A Comprehensive Affordable Housing Market Study for Mecklenburg County

Prepared for:

Charlotte Housing Authority

Charlotte Housing Authority
Building Community, People & Partnerships

by:

UNC Charlotte Urban Institute

and

Metropolitan Studies and Extended Academic Programs

The University of North Carolina at Charlotte

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TABLE OF CONTENTS

TABLE OF CONTENTS

Chapter Page

LIST OF FIGURES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

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EXECUTIVE SUMMARY

Affordable Rental Housing Need

Based upon the research analyses and the local point in time homeless survey data, the cumulative estimates of low income rental housing need in Mecklenburg County are presented below.

- Housing Burdened Rental Households

Very Low Income	24,179
Low Income	24,874
Total Renter Households in Need	49,053

- Homeless Population 4,477

- Couch Homeless Population 12,552

Affordable Housing Market in Mecklenburg County

Estimates of the supply and demand of very low and low income housing stock; rental and owner-occupied market segments; the geographic pattern of affordable housing; demographic and socio-economic characteristics of affordable housing consumers; current and future market estimates

- Mecklenburg County has 91,174 units of market rate rental housing with rental costs affordable to lower income households.

- Within the county, there are 14,270 units of subsidized rental housing units.

- The inventory of owner-occupied housing in Mecklenburg County includes 130,196 units affordable to lower income households.

- The largest concentration of housing burdened, very low income renters live in Westside and North Charlotte neighborhoods around Center City.

- The largest concentration of housing burdened, low income renters reside in the University City, Eastside Charlotte, and Southwest Charlotte areas.

- The supply of affordable rental housing for lower income households is projected to decline over the next 20 years.

Issues for Affordable Housing Providers

Challenges and opportunities for market provision of affordable rental housing; prospects for new rental assistance programming in Mecklenburg County.

- Most rental housing owners and agents require employment and income documentation, lease, security, and criminal background checks from prospective tenants.

- Criminal history and prior evictions are common grounds for rental refusal.

- A significant number of rental housing owners and agents indicated a willingness to join a rental assistance program with appropriate conditions.

Issues for Affordable Housing Consumers

Expectations and concerns of affordable housing consumers; how are newly at-risk households coping with housing issues; what are the greatest needs of low income and at-risk households

- Lower income focus groups expressed beliefs that credit issues–both real and potential–were used to restrict housing opportunities.

- Higher paying jobs, financial advice, and education were identified as critical needs by lower income focus groups.

Homeless: Status and Needs

Numbers and characteristics of street homeless and couch homeless; changing homeless demographics and service provision needs

- Point in time homeless counts show a growing number of homeless people in Mecklenburg County. The most recent count was 4,477 people.

- There are an estimated 12,552 couch homeless people in Mecklenburg County. This term refers to persons without residence and temporarily sharing residence with friends or family.

Housing Service Providers Perspectives

Housing and housing-related services offered in Mecklenburg County; who is providing assistance and who are their clients; how are community needs changing; where are the greatest demands for housing services

- Housing service providers reported an increasing client load, with single-parent families representing the largest cohort.

- Service providers indicated that their clients' greatest needs are money management and other independent living skills; parent training and support; and homeownership education.

- Service providers reported critical community needs for new housing for lower income households, new below market rental housing, and subsidized transitional housing.

- Public rental housing options must also be made available to meet the needs of households that have difficulty satisfying the requirements of private sector landlords.

Housing Affordability and Social Costs

Empirical examination of the direct and indirect public costs of housing shortage and substandard housing conditions; Mecklenburg County cost estimates

- Poor housing conditions affect not only the health status of residents, but also the education attainment of their children and the probability of criminal victimization.

- Although homeless persons represent only a small fraction of the housing needy, they impose disproportionate social costs on their communities. Costs associated with public education, healthcare, and crime prevention have been found to substantially decline when the housing needs of homeless persons are addressed by the public and private sectors.

- The lack of affordable housing in close proximity to public transportation produces significant public costs. Public sector involvement to encourage the development of mixed-income housing near rail and bus transit is critical.

- The aggregate social cost of failing to address Charlotte-Mecklenburg's affordable housing needs may approach $50 million annually when considering public education, criminal justice, healthcare, and transportation costs.

Affordable Housing Policy Recommendations

Bringing together analytical market findings and user group inputs, local oriented housing policy recommendations are presented; affordable housing sub-markets are treated separately; recommendations are organized around structural or categorical barriers to increased housing provision

- The "affordable housing market" has distinct segments and submarkets, so targeted solutions will be required for different market segments.

- Private market solutions are not practical for all segments and submarkets.

