.0001424	0.000	0.0000603	0.000	0.0017240	0.000	0.0002551	0.000
PERMIN	0.0001169	0.000	0.0164820	0.000	0.0237094	0.000	0.0358802	0.000	0.0396948	0.000	0.0417647	0.000
PERMULTI	-0.0181340	0.000	-0.0045038	0.056	0.0037375	0.033	0.0102969	0.000	0.0171795	0.000	0.0179906	0.000
PER1HH	-0.1363071	0.000	-0.0988358	0.000	-0.0939584	0.000	-0.1184825	0.000	-0.1259588	0.000	-0.1265374	0.000
PERYOUNG	0.0505395	0.000	0.0461919	0.000	0.0556745	0.000	0.0713414	0.000	0.0520704	0.000	0.0580601	0.000
HOUSEVALUE	-0.0000143	0.000	-0.0000123	0.000	-0.0000121	0.000	-0.0000124	0.000	-0.0000009	0.000	-0.0000108	0.000
RENTVALUE	-0.0013296	0.039	-0.0008972	0.420	0.0009756	0.000	0.0017844	0.000	0.0002275	0.220	-0.0005727	0.001
PEROWNOCC	0.0176708	0.000	0.0033132	0.221	-0.0090693	0.000	-0.0247233	0.000	-0.0281590	0.000	-0.0251057	0.000
CONSTANT	-3.9822320	0.000	-3.3492420	0.000	-3.5979740	0.000	-2.6225400	0.000	-1.5317640	0.000	-0.9762981	0.000
Num	14,906		14,906		14,906		14,906		14,906		14,906	
Pseudo R^2	0.1185		0.0916		0.1571		0.2733		0.2764		0.2927	

Table 3.6 Regression Results for Alternative Specifications

	(1)		(2)		(3)	
Variable	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)
YEAR90			0.1170168	0.000	0.1058007	0.000
YEAR91			0.1570250	0.000	0.1075119	0.000
YEAR92			0.1721109	0.000	0.0999636	0.000
YEAR93			0.1591630	0.000	0.0916383	0.000
YEAR94			0.1980141	0.000	0.1108106	0.000
YEAR95			0.2352621	0.000	0.1646704	0.000
YEAR96			0.2493224	0.000	0.1699837	0.000
YEAR97			0.1691437	0.000	0.1299843	0.000
YEAR98			0.3139393	0.000	0.2584034	0.000
YEAR99			0.3547632	0.000	0.3016121	0.000
YEAR00			0.4464349	0.000	0.3824088	0.000
YEAR01			0.5622600	0.000	0.4981362	0.000
YEAR02			0.6513457	0.000	0.5938261	0.000
YEAR03			0.8797401	0.000	0.8069814	0.000
YEAR04			1.0557800	0.000	0.9730085	0.000
YEAR05			1.1957430	0.000	1.1262000	0.000
YEAR06			1.3552310	0.000	1.2615530	0.000
YEAR07			1.4001620	0.000	1.2540380	0.000
YEAR08			1.3914540	0.000	1.2171960	0.000
YEAR09			1.3042430	0.000	1.1812750	0.000
YEAR10			1.3256530	0.000	1.1684830	0.000
YEAR11			1.3252640	0.000	1.1356530	0.000
YEAR12			1.3027190	0.000	1.1050640	0.000
YEAR13			1.3636050	0.000	1.1742310	0.000
TRACT201			-0.2765100	0.000	-0.2510565	0.000
TRACT202			-0.6690461	0.000	-0.4786651	0.000
TRACT302			-0.3244845	0.000	-0.1773099	0.000
TRACT401			-0.5349741	0.000	-0.3323391	0.000
TRACT402			-0.5126296	0.000	-0.2340463	0.000
TRACT501			-0.6652427	0.000	-0.4222223	0.000
TRACT502			-0.2338837	0.000	-0.1998604	0.000
TRACT600			-0.2107974	0.000	-0.1977290	0.000
TRACT700			0.3250279	0.000	0.1583211	0.000
TRACT800			0.0829193	0.000	-0.1818456	0.000
TRACT900			-0.1765723	0.000	-0.1514295	0.000
AGE					-0.0040864	0.000
AGE2					0.0000532	0.000
SQFTBUILD					0.0001726	0.000
ROOMS					0.0527942	0.000
BATH2					0.1883379	0.000
BATH3P					0.3768982	0.000
AIR					-0.0056358	0.625
RADIANT					-0.2002581	0.000
CENTAIR					0.0518721	0.000

Table 3.6 Regression Results for Alternative Specifications (continued)

	(1)		(2)		(3)	
Variable	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)
FIRE0					-0.1624181	0.000
FIRE2P					0.0652029	0.000
WOOD					0.0470655	0.000
BRICK					0.0838606	0.000
ALUMINUM					-0.0115401	0.376
STUCCO					0.0126499	0.411
SINGLE					0.1054113	0.000
POSTVAR	0.6871028	0.000				
DISTVAR	-0.5313841	0.000	-0.1608611	0.000	-0.0692990	0.000
INTVAR	0.4725687	0.000	0.0670895	0.091	0.0598621	0.048
CONSTANT	11.40063	0.000	11.44729	0.000	10.8255	0.000
NUM	10356		10356		10353	
R^2	0.2116		0.6555		0.8017	

appreciation and spatial fixed effects (column (2)); and one that further adds property features (column (3)). Column (1) shows a basic difference-in-difference equation. The POSTVAR variable indicates that property values were higher in the Charlottesville region after Habitat commenced construction in 1996 (largely because of general appreciation in housing prices over time). Adding spatial fixed effects and annual dummies, reduces the magnitude and significance of the positive Habitat home proximity post-construction effect. When additional controls for the structural characteristics of housing are included, the magnitude of the Habitat effect is reduced slightly, but the statistical significance improves.

In order to assess the extent of spillover effects from Habitat proximity, several different regressions are presented. **Table 3.7** shows how the Habitat effects vary over space for proximity variables represented by thresholds of 100, 250, 500, 1,000, 1,500, and 2,000 feet. Habitat effects are statistically significant from about 500 feet until approximately 1,500 feet with the strongest positive effect at 1,000 feet. At 2,000 feet and beyond, no Habitat effects are evident. One plausible explanation for stronger effects in an intermediate ring from Habitat housing are the occurrence of ongoing construction activities in Sunrise Park. The construction activities may be regarded as a nuisance by neighbors because of the odor, dust, noise, and presence of workers and vehicles in the vicinity. At further distances, the nuisance effect may be reduced and the neighborhood improvement effects dominate. No effort was made to control for construction timing because the lack of precise data on the commencement of construction activities and the difficulty of controlling for scattered site and staggered construction activities near existing Habitat housing developments.

Figure 3.1 converts the coefficient estimates for INTVAR to percentage changes to illustrate how Habitat proximity affects property sales values for single-family detached and duplex residences within different distances.[13] Properties within 500, 1,000, and 1,500 feet appreciate by an estimated 6.2 percent, 8.7, and 6.6 percent. Although the other distance percentage effects were calculated as well, they are not statistically significant at the α=.05 level. Consistent with other affordable housing studies cited earlier, no effects were found beyond 2,000 feet.

13 The coefficient value can be interpreted roughly as the percentage change in sales price that results from Habitat treatment. By exponentiating the coefficient ($e^{\beta i}$) , the exact rate of change is obtained.

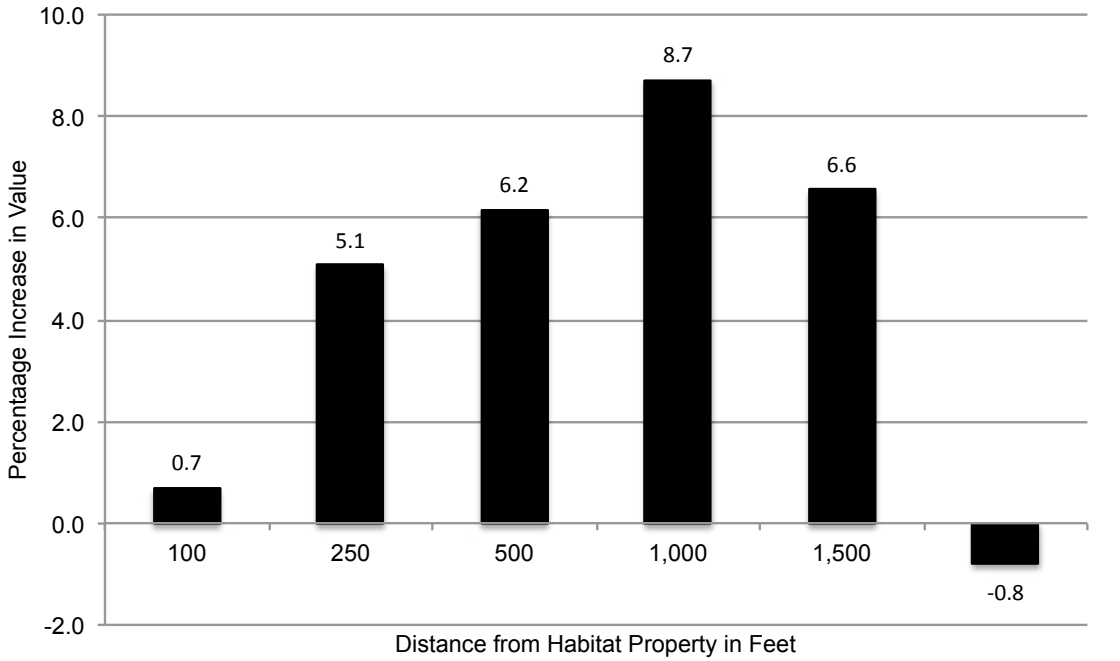
Table 3.7 Regression Results for Alternative Distances

	(100 feet)		(250 feet)		(500 feet)		(1000 feet)		(1500 feet)		(2000 feet)	
Variable	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)
YEAR90	0.1026951	0.000	0.1030828	0.000	0.1058007	0.000	0.1002824	0.000	0.0937610	0.000	0.0981951	0.000
YEAR91	0.1093656	0.000	0.1100350	0.000	0.1075119	0.000	0.1065165	0.000	0.1135250	0.000	0.1052221	0.000
YEAR92	0.0971629	0.000	0.0987843	0.000	0.0999636	0.000	0.0893943	0.000	0.0829196	0.001	0.0887181	0.000
YEAR93	0.0915122	0.000	0.0918640	0.000	0.0916383	0.000	0.0948359	0.000	0.1039159	0.000	0.0847013	0.001
YEAR94	0.1150223	0.000	0.1151445	0.000	0.1108106	0.000	0.1007459	0.000	0.0964004	0.000	0.0809106	0.000
YEAR95	0.1679568	0.000	0.1683877	0.000	0.1646704	0.000	0.1493418	0.000	0.1676290	0.000	0.1670076	0.000
YEAR96	0.1749837	0.000	0.1751083	0.000	0.1699837	0.000	0.1673324	0.000	0.1325288	0.000	0.1064810	0.000
YEAR97	0.1400794	0.000	0.1393247	0.000	0.1299843	0.000	0.1044012	0.000	0.1166383	0.000	0.1083696	0.000
YEAR98	0.2635345	0.000	0.2636906	0.000	0.2584034	0.000	0.2213969	0.000	0.1927959	0.000	0.1911002	0.000
YEAR99	0.3049320	0.000	0.3045099	0.000	0.3016121	0.000	0.2915359	0.000	0.2809605	0.000	0.3218644	0.000
YEAR00	0.3878137	0.000	0.3877547	0.000	0.3824088	0.000	0.3553236	0.000	0.3315361	0.000	0.3243989	0.000
YEAR01	0.5073593	0.000	0.5063592	0.000	0.4981362	0.000	0.4560957	0.000	0.4828531	0.000	0.5157220	0.000
YEAR02	0.6049669	0.000	0.6026170	0.000	0.5938261	0.000	0.6035778	0.000	0.5795512	0.000	0.6020217	0.000
YEAR03	0.8114538	0.000	0.8113274	0.000	0.8069814	0.000	0.8071191	0.000	0.8109355	0.000	0.8293160	0.000
YEAR04	0.9737898	0.000	0.9744498	0.000	0.9730085	0.000	0.9719203	0.000	0.9634776	0.000	0.9847087	0.000
YEAR05	1.1235770	0.000	1.1254050	0.000	1.1262000	0.000	1.1320340	0.000	1.122981	0.000	1.137050	0.000
YEAR06	1.2578240	0.000	1.2605360	0.000	1.2615530	0.000	1.2677450	0.000	1.270204	0.000	1.282201	0.000
YEAR07	1.2479650	0.000	1.2508050	0.000	1.2540380	0.000	1.2507830	0.000	1.236803	0.000	1.256992	0.000
YEAR08	1,2156250	0.000	1.2168980	0.000	1.2171960	0.000	1.1977130	0.000	1.170997	0.000	1.199954	0.000
YEAR09	1.1793600	0.000	1.1816200	0.000	1.1812750	0.000	1.1767740	0.000	1.188122	0.000	1.168597	0.000
YEAR10	1.1656550	0.000	1.1671120	0.000	1.1684830	0.000	1.1661300	0.000	1.141795	0.000	1.130095	0.000
YEAR11	1.1340160	0.000	1.1354580	0.000	1.1356530	0.000	1.1189450	0.000	1.081186	0.000	1.116774	0.000
YEAR12	1.1058400	0.000	1.1071270	0.000	1.1050640	0.000	1.0867430	0.000	1.072367	0.000	1.057766	0.000
YEAR13	1.1695840	0.000	1.1713540	0.000	1.1742310	0.000	1.1696520	0.000	1.162768	0.000	1.165702	0.000
TRACT201	-0.2314463	0.000	-0.2357599	0.000	-0.2510565	0.000	-0.3406732	0.000	-0.4461769	0.000	-0.4479646	0.000
TRACT202	-0.5061295	0.000	-0.5043824	0.000	-0.4786651	0.000	-0.3916060	0.000	-0.3556344	0.000	-0.3206392	0.000
TRACT302	-0.1870817	0.000	-0.1847832	0.000	-0.1773099	0.000	-0.1330899	0.000	-0.1398307	0.000	-0.0855719	0.000
TRACT401	-0.3281226	0.000	-0.3286981	0.000	-0.3323391	0.000	-0.3118423	0.000	-0.3367458	0.000	-0.2470097	0.000
TRACT402	-0.2470355	0.000	-0.2440621	0.000	-0.2340463	0.000	-0.1881835	0.000	-0.2087157	0.000	-0.1732437	0.000
TRACT501	-0.4394542	0.000	-0.4358011	0.000	-0.4222223	0.000	-0.3827758	0.000	-0.3417107	0.000	-0.3187561	0.000
TRACT502	-0.2056674	0.000	-0.2046938	0.000	-0.1998604	0.000	-0.1695087	0.000	-0.1971010	0.000	-0.1838711	0.000
TRACT600	-0.1972428	0.000	-0.1969277	0.000	-0.1977290	0.000	-0.1863989	0.000	-0.2604322	0.000	-0.3016608	0.000

Table 3.7 Regression Results for Alternative Distances (continued)

	(100 feet)		(250 feet)		(500 feet)		(1000 feet)		(1500 feet)		(2000 feet)	
Variable	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)	β	Pr(>z)
TRACT700	0.1570584	0.000	0.1571670	0.000	0.1583211	0.000	1.616417	0.000	0.1035572	0.000	0.0913138	0.000
TRACT800	-0.1816782	0.000	-0.1816035	0.000	-0.1818456	0.000	-0.1783289	0.000	-0.2255401	0.000	-0.2233949	0.000
TRACT900	-0.1562405	0.000	-0.1552436	0.000	-0.1514295	0.000	-0.1299003	0.000	-0.1620369	0.000	-0.1351673	0.000
AGE	-0.0038077	0.000	-0.0038882	0.000	-0.0040864	0.000	-0.0042328	0.000	-0.0043553	0.000	-0.1286733	0.000
AGE2	0.0000521	0.000	0.0000525	0.000	0.0000532	0.000	0.0005160	0.000	0.0005360	0.000	0.0000442	0.000
SQFTBUILD	0.0001645	0.000	0.0001665	0.000	0.0001726	0.000	0.0002040	0.000	0.0002212	0.000	0.0002257	0.000
ROOMS	0.0526076	0.000	0.0527697	0.000	0.0527942	0.000	0.0541774	0.000	0.0591181	0.000	0.0627079	0.000
BATH2	0.1874689	0.000	0.1868658	0.000	0.1883379	0.000	0.1971144	0.000	0.1955172	0.000	0.1818856	0.000
BATH3P	0.3764659	0.000	0.3759527	0.000	0.3768982	0.000	0.3839227	0.000	0.3901020	0.000	0.3790908	0.000
AIR	-0.0081822	0.476	-0.0081783	0.477	-0.0056358	0.625	-0.0099989	0.394	-0.0111310	0.328	-0.0688864	0.000
RADIANT	-0.2042804	0.000	-0.2043681	0.000	-0.2002581	0.000	-0.1952481	0.000	-0.2033489	0.000	-0.2647563	0.000
CENTAIR	0.0502014	0.000	0.0503350	0.000	0.0518721	0.000	0.0559548	0.000	0.0595150	0.000	0.0845110	0.000
FIRE0	-0.1601948	0.000	-0.1603994	0.000	-0.1624181	0.000	-0.1845697	0.000	-0.1935563	0.000	-0.2013585	0.000
FIRE2P	0.0661120	0.000	0.0654895	0.000	0.0652029	0.000	0.0545921	0.000	0.0500780	0.000	0.0395134	0.001
WOOD	0.0503471	0.000	0.0504231	0.000	0.0470655	0.000	0.0366385	0.002	0.0464719	0.000	0.0654715	0.000
BRICK	0.0849118	0.000	0.0851733	0.000	0.0838606	0.000	0.0679283	0.000	0.0594792	0.000	0.0543031	0.000
ALUMINUM	-0.0132743	0.306	-0.0125664	0.333	-0.0115401	0.376	-0.0171083	0.204	0.0006713	0.959	-0.0035345	0.794
STUCCO	0.0210086	0.172	0.0193588	0.208	0.0126499	0.411	-0.0312334	0.046	-0.0323206	0.033	-0.0491656	0.001
SINGLE	0.0996638	0.000	0.1016041	0.000	0.1054113	0.000	0.1258705	0.000	0.1301472	0.000	0.1031678	0.000
DISTVAR	-0.0121278	0.828	-0.0601644	0.160	-0.0692990	0.000	-0.0902664	0.000	-0.1267362	0.000	-0.1286733	0.000
INTVAR	0.0068613	0.958	0.0494487	0.374	0.0598621	0.048	0.0836019	0.000	0.0634723	0.000	-0.0079031	0.569
CONSTANT	10.83417	0.000	10.83093	0.000	10.8255	0.000	10.78727	0.000	10.79258	0.000	10.79664	0.000
NUM	10,353		10,353		10,353		10,353		10,353		10,354	
R^2	0.803		0.8027		0.8017		0.7993		0.8131		0.8286	

Figure 3.1 Property Value Impact by Distance from Habitat Home



Note: Only 500, 1,000, and 1,500 feet proximity are statistically significant.

SECTION 4
PARTNER OUTCOMES

Housing potentially plays an important role in family welfare. People spend more time in their homes than anywhere else. Moreover, the decision to purchase a home is among the most significant financial decisions that households make. This section reviews the literature on the subject of how housing characteristics and homeownership affect households, including their economic wellbeing, health, educational progress, and community involvement. In addition, it considers how these outcomes differ for low-income households. Next, it describes the ways in which Habitat partner experiences are likely to differ from other low-income homeowners. Lastly, it examines the specific effects of Habitat housing on its partner families. This analysis relies on the results of self-assessments of Habitat partners of their wellbeing before and after becoming Habitat partners in several areas, including financial security, health and personal wellbeing, family life and education, and neighborhood and community satisfaction.