- Solutions addressing these issues should include:
  - increasing available low and moderate income housing stock
  - preserving existing available low and moderate income housing stock
  - reducing cost escalation of housing
  - increasing tenant income and improving tenant creditworthiness
  - improving tenant behavior and manager/landlord acceptance

Additional Policy Recommendations

- A robust Land Market Monitoring system would provide valuable tracking information to help inform housing providers and local planners to better meet critical housing needs.

- Proactively address the private and public costs of chronic nuisance rental properties. Implement programs that enable private property owners and managers to better address tenant issues. Create multi-agency partnerships to effectively respond to chronic nuisance issues on multiple fronts.

- Identify and encourage the development of infill housing through redevelopment projects.

- Actively pursue the local application of the North Carolina Rehabilitation Code, in order to reduce the costs of maintaining and improving older housing stock.

- Implement creative Adaptive Reuse Strategies targeted at increasing affordable housing supply.

- Encourage large, local employers to consider creating rental and owner-occupied Employer Assisted Housing opportunities.

I. INTRODUCTION

Purpose and Scope

This report presents the results of an analysis of the affordable housing market in Mecklenburg County, North Carolina. The study, prepared for the Charlotte Housing Authority, seeks to identify the challenges and opportunities to providing affordable housing options for very low and low income residents in this community.

The report covers four main elements. The first component begins with an assessment of the current stock of affordable housing units in the Mecklenburg County housing market. Estimates of owner-occupied and rental housing stock for very low and low income households are presented. Very low income households are defined as those households earning less than 30 percent of area median family income. Low income households refer to households earning between 30 to 60 percent of area median family income. Occupancy patterns for these households are presented and disaggregated by household size, demographic components, and geography. Estimates of cost burdened households (those paying more than 30 percent of income) are tabulated. At the end of this section, projections of future affordable housing stock with supply and demand requirements are presented.

The second element offers the data and analysis of the barriers to affordable housing in Mecklenburg County. The obstacles facing consumers and housing providers are examined in the context of housing policy issues. The critical needs and concerns for at-risk populations—the homeless and couch homeless—are presented. Finally, the scope of housing services and ancillary assistance offered by local service organizations to the targeted populations are described. Included in this discussion are trend data and programmatic needs.

The third element presents the economic case for addressing the housing shortage for economically disadvantaged households. Drawing on empirical data and research findings, the linkage between housing affordability and community costs are presented. Four broad categories of community impact are targeted. In turn, five dimensions of housing affordability are tied to the effects of housing deficiencies.

The final component brings together the housing market analyses and projections with the obstacles and costs findings to offer policy recommendations. The policy guides are constructed around local conditions and needs, while grounded in national best practices and recommendations from federal sources.

Study Parameters and Data Sources

The geographic focus of this report is Mecklenburg County, North Carolina. The City of Charlotte is the largest municipality in the county and dominates the scope of this study. The Charlotte Metropolitan Statistical Area (MSA) covering Mecklenburg, Cabarrus, Gaston, Union, and Anson counties in North Carolina, as well as, York County, South Carolina, is also used for data compilation and selected analyses.

In several areas of analyses, census tract geographies within Mecklenburg County are used to present findings. There are 144 census tracts in the county. They offer a finer grained description of housing issues.

For this research, the basic units of measurement are households. The US Census Bureau defines a household as all persons occupying a housing unit. This term encompasses families, single persons living alone, two or more families sharing a residential structure, or unrelated persons who have shared housing arrangements. In Mecklenburg County, the Census Bureau estimates that there are nearly 352,000 households.

As seen on Table 1, the largest numbers of households are family households, 62.5 percent. Family households encompass two or more persons related by birth, marriage, or adoption. Among family and non-family households, smaller households constitute the most common size. For example, 42 percent of family households are estimated to be made up of only 2 persons; and among non-family households, 80 percent have only one person in the household. At the other end of the scale, the number of households with five or more members in either category is extremely limited. When combined, these largest households constitute only 7.9 percent of the total households in Mecklenburg County.

Table 1. Estimated Mecklenburg County Household Characteristics, 2006-2008

	Count		Count
Family Households:	219,817	**Non-Family Households:**	132,145
2-person household	92,573	1-person household	105,786
3-person household	54,316	2-person household	21,671
4-person household	45,506	3-person household	2,873
5-or-more person household	27,422	4-person household	1,376
		5-or-more person household	439
Total Households: 351,962			

Source: US Census Bureau, 2006-2008 American Community Survey.

All of the primary statistical data used in the report are derived from the latest US Census of Population and Housing. Local data from City of Charlotte and Mecklenburg County governmental agencies were heavily relied upon for developing the housing market analyses and constructing the economic case analyses.

Published and local government data were augmented by survey and focus group information collected by the research team. These data were geo-coded where the spatial distribution was feasible, and contributed to the research goals.