Homeownership, Housing, and Household Outcomes

Housing differs not only in its physical attributes but also its legal, financial, and geographical characteristics (Shlay 2006). Legal tenure defines the amount of control and responsibility over one's living quarters. Housing can also be a financial asset that appreciates or depreciates in price, which affects owner wealth and tenant rents. Housing has numerous physical attributes that contribute to varying degrees to consumer satisfaction. Occupants experience not only the amenities of the specific structure but also those of the neighborhoods and communities in which they are located. The decision to own or rent is motivated by an individual's assessment of each these features. **Figure 4.1** describes each of these features and illustrates how they might relate to several primary and secondary household outcomes.

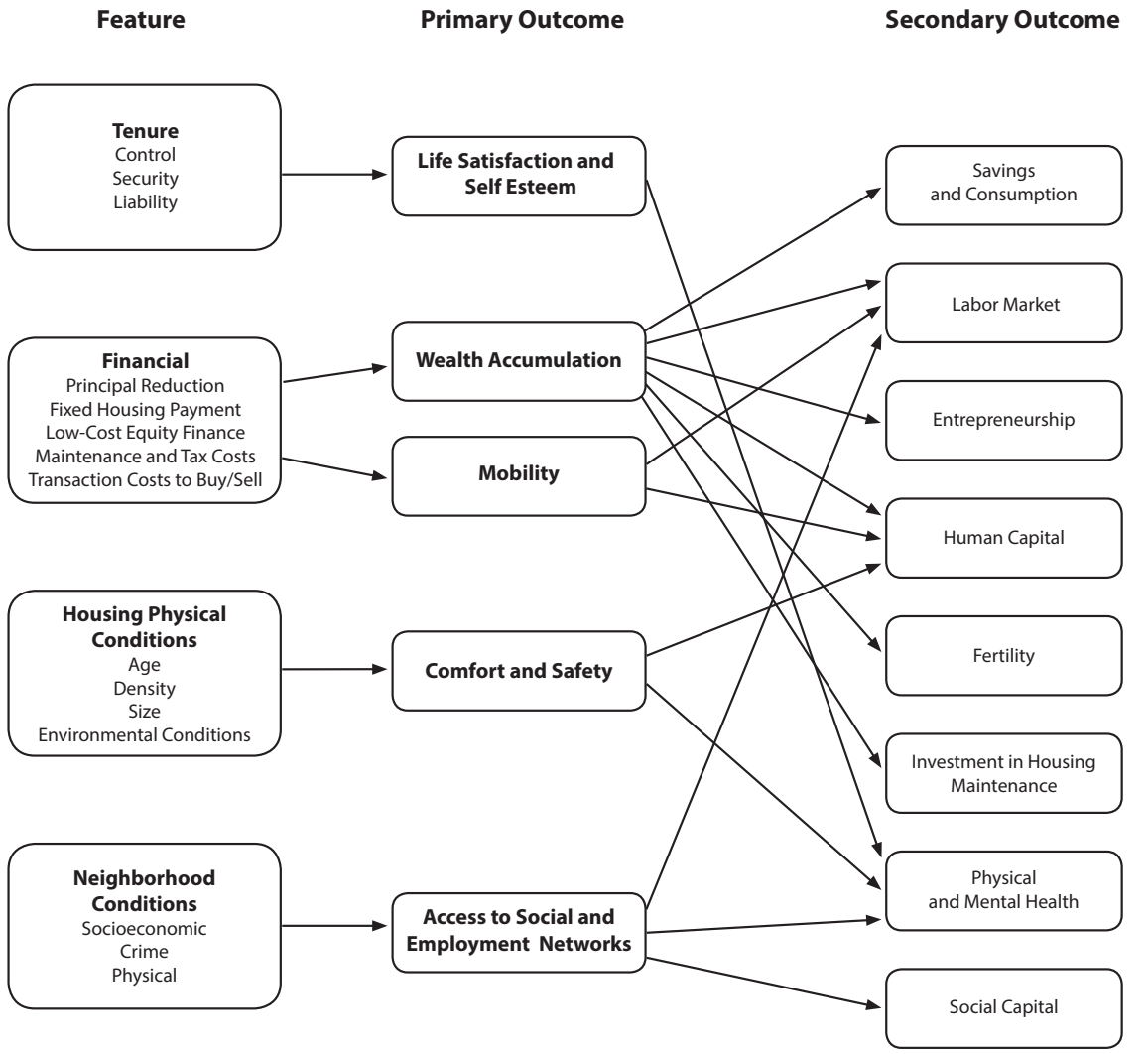
Housing Features and Primary Outcomes

Tenure is the legal right granted by the state to posses, use, control, develop and subdivide, dispose of and lease property. Ownership provides the title-holder additional legal rights and protections against intrusions from private parties such as encroachment and creates greater control over use and disposition. Owners also assume more obligations such as payment of taxes and liability for defects that might damage another party. The additional control and security that comes with homeownership has been linked with improved life satisfaction and self esteem (Herbert and Belsky 2008; Rohe and Stegman 1994). The greater life satisfaction results partly from more feeling of self-control and the lower likelihood of being expelled from one's residence by others. Owners may have higher self-esteem because of the improved social status conferred by homeownership and feeling of self-efficacy from attaining a culturally valued goal.

Housing is also an economic asset. Homeownership can affect the pace and magnitude of wealth accumulation (Dietz and Haurin 2003; Herbert and Belsky 2008; Herbert, McCue and Sanchez-Moyano 2014). Homeowners often accumulate significant savings to meet the need for a down payment and closing costs and mortgages are amortized over time, which results in reduction of outstanding principal and in effect forces households to save. Moreover, home prices tend to appreciate faster than the rate of inflation, which provides households with a hedge against inflation in most housing markets and allows them to realize a real return on their savings.

Home mortgage and mortgage taxation features provide additional financial benefits. Fixed rate financing creates regular and predictable housing

Figure 4.1 Homeownership and Housing Attributes and Related Household Outcomes



payments, that assists households in budget planning and buffers them from increasing housing costs. Homeowners also potentially have access to low interest 2nd mortgage or equity finance for consumption in contrast to renters who must rely on higher cost unsecured lending such as consumer loans or credit cards. Homeowners may also potentially benefit from favorable federal and state tax treatment of owner-occupied housing by deducting mortgage interest, property taxes, and other costs as a result of itemizing their deductions for income taxes.

There are also some financial downsides to homeownership. Homeowners assume new maintenance, property tax, and hazard insurance expenses. They may encounter higher transactions costs such as search costs, transfer taxes, real estate fees, lawyer fees, and financing costs when they purchase or sell their homes (Dietz and Haurin 2003). These additional costs cause homeowners to move less often than renters. In addition, homeowners may assume more financial risk because home assets are lumpy and cannot be diversified over different

types of assets or markets to minimize risk (Herbert, McCue, and Sanchez-Moyano 2014).[14] Finally, homeowners may default on their mortgages, which creates numerous personal and financial costs such as increased stress, loss of savings, and bad credit history.

Housing stock differs in its physical and place characteristics. Houses differ in age, size, and environment. These features contribute to varying degrees of occupant comfort and safety. Location characteristics such as good quality schools and neighborhood socioeconomic levels affect access to social and employment networks (Freeman 2009). Physical and place characteristics tend to differ by tenure characteristics. Owner-occupied housing stock is more likely to be newer, larger, and consist of single-family detached units. It is also more likely to be located in areas with more amenities, low-density neighborhoods, and the suburbs and rural areas (Joint Center for Housing Studies 2013).

Secondary Outcomes

The primary outcomes associated with four housing features include life satisfaction and self-esteem, mobility, wealth accumulation, comfort and safety, and access to social and employment networks. These outcomes, in turn, can be further linked to various secondary household outcomes. They include savings and consumption, labor market behavior, human capital, physical and mental health, entrepreneurship and other outcomes. Each of these outcomes is examined in further detail below.

Consumption and Savings Behavior

The permanent income hypothesis is a theory of consumption that relates consumer spending to changes in permanent income, a measure of household's real wealth of which housing wealth is an important component. Since household income can be divided into consumer spending and savings, changes in wealth affects savings responses as a residual. Changes in housing wealth can have substantial effects on consumer and savings behavior. The most recent confirmation of the importance of this housing "wealth effect" was consumer behavior before and during the great recession. Initially, large increases in housing prices made homeowners feel wealthier and allowed them to tap their increasing home equity to purchase other consumer goods. After the housing market collapse, plunging housing and financial asset values caused consumers to defer and decrease their durable goods purchases.

Recent microeconomic studies establish a strong relationship between wealth and consumption behavior. Housing wealth is thought to affect consumption primarily through a "pure wealth effect" in which consumers simply feel richer, relaxation of credit constraints that affect homeowners' ability to extract home equity for credit, and reducing need for precautionary saving (Gan 2010; Mian, Rao, and Sufi 2013). Increases in home equity have also been linked with lower likelihood to invest in savings and other financial products such as long-term care insurance (Davidoff 2010; Dietz and Haurin 2003).

Human Capital

Homeownership is associated with improved household management skills and higher educational achievement of household members such as improved high school and college graduation rates (Boehm and Schlottman 1999; Green and White 1997; Rohe and Lindblad 2014). This relationship can be attributed to several intermediate factors such as wealth accumulation, more limited mobility, a better physical environment that creates greater physical comfort conducive to learning, improved peer networks from better neighborhood quality, and other primary outcomes.

Since homeowners are able to accumulate more wealth, the added financial resources provide more financial stability and can be tapped to fund education and create an environment conducive to child educational achievement (Dietz and Haurin 2003; Herbert and Belsky 2008). Two recent studies (Lovenheim 2011; Lovenheim and Reynolds 2013) find that housing wealth increases the likelihood of

14 A broader picture sometimes shows that homeownership decreases financial portfolio risk. For example, Goetzmann (1993) finds that when housing services value, tax savings, and financial leverage are considered, returns from homeownership are better than other investments.

children enrolling in higher education, attending a better quality school, and graduating.

Several studies find that homeowners' lower mobility affects educational achievement (Aaronson 2000; Dietz and Haurin 2003). Greater residential stability can provide a "more stable social and educational environment " which promotes child school progress (Herbert and Belsky 2008). In contrast, frequent moves and school changing can disrupt child learning (Rohe and Lindblad 2014).

Quality of home and neighborhood may also be important. Owner-occupied homes, as stated earlier, are more likely to be single-family detached, larger, and be of better quality. Less crowding and better physical conditions may be more conducive to studying (Dietz and Haurin 2003; Herbert and Belsky 2008). In addition, owner-occupied homes tend to be located near other owner-occupied homes in neighborhoods that have better conditions for fostering child growth and development (Dietz and Haurin 2003).

Homeownership attributes may contribute in other ways. Homeowners may have greater life satisfaction and self-esteem, which in turn make them better able to provide a "stimulating and emotionally supportive home environment" for their children (Herbert and Belsky 2008). Boehm and Schlottmann (1999) and Green and White (1997) argue that homeowners acquire skills to be better household managers as a result of the responsibility for directing housing financial and maintenance decisions. Homeowners may also be able to invest in education because of greater budgeting freedom as a result of a fixed housing payment schedule.

A few studies argue that homeownership can potentially crowd out educational saving and spending. Funds dedicated to housing cannot easily be redirected to education and homeownership is often costlier than renting (Freeman 2009). Fornero, Romiti, and Rossi (2013) describe how household bequest motives can increase the attractiveness of housing wealth accumulation at the expense of spending and saving for child education.

Labor Market Outcomes

Homeownership can also affect labor market behavior. Homeowners face higher costs of relocating due to the costs associated with selling a home and buying another. These costs will be higher when home equity is negative, creating the possibility of "housing lock." Unemployed homeowners may be less likely to move, leading to lower incomes, higher rates of joblessness, and longer jobless duration. The negative equity trap is most likely to occur during economic downturns, which means that migration may be constrained when it is most needed.

Empirical evidence of housing lock has been mixed because of mitigating labor market mechanisms and selection effects. Capital inflows and outflows of tenant households will help equilibrate labor markets across regions (Coulson and Fisher 2002). Also, employers may favor homeowner employees because they are less likely to move than renters or homeowners may self-select into low unemployment risk occupations (Coulson and Fisher 2002). Homeowners may also have better access to social and employment networks that help them find jobs (Coulson and Fisher 2002). Homeowners may be more be incentivized to conduct intensive job search or more willing to accept lower wages to avoid moving costs and the costs of default (Baert, Heylen and Isebaert 2013; Cunningham and Reed 2012).

Homeownership has also been linked with changes in labor supply. Several studies suggest that the amount of female household head labor supplied increases in response to greater household debt burdens (Dietz and Haurin 2003).

Mental and Physical Health

Homeownership and housing quality may affect mental and physical health. Ownership may improve self-esteem and control which contributes to better psychological health (Herbert and Belsky 2008; Rohe and Stegman 1994). Wealth accumulation may make more financial resources available for health care expenses and increased financial security may lessen anxiety. On the other hand, increased maintenance responsibilities and

risk of default may increase stress (Dietz and Haurin 2003; Rohe and Lindblad 2014).

Housing quality can also be linked with physical and mental health outcomes. Poor air quality, dampness, coldness, presence of allergens and environmental toxins such as lead-based paint, and safety problems are known to cause health problems and delayed or stunted growth (Rohe and Lindblad 2014; Shaw 2004; Thomson, Petticrew and Douglas 2002). Excessive crowding and noise may strain personal relationships and cause stress (Evans et al. 2000).

Local Amenities and Social Capital

Homeowners are thought to make greater investments in their communities than renters. External home maintenance, volunteering, community group involvement, and friendship formation may be higher among homeowners (DiPasquale and Glaeser 1999; Rohe and Lindblad 2014; Rohe, van Zandt, and McCarthy 2002). In part, this reflects the role of higher moving costs and lower mobility levels. Homeowners may dedicate more time and effort to solving neighborhood problems and have more time to expand their community connections and level of engagement (Herbert and Belsky 2008; Rohe, van Zandt, and McCarthy 2002). Homeowners also have greater financial incentives to make investments in their neighborhood because area amenities are capitalized into property prices (Aaronson 2000; Herbert and Belsky 2008; Rohe, van Zandt, and McCarthy 2002). For the same reasons, they might be expected more likely to monitor the social behavior of household members and other neighborhood residents that could result in bad behavior such as littering, excessive noise or crime.

Other Household Outcomes

Homeownership has been connected with other demographic, social and economic outcomes but the empirical evidence is a bit more limited. Lovenheim and Mumford (2013) find that increases in housing wealth boost householder fertility. On the other hand, teen pregnancy may be reduced (Green and White 1997; Lovenheim and Mumford 2013). Homeownership may decrease the risk of divorce, in part because of the higher transaction costs incurred by separation (Dietz and Haurin 2003). Homeownership may contribute to greater entrepreneurship because of the important role of home equity in providing business start-up capital. Firms started in regions that experienced higher house price appreciation in the 1990s by homeowners tended to be larger and have better survival rates than firms started by renters (Schmalz, Sraer and Thesmar 2013). Children of homeowners have been found to have a higher likelihood of becoming homeowner themselves (Boehm and Schlottman 1999) and lower likelihood of being arrested (Green and White 1997). Homeowners also show a greater propensity to recycle (Dietz and Haurin 2003).

Low-Income Homeowner Outcomes

The discussion above focused on general homeownership outcomes. But, the effects of homeownership for low-income households often differ from higher income households.

Low-income homeowners accumulate more wealth than tenants, but wealth is significantly lower than higher income homeowners. The ability to build home equity is affected by several conditions, including (1) length of homeownership, (2) propensity to withdraw home equity for consumer purchases, (3) propensity to refinance when lower mortgage rates are available, (4) ability to invest in home maintenance and improvements, and (5) ability to take advantage of homeowner tax benefits. Low-income homeowners do not perform as well on these dimensions as high-income homeowners (Herbert and Belsky 2008). First, low-income households typically have shorter tenures than higher income households (Herbert and Belsky 2008; Herbert, McCue, and Sanchez-Moyano 2014). Low-income homeowners are more likely to default and exit homeownership, in part because they are at higher risk for crises such as job loss, divorce and separation, health problems, and originally financed their homes on less sustainable mortgage finance terms (i.e., low down payment, high mortgage rates, and variable rate mortgage resets). Second, low-income households are more likely to withdraw equity from their homes. Third, low-

income households are less aware of refinancing opportunities and less likely to refinance. Fourth, low-income households invest fewer resources in home maintenance and home improvements. Fifth, low-income households are generally not able to itemize their deductions to take advantage of the personal income tax home mortgage deduction because their mortgage interest expenses are not high enough.

For many low-income households, homeownership is still an optimal decision. Although home equity is lower than for high-income households, it still helps households build significant savings (Herbert, McCue, and Sanchez-Moyano 2014). Mortgage amortization provides the structure and regimentation required for some lower income households to accumulate wealth who would otherwise lack the tools or disciple to save.

Low-income homeowner households differ in other areas. The housing wealth effect has a much more pronounced effect on the consumption expenditures of low-income, often credit-constrained households than it does higher income households (Mian, Rao, and Sufi 2013). Low-income households are also less likely to gain access to better neighborhoods than high-income households (Reid 2004). Mobility for low-income homeowners may be lower than high-income homeowners because their housing market choices are more limited and transaction costs form a greater relative barrier to moving. Low-income owners appear to be only slightly more likely to become involved in the community than renters and less so than high-income homeowners (DiPasquale and Glaeser 1999; Herbert and Belsky 2008). One area where low-income households seem to realize greater benefits is child educational progress and achievement (Lovenheim 2011; Lovenheim and Reynolds 2013; Shlay 2006).

Habitat for Humanity Homeowner Outcomes

The Habitat program should generally have much more favorable impacts on low-income homeowners than private mortgage finance.[15] Indeed, the vast majority of Habitat partners would not even qualify for traditional mortgages for non-manufactured local housing market because of credit constraints such as of lack of down-payment capital and high housing or debt burden ratios and supply constraints such as a lack of locally available affordable housing stock.

As discussed in section 1, Habitat is designed to sustain low-income household homeownership and build home equity. A rigorous selection process, partner education and training, reduced cost homes, zero interest finance, second-mortgage forgiveness, low maintenance and utility costs, and crisis payment deferral and financial restructuring combine to produce low default rates and long periods of homeownership tenure. Restrictions on equity withdrawal assure that partners continue to build equity in their homes and avoid an additional source of debt burden. Extremely favorable mortgage payment terms means that homeowners do not need to refinance at any point to obtain better mortgage interest rates and build equity much faster than traditional amortized mortgages. Acquisition of construction maintenance skills from Habitat training and self-help experiences and Habitat maintenance escrow accounts better enables partners to continue to invest in the upkeep of their homes. The only area where Habitat partners resemble other low-income homeowners is in local tax payment burden. They too must pay regressive real property taxes.

The Habitat program might be expected to contribute to better outcomes in other non-financial areas as well. Habitat is designed not only to improve asset accumulation but length of housing tenure, which is associated with several positive household outcomes described earlier. The Habitat experience also results in new or, in some cases, substantially renovated homes. In contrast, many

15 Habitat partnership might also theoretically have some negative effects such as reduced labor force participation. The Habitat program provides a sales price subsidy. This subsidy could have consequences similar to an income transfer and increase the demand for leisure (see Olsen et al. 2005; Shroder 2002).

low-income homeowners purchase older, smaller, and substandard housing or low-cost manufactured housing (Collins, Crowe, and Carliner 2002; Herbert and Belsky 2006). Habitat will repurchase homes from partners who must relocate from the area because of unforeseen job or family changes which significantly reduces the costs of moving. Partner volunteer requirements and Habitat success in establishing active homeowner associations helps connect neighbors and might be expected to generate new social capital and greater community satisfaction. Finally, Habitat offers a variety of social, educational, health, and recreational activities at its Sunrise Park site that will be replicated in its other large projects. These services might be expected to contribute to human capital.

Habitat Survey

During the summer of 2014, Greater Charlottesville Habitat contracted with the Formative Change Group at the Frank C. Batten School of Public Policy and Leadership at the University of Virginia to develop a survey instrument to measure Habitat partner outcomes and satisfaction. The survey was modeled after similar surveys conducted by Habitat chapters elsewhere in the nation (Habitat for Humanity of Minnesota 2011; Phillips, et al. 2008). It asked partners to evaluate their levels of neighborhood and community involvement, family life and education improvement, health and personal well-being, and financial progress since becoming homeowners. The aim of using this partner self-assessment information here will be to find evidence of a causal connection between the Habitat program and partner outcomes.[16] A copy of the survey instrument is provided in **Appendix A**. In June and July of 2014, Habitat mailed 120 surveys to current partners and received 81 responses for a response rate of 67.5 percent.

Table 4.1 presents the demographic characteristics of Habitat respondents. Demographic information on all 120 current partner families is not available to compare the representativeness of the responses. However, some information on 69 Habitat partners who received Habitat homes between December 2006 and November 2013 was reported in Table 1.3 of Section 1. Respondents were less likely to be White, non-Hispanic (27.2 percent) compared to the benchmark group (44.9 percent). But, the respondents and benchmark group are similar in terms of household size distribution and average household size with the former having average household size of 3.4 and the later a size of 3.3. In addition, the distribution by residency duration aligns with Habitat housing closing dates. Information compiled for 120 current Habitat family partners housed between 1991 and 2013 shows that 18 percent of the Habitat homes were built in the last two years, 24 percent 3-5 years ago, 31 percent 6-10 years ago, and 28 percent over ten years ago. If these homes were continuously occupied by their original families, the average residence duration would be 7.3 years compared to the 7.0 years reported by survey respondents. Thus, the survey respondents are in some ways representative of recent Habitat partners but the representativeness of the entire partner population cannot be ascertained.

Habitat partner ratings of quality of life changes are reported in **Table 4.2** along with statistical significance test results represented by P-values. One-hundred percent of partners reported that the lives of family members had improved at least "a little" and seventy percent reported that their lives had changed "a lot" or "completely" since becoming Habitat homeowners (average rating 4.22 on 5 point scale). Moreover, all but three respondents attribute at least "a little" and seventy-four percent

16 This research design is generally weaker for inferring causal effects than some alternatives that were not feasible to implement within the time frame and resources available. A true quasi-experimental "before and after" methodology would compare individual responses before and after Habitat homeownership rather than depend on individual recall after Habitat homeownership. A difference-in-difference design would compare before and after changes of Habitat partners to a comparable control group of non-Habitat residents. A regression discontinuity design (RDD) would use regression analysis to compare Habitat partners to other qualifying applicants who were not able to obtain homes. Habitat partner welfare might have improved somewhat even without Habitat experience because of the accumulation of education and experience that naturally occurs over time that and results in improved financial circumstances. Moreover, homeowners may experience some negative effects due to mobility restrictions and greater stress from homeownership financial and maintenance responsibilities.

Table 4.1 Habitat Partner Survey Respondent Characteristics

Characteristic	Percent of Total
Gender	
Male	16.1
Female	79.0
NA/Male and Female Respondents	4.9
Race/Ethnicity	
African American/Black	44.4
American Indian/Native American	0.0
Asian/Asian American/Pacific Islander	4.9
Caucasian/White	27.2
Hispanic/Latino	12.4
Other	6.2
NA	4.9
Age	
18-24	0.0
25-34	8.6
35-44	29.6
45-54	30.9
55-64	21.0
65 and older	3.7
NA	6.2
Mean	47.3
Marital Status	
Single	37.0
Married	33.3
Divorced	16.1
Separated	4.9
Widowed	4.9
NA	3.7
Habitat residency length	
1-2 years	23.5
2-5 years	14.8
6-10 years	32.1
10 years or over	22.2
NA	7.4
Mean	7.0
Household size	
1	21.0
2	11.1
3	22.2
4	18.5
5	9.9
6	7.4
7+	4.9
NA	4.9
Mean	3.3

Table 4.2 Habitat Partner Quality of Life Changes, Percentage of Total, Mean Scaled Response, and P-value

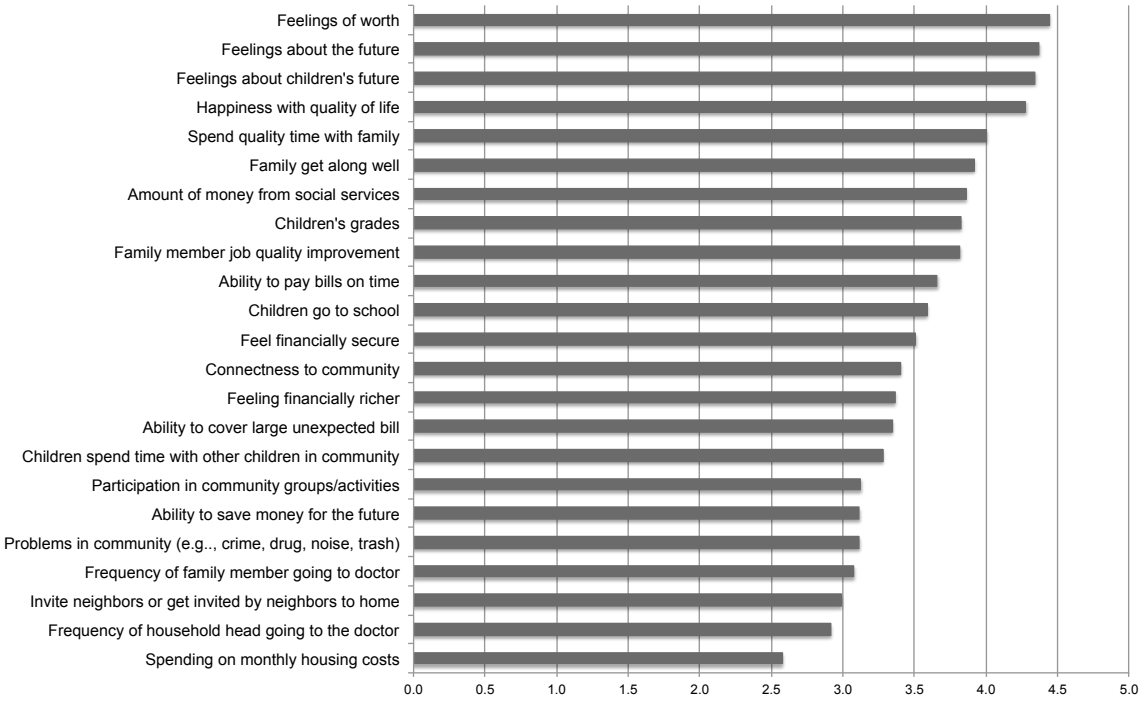
	Scale from Least to Most							
Component	1	2	3	4	5	NA/ Missing	Mean	P-value
Neighborhood/Community								
Connectness to community	12.4	6.2	30.9	28.4	21.0	1.2	3.4	0.0053
Participation in community groups/activities	9.9	8.6	46.9	25.9	7.4	1.2	3.1	0.2780
Problems in community (e.g., crime, drug, noise, trash)*	13.6	19.8	30.9	11.1	23.5	1.2	3.1	0.4583
Invite neighbors or get invited by neighbors to home	14.8	9.9	40.7	28.4	4.9	1.2	3.0	0.9191
Family Life and Education								
Spend quality time with family	0.0	7.4	29.6	18.5	44.4	0.0	4.0	<.00001
Family get along well	0.0	1.2	40.7	23.5	34.6	0.0	3.9	<.00001
Children spend time with other children in community	11.1	4.9	23.5	17.3	14.8	28.4	3.3	0.1139
Children go to school	0.0	1.2	43.2	2.5	18.5	34.6	3.6	<.00001
Children's grades	0.0	1.2	32.1	13.6	22.2	30.9	3.8	<.00001
Feelings about children's future	0.0	2.5	14.8	13.6	45.7	23.5	4.3	<.00001
Health and Personal Well-being								
Frequency of household head going to the doctor*	11.1	9.9	61.7	11.1	6.2	0.0	2.9	0.4160
Frequency of family member going to doctor*	4.9	8.6	66.7	11.1	7.4	1.2	3.1	0.4261
Happiness with quality of life	2.5	4.9	8.6	29.6	53.1	1.2	4.3	<.00001
Feelings of worth	1.2	1.2	11.1	24.7	60.5	1.2	4.4	<.00001
Feelings about the future	0.0	3.7	13.6	23.5	56.8	2.5	4.4	<.00001
Financial Well-being								
Feeling financially richer	2.5	7.4	46.9	35.8	6.2	1.2	3.4	0.0002
Feel financially secure	4.9	6.2	34.6	38.3	13.6	2.5	3.5	<.00001
Ability to save money for the future	7.4	14.8	43.2	23.5	8.6	2.5	3.1	0.3263
Ability to pay bills on time	2.5	4.9	34.6	37.0	18.5	2.5	3.7	<.00001
Ability to cover large unexpected bill	6.2	11.1	35.8	32.1	12.4	2.5	3.3	0.0049
Family member job quality improvement	2.5	0.0	8.6	12.4	9.9	66.7	3.8	0.0038
Amount of money from social services*	0.0	6.2	32.1	6.2	33.3	22.2	3.9	<.00001
Spending on monthly housing costs*	16.1	42.0	16.1	11.1	11.1	3.7	2.6	0.0033
Overall								
Lives of family members overall	0.0	3.7	18.5	28.4	46.9	2.5	4.2	<.00001
Contribution of Habitat program to family's life	2.5	7.4	14.8	46.9	27.2	1.2	3.9	<.00001

* Scale was reversed from survey to indicate 5 is most favorable and 1 least

at least "a lot" of the improvement to the Habitat homeownership experience. These findings indicate that the Charlottesville Habitat Program has been broadly successful in improving the lives of its partners.

Figure 4.2 summarizes key findings of the Formative Change Group's survey and ranks quality of life average assessments by component to assess which ones contributed most to changes in partner welfare. Respondents rate improvement in

Figure 4.2 Habitat Partner Ranked Average Quality of Life Changes, Scale from Least to Most (3=No Change)



their personal and family well-being highest (i.e., feelings of worth, feelings about the future, feelings about children's future, happiness with quality of life, spending quality time with family). They also saw improved child achievement (i.e., going to school, grades) and better household finances (i.e., feeling financially richer, feeling financially secure, feeling financially richer, ability to cover large bills). Respondents generally reported little change in neighborhood and community connectedness (e.g., interacting with groups and neighbors). Partners' assessments of neighborhood problems such as crime, noise, and litter were on average little changed from their previous residences. Lastly, health improvement measured by frequency of doctor visits for householders and family members was generally not different. These results provide support for the hypotheses described earlier that link homeownership, new housing, and the Habitat program with improved life satisfaction and self-esteem, finances, and human capital. However, they do not provide evidence of improvements to social capital and health.

One section of the survey asked homeowners to compare pre and post closing housing expenses. **Table 4.3** indicates that some partners were paying slightly more in monthly housing costs compared to their previous residences. In part, this may reflect housing cost inflation. The U.S. Consumer Price Index for Urban Consumers increased 7.8 percent for housing between 2007 and 2013. Taking this into account and an average housing tenure of 7.0 years reported by survey respondents, real housing costs increased from an estimated $883 before to $916 after (in terms of 2007 dollars). Another possible explanation is survey response error. Habitat went back and re-queried each of the 20 homeowners who reported more than $1,000 in monthly housing expenses. Seventeen of the twenty homeowners are actually paying below $1,000 with an average of $664. When asked, most respondents revealed that they had included non-household expenses such as groceries in their calculations.

Even if on average partners are actually paying slightly more on housing costs compared

Table 4.3 Habitat Partner Housing Costs, Before and After, Percentage of Total

Monthly Housing Costs	Before	After
Less than $400	8.6	2.5
$400-$599	17.3	7.4
$600-$799	22.2	22.2
$800-$999	9.9	19.8
$1,000-$1,199	11.1	17.3
$1,200-$1,399	9.9	17.3
$1,400-$1,599	3.7	2.5
$1,600-$1,799	2.5	1.2
$1,800-$1,999	2.5	0.0
$2,000 or more	1.2	3.7
NA	11.1	6.2

to previous residences, their overall financial situations would still be better. (see Table 4.2). A large portion of their monthly housing costs now represent down payment of principal and growing equity in their new homes.[17] Also, family members sometimes obtained new and better jobs and obtained additional education (see **Table 4.4**). Thirty-six percent of partner households had family members who changed jobs. In seventy-two percent of these cases, the family member's job was better than previously. Thirty-five percent of respondents and nearly half of family members had obtained additional training or higher education, including certificates, Associate's degrees, and Bachelor's degrees. Partners were also much less likely to rely on various types of financial assistance such as Food Stamps/Food Assistance, TANF, Medicaid, and Energy Assistance (see **Table 4.5**).

17 Data provided by Habitat indicate that Habitat zero interest mortgages result in a net savings of $8.4 million for its partner families, based on a market mortgage interest rate of 5 percent.

In order to identify variables closely related to self-reported Habitat improvement, an additional exploratory analysis was performed. Partner self-evaluations of the total contribution of the Habitat homeownership program to family wellbeing was regressed on various household economic, demographic, and housing characteristics. The dependent variable was the 5-point scale response for the survey question "How much do you think Habitat for Humanity's homeowners program has contributed to the changes in your family life?" Explanatory variables included several dummy variables: SENIOR (respondent is 65 years or older), MALE (respondent is male), MINORITY (respondent is non-white), MARRIED (respondent is married), DETACHED (home is detached single-family unit), SUNRISE (home is located in Sunrise

Table 4.4 Habitat Partner Leadership, Education, and Employment Changes, Percentage of Total

Change	Yes	No, but I plan to	No, and I don't plan to	NA
Leadership role in community	13.6	21.0	56.8	8.6
Personally started and/or completed higher education or training programs	34.6	29.6	27.2	8.6
Family member started and/or completed higher education or training programs	48.2	21.0	23.5	7.4
Family members changed jobs	35.8	60.5	--	3.7

Table 4.5 Habitat Partner Public Assistance Utilization, Before and After, Percentage of Total

Category	% Using Before	% Using After
Food Stamps or Food Assistance	39.5	21.0
Welfare Assistance/Family and Children Services	13.6	2.5
Medicaid	44.4	27.2
Supplemental Insurance Income	13.6	6.2
Utility Bill/Energy Assistance Programs	27.2	6.2
Rent Assistance	18.5	0.0
Public Housing	27.2	0.0

development), and PATON (home is located in Paton St. development). Two additional ordinal variables were used: LENGTH (length of residency in months), COST (monthly housing costs increased), and HHSIZE (size of household). An ordered logit model was used to account for the ordinality of the dependent variable.

Table 4.6 shows the results. Four variables are statistically significant at the α=.10 level and have negative coefficients, meaning that they are associated with lower assessments of the role of Habitat in improving family welfare: SENIOR, MARRIED, SUNRISE, and PATON. One might expect a slightly lower rating for seniors because they are less likely to realize the same magnitude of lifetime financial and social benefits of homeownership that result from longer residential duration and presence of children. MARRIED may indicate that such families are able to draw on more internal household resources to improve family welfare over time. The SUNRISE and PATON developments may be rated slightly lower because they are relatively new, and in the case of Sunrise Park, still under construction.

Table 4.6 Ordered Logit Regression for Habitat Family Improvement

Variable	β	Pr(>z)
SENIOR	-3.6018230	0.050
MALE	0.3544220	0.685
MINORITY	-0.1270764	0.822
MARRIED	-1.5131420	0.034
LENGTH	0.0016299	0.833
COST	-0.0378975	0.944
HHSIZE	0.1348029	0.465
DETACHED	-0.4796149	0.582
PATON	-2.0147490	0.084
SUNRISE	-3.1300280	0.001
Pseudo R^2	0.1567	
Number of Observations	62	

SECTION 5
OTHER BENEFITS

Habitat for Humanity activities have other benefits that were not discussed in the previous sections. They include increased property tax revenues for local government, improved environmental quality, increased housing affordability, avoided foreclosure costs for partners who might have otherwise had to rely on conventional private mortgage finance, and, perhaps most importantly, avoided displacement costs for residents located in redeveloped areas.

Fiscal Benefits

Habitat activities result in new tax revenues for localities in the service region. First, Habitat operations and construction activities generate economic activity that creates a flow of tax revenues. Approximately half of the $102 thousand state and local tax revenue impact reported in Section 2 accrues to localities. Second, parcels that are redeveloped and rehabilitated properties are assessed at substantially higher values than they were before (see **Table 5.1**). For example, Sunrise Park replaced a trailer park assessed at $1.285 million in 2010, which at a millage rate of 95 cents per $100 of assessed value generated $12,208 in City of Charlottesville real property tax revenues. At two-thirds build-out, Sunrise Park was assessed at $6.344 million in 2014 and generated estimated real property tax revenue of $60,265. At full build out, it is estimated that Sunrise will generate approximately ten times the amount of real property tax revenue than prior to redevelopment. Third, Habitat development raises the values of homes within the vicinity. In Section 3, we calculated that homes within 1,500 feet of a Habitat home were worth 6.55 percent more as a result. For the Sunrise Park subdivision, this is equivalent to an additional total property appraised value of $3,241,735 for an estimated 307 single family homes and duplexes in the vicinity. If this market value were reflected in additional assessed value, it would result in an increase of $30,796 in Charlottesville City tax revenue.

Ordinarily one would also want to account for the additional public service costs of Habitat residents. There are three reasons for not doing so here. First, Habitat partners have already established residency in the service region for at least one year and many have been long-term residents. Therefore, they are already creating service costs for local governments. Second, the Habitat experience benefits the social, health, and economic welfare of partners and should make them less likely to draw on local public services. Third, Habitat projects consist mainly of infill housing, which should utilize existing public service capacity. For example, first responders would not have to travel further to service Habitat residents as they might for greenfield housing developments.

Environment

The Greater Charlottesville Habitat improves the local environment. Older housing and poorly maintained or polluted land may contribute to environmental contamination such as heavy metal deposition (e.g., lead, mercury, arsenic and cadmium) and volatile organic compounds dispersion that results from building age and exposure, decaying automobiles, household junk storage and unsafe waste material disposal. Aging and failing septic systems can cause nutrient and chemical contamination of ground and surface water and transmit bacteria and disease. Habitat replaces housing with high-energy consumption due to inadequate insulation and inefficient appliances and HVAC systems with more energy efficient homes. Habitat construction features green building design and its developments adhere to smart growth design principles as well as cutting edge green stormwater infrastructure technology including rain gardens, pervious pavement, and grey water capture and reuse. In addition, the residents of newer compact clusters may be less likely to endure long commutes from remote locations and may be more inclined to use local public transit which saves on fuel costs and reduces air pollution. The Habitat store also plays an environmentally beneficial role with some of the recycled materials being repurposed for housing renovations rather than disposed of in local landfills. On average, seventy percent of the merchandise sold at the Habitat store is donated, recycled material.

Table 5.1 Before and After Assessment Values of Sunrise Park, 2010 and 2014

Address	Legal Description	Land Value	Improvement Value	Total Assessment Value	Deed Acres
Before					
1106 Carlton Ave.	Parcel B Bk 8 Carlton	$88,300	$158,900	$247,200	0.094
1410 Carlton Ave.	Lots 7-13 & Strip Bk 8 Carlton	$271,700	$41,600	$313,300	0.752
1012 Midland St.	Lots 23,24&Strip Bk 8 Carlton	$58,300	$82,000	$140,300	0.172
Midland St.	Lot 14-22 & Strip Bk 8 Carlton	$355,600	$700	$356,300	0.827
Midland St.	Lots 25-27 Bk 8 Carlton	$81,000	-	$81,000	0.271
504 Rives St.	PT Lots 1-4&Strip Bk 8 Carlton	$52,000	$94,600	$146,600	0.154
Total		**$906,900**	**$377,800**	**$1,284,700**	**2.270**
After					
1412 Carlton Ave.	Unit 1 1412 Carlton East Condo	$25,000	$370,100	$395,100	0.000
1412 Carlton Ave.	Ste 2 1412 Carlton West Condo	$25,000	$70,900	$95,900	0.000
1412 Carlton Ave.	Ste 3 1412 Carlton West Condo	$25,000	$105,800	$130,800	0.000
1412 Carlton Ave.	Unit 101 1412 Carlton East Condo	$25,000	$112,100	$137,100	0.000
1412 Carlton Ave.	Unit 102 1412 Carlton East Condo	$25,000	$113,900	$138,900	0.000
1412 Carlton Ave.	Unit 103 1412 Carlton West Condo	$25,000	$108,100	$133,100	0.000
1412 Carlton Ave.	Unit 104 1412 Carlton West Condo	$25,000	$162,900	$187,900	0.000
1412 Carlton Ave.	Unit 201 1412 Carlton East Condo	$25,000	$127,000	$152,000	0.000
1412 Carlton Ave.	Unit 202 1412 Carlton East Condo	$25,000	$129,800	$154,800	0.000
1412 Carlton Ave.	Unit 203 1412 Carlton West Condo	$25,000	$87,400	$112,400	0.000
1412 Carlton Ave.	Unit 204 1412 Carlton West Condo	$25,000	$63,800	$88,800	0.000
1412 Carlton Ave.	Unit 205 1412 Carlton West Condo	$25,000	$88,000	$113,000	0.000
1412 Carlton Ave.	Unit 301 1412 Carlton East Condo	$25,000	$134,400	$159,400	0.000
1412 Carlton Ave.	Unit 302 1412 Carlton East Condo	$25,000	$137,400	$162,400	0.000
1412 Carlton Ave.	Unit 303 1412 Carlton West Condo	$25,000	$87,400	$112,400	0.000
1412 Carlton Ave.	Unit 304 1412 Carlton West Condo	$25,000	$63,800	$88,800	0.000
1412 Carlton Ave.	Unit 305 1412 Carlton West Condo	$25,000	$88,000	$113,000	0.000
1412 Carlton Ave.	1421 Carlton West & East Condo	$1,000	-	$1,000	0.207
Carlton Ave.	Lot 15 Sunrise Park	$23,400	-	$23,400	0.177
1403 Midland St.	Lot 4A PH 1 Sunrise Park	$35,000	$134,600	$169,600	0.031
1405 Midland St.	Lot 4B PH 1 Sunrise Park	$35,000	$147,500	$182,500	0.026
1407 Midland St.	Lot 5A PH 1 Sunrise Park	$35,000	$149,900	$184,900	0.031
1409 Midland St.	Lot 5B PH 1 Sunrise Park	$35,000	$140,100	$175,100	0.026
1411 Midland St.	Lot 6A PH 1 Sunrise Park	$35,000	$138,600	$173,600	0.026
1413 Midland St.	Lot 6B PH 1 Sunrise Park	$35,000	$143,500	$178,500	0.031
1419 Midland St.	Lot 9A Sunrise Park	$16,700	-	$16,700	0.031
1421 Midland St.	Lot 9B Sunrise Park	$16,700	-	$16,700	0.026
1423 Midland St.	Lot 10A Sunrise Park	$16,700	-	$16,700	0.031
1425 Midland St.	Lot 10B Sunrise Park	$16,700	-	$16,700	0.026
1427 Midland St.	Lot 11A Sunrise Park	$16,700	-	$16,700	0.031
1429 Midland St.	Lot 11B Sunrise Park	$16,700	-	$16,700	0.026
1431 Midland St.	Lot 12A Sunrise Park	$35,000	$163,800	$198,800	0.031
1433 Midland St.	Lot 12B Sunrise Park	$35,000	$166,600	$201,600	0.036
Midland St.	Sunrise Park Common Area	-	-	-	0.105

Table 5.1 Before and After Assessment Values of Sunrise Park, 2010 and 2014 (continued)

Address	Legal Description	Land Value	Improvement Value	Total Assessment Value	Deed Acres
509 Nassau St.	Lot 14B Sunrise Park	$33,600	$140,800	$174,400	0.032
511 Nassau St.	Lot 14A & PAR Z Sunrise Park	$33,600	$151,000	$184,600	0.034
513 Nassau St.	Lot 13B Sunrise Park	$33,600	$142,100	$175,700	0.032
515 Nassau St.	Lot 13A & PAR Y Sunrise Park	$34,000	$147,700	$181,700	0.034
506 Rives St.	Lot 3A1& PAR X Sunrise Park	$45,000	$177,200	$222,200	0.027
508 Rives St.	Lot 3A2 Sunrise Park	$45,000	$164,400	$209,400	0.030
510 Rives St.	Lot 3B1 Sunrise Park	$16,700	-	$16,700	0.031
512 Rives St.	Lot 3B2 Sunrise Park	$16,700	-	$16,700	0.026
514 Rives St.	Lot 3C1 Sunrise Park	$16,700	-	$16,700	0.031
516 Rives St.	Lot 3C2 Sunrise Park	$16,700	-	$16,700	0.026
1404 Sunrise Park Ln.	Lot 2A Sunrise Park	$32,600	$140,500	$173,100	0.030
1406 Sunrise Park Ln.	Lot 2B Sunrise Park	$32,600	$152,100	$184,700	0.027
1412 Sunrise Park Ln.	Lot 7A Sunrise Park	$35,000	$135,200	$170,200	0.033
1414 Sunrise Park Ln.	Lot 7B Sunrise Park	$35,000	$146,300	$181,300	0.027
1418 Sunrise Park Ln.	Lot 8A & PAR X Sunrise Park	$33,600	$142,000	$175,600	0.030
1420 Sunrise Park Ln.	Lot 8B Sunrise Park	$33,600	$145,400	$179,000	0.029
Total		**$1,323,600**	**$5,020,100**	**$6,343,700**	**1.377**

Source: City of Charlottesville City Assessor's Office

Housing Affordability

Habitat has added approximately 150 units of new regional housing stock since its inception and preserved roughly 350 others. Lack of affordable housing can place an additional economic burden on low-income residents. Affordable housing has been linked with improving regional economic competitiveness, business attraction, and local economic growth (Wadrip, Williams and Hague 2011). Employers often cite housing availability and costs as important "quality of life" factors in facility site location decisions. Lack of affordable housing and higher housing costs can also hinder local employment growth (Chakrabarti and Zhang 2014; Saks 2008).

Foreclosure Cost Avoidance

Although Habitat targets households unlikely to otherwise enter homeownership, some Habitat homeowners may have eventually been eligible for private mortgage finance. However, they might have been at higher risk of default without Habitat partnership. If these future homeowners had then defaulted, they would have created spillover costs for neighborhoods, lenders, and local governments. Foreclosed properties can create physical and social disorder and lower the values of nearby homes (Immergluck and Smith 2006). Financial institutions also incur substantial losses during the foreclosure process. Foreclosure can create costs for local governments such as code enforcement, public safety, and legal expenses and lost utility revenue. Through a partnership with the Bank of America Foundation, Habitat has recently begun rehabilitating abandoned, foreclosed upon properties into new, energy-efficient homeownership opportunities.

Displacement Cost Avoidance

Habitat's New Paradigm seeks to avoid residential displacement and its associated economic and social costs. Displacement often occurs when urban renewal, re-gentrification of older housing districts, and infill housing development displaces existing, often low-income residents. A well-established urban sociology literature documents the problems that displaced residents encounter when they lose their tenements and are forced to move. Residents experience time costs searching for replacement housing and financial costs of moving (e.g., shutting off and turning on utilities; making cosmetic repairs to recoup rental deposits; arranging for furniture, appliance, and personal belonging

transfer and storage). In addition, residents typically face higher monthly housing costs at their new location (Durham and Sheldon 1986). Although studies find that movers often resettle near their original neighborhoods, they frequently experience social dislocation costs that arise from losing close access to friends and family, social activities, and informal economic relationships such as babysitting (Durham and Sheldon 1986). These emotional or "psychological costs" may exceed the out-of-pocket financial costs of moving (Bartik, Butler, and Liu 1992; Korsching, Donnermeyer, and Burdge 1980). Such costs grow higher with longer duration of residency, and for families with children because of the development of greater local attachments (Bartik, Butler, and Liu 1992). Moreover, costs may be higher for certain marginalized groups (e.g., ethnic minorities, low-income residents, immigrants, seniors) than others because of discrimination in local housing markets or difficulty finding affordable housing in housing markets with low vacancy rates (Hartman 1964).

One possible gauge of the costs of this displacement is the compensation allowance required by the Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Programs Act (Federal Act) (1971). This law applies to all housing developments using federal funds that displace existing residents. It stipulates that displaced residents receive advisory services and compensation for the financial and emotional impact of displacement. These costs include moving and replacement housing expenses. Moving costs are estimated on the basis of furnished rooms in the original residence. Replacement housing expenses are estimated to compensate displaced residents for the higher rental payments they incur for comparable rental properties in their new locations for 3.5 years. The federal formula can be used to obtain rough estimates of displacement costs in the Charlottesville region market. The compensated moving costs for a family of 3-4 members with 4-5 rooms of furniture in Virginia is $1,200-$1,400.[18] Estimating the cost of alternative location rental payments uses a more complex formula that is difficult to estimate without additional data. The compensation is capped at $5,250 per tenant household, except for "last resort" cases where comparable rental properties cannot be found within the monetary limits. Making the simplifying assumption that the cap is representative of local costs would result in total compensation of approximately $6,000-$7,000.

Hedonic valuation methods provide another method to estimate the total moving costs of low-income renters. Bartik, Butler, and Lieu (1992) estimate that these costs, inclusive of psychological and financial moving costs, range widely based on resident demographic and tenure characteristics (e.g., age, race, number of children, years of tenure). For the features and cities examined, total moving costs range from 8.2 percent to 28.3 percent of annual income. Using these parameters for local residents with household incomes within Habitat homeowner eligibility limits (25 percent of median household income in the Charlottesville Metropolitan Area is $19,440 and 60 percent of median household income in $46,680), costs would be imputed to be $1,594-$5,502 and $3,828-$13,210 respectively.

Habitat uses a different formula to compute the cost savings impact that it has on households who are reincorporated into its housing developments rather than being displaced elsewhere in the community. It estimates that these households would incur search, relocation and related adjustment costs of approximately $214 per month based on case management and relocation expenses incurred by the Housing Authority of Portland, Oregon for a recent large development project.[19] In addition, households save on area replacement housing costs estimated to be $1,321 per month[20] because Habitat caps direct housing expenses, exclusive of utilities, at 23 percent of gross family income, in its housing developments.

18 "Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs; Fixed Residential Moving Cost Schedule." *Federal Register* 77 (23 May 2012): 30586-30588.

19 Information obtained by Charlottesville Region Habitat based on interview with John Keating, former Assistant Director for Community Building, Housing Authority of Portland (HAP) concerning a redevelopment project for a 54-month HOPE VI grant.

20 Estimate based on an Albemarle County HUD FY2015 fair market rent for a three bedroom apartment.

For the average Southwood Park household earning just $2,369 per month (inclusive of work income, employment benefit income, SNAP, child support, alimony, income from rental properties, and gift income), Habitat housing costs amount to just $545 per month with reincorporation, for a computed savings of $776 per month versus the area replacement housing alternative. Adding the search, relocation and housing cost savings together results in savings of approximately $990 per month for each household. Using this formula, the 400 Southwood Park households would realize savings amounting to as much as $21,384,000 over a 54-month period (400 households X $990 cost savings per month X 54 months).

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APPENDIX A
HABITAT PARTNER SURVEY FORM

Thank you for completing this survey. We want to assure you that your responses are anonymous. Responses to anonymous surveys will not be traced back to the respondent. No personally identifiable information is captured unless you voluntarily offer personal or contact information in any of the comment fields. Additionally, your responses are combined with those of many others and summarized in a report to further protect your anonymity.

Neighborhood/Community

Since moving into your Habitat home…

Please circle your answers below.

1. Do you feel more or less connected to your community?

Much Less	A Little Less	No Change	A Little More	Much More
1	2	3	4	5

2. Do you participate more or less in groups/activities in your communities (e.g. church, school councils, children's sports, community associations, fundraising groups, etc.)?

Much Less	A Little Less	No Change	A Little More	Much More
1	2	3	4	5

3. Do you more or less frequently encounter issues in your community (crime, drug activity, loud noises, trash, etc.)?

Much Less	A Little Less	No Change	A Little More	Much More
1	2	3	4	5

4. Do you more or less frequently invite neighbors to your home and/or get invited to a neighbor's home?

Much Less	A Little Less	No Change	A Little More	Much More
1	2	3	4	5

5. Have you taken a leadership role in your community? Please check a box below.

☐ Yes
☐ No, but I plan to
☐ No, and I don't plan to

If no, please describe what has prevented you from doing so.

Family Life and Education

Since moving into your Habitat home…

Please circle your answers below.

6. Do you spend more or less quality time with your family?

Much Less	A Little Less	No Change	A Little More	Much More
1	2	3	4	5

7. Does your family get along better or worse?

Much Worse	A Little Worse	No Change	A Little Better	Much Better
1	2	3	4	5

8. Do your children spend more or less time with other children in the community?

Much Less	A Little Less	No Change	A Little More	Much More	I do not have children
1	2	3	4	5	

9. Have your children gone to school more or less often?

Much Less Often	A Little Less Often	No Change	A Little More Often	Much More Often	I do not have children
1	2	3	4	5	

10. Have your children's grades gotten better or worse?

Much Worse	Somewhat Worse	No Change	Somewhat Better	Much Better	I do not have children
1	2	3	4	5	

11. Do you feel better or worse about your children's future?

Much Worse	Somewhat Worse	No Change	Somewhat Better	Much Better	I do not have children
1	2	3	4	5	

12. Have you personally started and/or completed high education or training programs since becoming a partner family? *Please check a box below.*

☐ Yes
☐ No, but I plan to
☐ No, and I don't plan to

If yes, what programs have you started or completed? *Please check all that apply.*

☐ High School
☐ GED
☐ Community or technical college, *what certificates/degrees have you earned* _____
☐ 4-year college/university, *what certificates/degrees have you earned* _____
☐ Masters, *what certificates/degrees have you earned* _____
☐ PhD, *what certificates/degrees have you earned* _____
☐ Other (*Please Describe*): _____

13. Have *any of your family members* (other than yourself) started and/or completed high education or training programs since becoming a partner family? *Please check a box below.*

☐ Yes
☐ No, but I plan to
☐ No, and I don't plan to

If yes, what programs have you started or completed? *Please check all that apply.*

☐ High School
☐ GED
☐ Community or technical college, *what certificates/degrees have you earned* _____
☐ 4-year college/university, *what certificates/degrees have you earned* _____
☐ Masters, *what certificates/degrees have you earned* _____
☐ PhD, *what certificates/degrees have you earned* _____
☐ Other (*Please Describe*): _____

Health & Personal Well-being

Since moving into your Habitat home…

Please circle your answers below.

14. Have *you* personally had to go to the doctor more or less often?

Much Less Often	A Little Less Often	No Change	A Little More Often	Much More Often
1	2	3	4	5

15. Have *any of your family members* (other than yourself) had to go to the doctor more or less often?

Much Less Often	A Little Less Often	No Change	A Little More Often	Much More Often
1	2	3	4	5

16. Are you more or less happy with your quality of life?

Much Less Happy	Somewhat Less Happy	No Change	Somewhat More Happy	Much More Happy
1	2	3	4	5

17. Do you feel better or worse about yourself?

Much Worse	Somewhat Worse	No Change	Somewhat Better	Much Better
1	2	3	4	5

18. Do you feel more positive or negative about the future?

Very Negative	Somewhat Negative	Neutral	Somewhat Positive	Very Positive
1	2	3	4	5

Financial Well-being

Since moving into your Habitat home…

Please circle your answers below.

19. Do you feel richer or poorer?

Much Poorer	Somewhat Poorer	No Change	Somewhat Richer	Much Richer
1	2	3	4	5

20. Do you feel more or less financially secure?

Much Less	Somewhat Less	No Change	Somewhat More	Much More
1	2	3	4	5

21. Has your ability to save money for the future gotten better or worse?

Much Worse	Somewhat Worse	No Change	Somewhat Better	Much Better
1	2	3	4	5

22. Has your ability to pay your bills on time gotten better or worse?

Much Worse	Somewhat Worse	No Change	Somewhat Better	Much Better
1	2	3	4	5

23. Has your ability to cover a large unexpected bill (e.g. home or auto repairs, $100 or more) gotten better or worse?

Much Worse	Somewhat Worse	No Change	Somewhat Better	Much Better
1	2	3	4	5

24. Have any family members (including yourself) changed jobs since owning your Habitat house?

☐ Yes
☐ No

Overall, is the new job(s) better or worse?

Much Worse	Somewhat Worse	No Change	Somewhat Better	Much Better
1	2	3	4	5

25. Please check any public/government assistance programs you used before owning your Habitat home and/or any programs you use currently.

	Used Before Habitat	Use Currently
Food Stamps or Food Assistance (SNAP,WIC)	☐	☐
Welfare Assistance/Family & Children Services (TANF)	☐	☐
Medicaid	☐	☐
Supplemental Insurance Income (SSI)	☐	☐
Utility Bill/Energy Assistance Programs (EAP)	☐	☐
Rent Assistance	☐	☐
Public Housing	☐	☐

26. Do you get more or less money from social services now?

Much Less	A Little Less	No Change	A Little More	Much More
1	2	3	4	5

27. Do you currently spend more or less on monthly housing costs than before moving into your Habitat home?

Much Less	A Little Less	No Change	A Little More	Much More
1	2	3	4	5

28. Please estimate your current monthly housing costs (including mortgage payments, property taxes and insurance, and utilities). *Please check a box below.*

☐ Less than $400
☐ $400-599
☐ $600-799
☐ $800-999
☐ $1000-1199
☐ $1200-1399
☐ $1400-1599
☐ $1600-1799
☐ $1800-1999
☐ $2000 or more

29. Please estimate your monthly housing costs prior to moving in to a Habitat home (including mortgage payments, property taxes and insurance, and utilities). *Please check a box below.*

☐ Less than $400
☐ $400-599
☐ $600-799
☐ $800-999
☐ $1000-1199
☐ $1200-1399
☐ $1400-1599
☐ $1600-1799
☐ $1800-1999
☐ $2000 or more

Overall

30. Since you became a Habitat partner family, the lives of your family members are:

Much Worse	Somewhat Worse	No Change	Somewhat Better	Much Better
1	2	3	4	5

31. How much do you think Habitat for Humanity's homeownership program has contributed to the changes in your family's life?

Not At All	A Little	Somewhat	A Lot	Completely
1	2	3	4	5

32. Did you find Habitat for Humanity's workshops helpful?

Not At All	A Little	Somewhat	Very
1	2	3	4

33. In the space provided below, please describe what Habitat for Humanity could have done better for you and your family.

General Information

34. The name of your neighborhood: _____
35. Your Home Zip Code: _____
36. What is your gender? *Please check a box below.*

☐ Male ☐ Female

37. What is your race/ethnicity? *Please check a box below.*

☐ African American/Black
☐ American Indian/Native American
☐ Asian/Asian American/Pacific Islander
☐ Caucasian/White
☐ Hispanic/Latino
☐ Other (Please Describe): _____

38. What is your age? _____

39. What is your marital status? *Please check a box below.*

☐ Single ☐ Married ☐ Divorced ☐ Separated ☐ Widowed

40. How long have you lived in your home? _____ year(s) & _____ month(s)
41. How many people currently live in your home (including yourself)? _____
42. How many people under the age of 18 currently live in your home? _____
43. Would you be willing to be contacted in the future to share more about the impact of Habitat ownership on your life? *Please check a box below.*

☐ Yes ☐ No

If yes, please provide the following contact information:

Your Name: _____
Your Email: _____
Your Phone Number: (_____)_____