II. AFFORDABLE HOUSING SUPPLY AND DEMAND

Introduction

This section presents an analysis of the housing market in Mecklenburg County for low income households. Housing supply and demand calculations are presented. The underlying analyses include an inventory of existing housing supply structured to reflect HUD standards for family size, income, and unit size for renting and purchasing property. The distribution of very low and low income households into existing units is presented. This is followed by an assessment of occupancy patterns by low income and non-low income households. Finally, a gap in analysis, or difference between supply and demand, is presented in order to show the complex nature of the local housing market.

Low Income Household Parameters

The most recent Census Bureau data projects that poverty affects nearly one in every 10 households in Mecklenburg County. According to the 2006-2008 *American Community Survey*, 9.7 percent of households had incomes below the poverty level during the past 12 months. Non-family households presented significantly higher rates of poverty (13.3 percent) than family households (7.6 percent). Female householders with no husband present had the highest concentration of poor households (21.2 percent).

This research uses the standard definition for identifying very low and low income households. Very low income households include those households earning less than 30 percent of the Metropolitan Statistical Area's (MSA) median family income. Low income households encompass households earning between 30 and 60 percent of the MSA's median family income. In the Charlotte MSA, the Department of Housing and Urban Development (HUD) Metro Area median family income is $66,500 in 2009. The Charlotte-Gastonia-Concord, NC-SC HUD Metro Area contains the following areas: Mecklenburg, Cabarrus, Gaston, Anson, and Union counties, NC; and York County, SC.

Table 2 presents the maximum family income for very low and low income households in varying household sizes. The calculation of very low median income and low median income is defined for a family of four and adjusted up or down $2,000 per person, with a cap of $4,000 additional allowable income at six or more household members.

Table 2. Income Limits for Household Size, 2009

		Very Low Income					
	Overall	**1 Person**	**2 Person**	**3 Person**	**4 Person**	**5 Person**	**6+ Person**
Median Family Income	$66,500	$13,950	$15,950	$17,950	$19,950	$21,550	$23,150
		Low Income					
	Overall	**1 Person**	**2 Person**	**3 Person**	**4 Person**	**5 Person**	**6+ Person**
Median Family Income	$66,500	$27,960	$31,980	$35,940	$39,960	$43,140	$46,380

Source: Claritas, 2009; US Census; US HUD.

Subsidized Housing Inventory

The supply of subsidized rental housing in Mecklenburg County was compiled from local, state, and national data providers. These data sources included the Charlotte Housing Authority, the North Carolina Housing Finance Agency, and HUD. Table 3 offers an overview of the subsidized rental housing market, with a comparison to the market rate rental inventory. Slightly more than 14,000 units of subsidized rental housing are available across the county. The largest component of these homes and apartments (69 percent) are offered with rents affordable to very low income households. In contrast, the private market presents a very limited inventory, only 215 units, available for the lowest income segment of the population.

At the present time, the contribution of subsidized rental housing to Mecklenburg County's overall rental market is modest. Only 13.5 percent of the more than 100,000 units priced at rents affordable to very low and low income households are subsidized.

Table 3. Rental Housing Supply in Mecklenburg County, 2007

Rent Range	Subsidized Units	Market Rate Units	Total
$0 - $406 (Very Low Income)	9,802	215	10,017
$407 - $812 (Low Income)	4,468	90,959	95,427
Total	14,270	91,174	105,444

Source: US HUD; PUMS 2007.

Table 4 presents a more detailed discussion of the types of subsidized rental housing in Mecklenburg County. In this regard, qualifying rules may limit rental opportunities available to special populations. Therefore, the total inventory of subsidized rental units is not an accurate representation of the market opportunities.

The table is organized to represent subsidized housing stock for very low income and low income households by categories of householders. In turn, the types of rental subsidies are also presented in this table. The unit classifications are based upon agency or program descriptions. Section 8 Vouchers enable households to rent housing in the private rental market through subsidies to the landlord. Public housing units include all units directly managed by the Charlotte Housing Authority. Sections 202/811 are housing units and group homes that are designed specifically for the elderly or disabled. Section 8 Project units include specific housing projects where tenants must apply to live. Section 236 is a legacy program that provides subsidized housing to low and moderate income renting households through loan subsidies. The North Carolina Housing Finance Agency coordinates the current programs offered by the US Housing and Urban Development and the State of North Carolina. These include, but are not limited to, Low-Income Housing Tax Credits, Multifamily Bond Program, Housing Trust Fund, and Home Program.

For classification purposes, family units include those occupied by at least a two-person family household. Elderly units generally consist of households with one or more members who are 62 years of age or older. Disabled households include one or more members who have a disability

requiring special modifications to the housing units and/or additional assistance from an outside member of the family. A definitional standard or client requirement may vary depending on a specific program or agency.

Table 4. Subsidized Rental Housing Units in Mecklenburg County, 2008

	Units Occupied by Very Low Income Households					Units Occupied by Low Income Households				
	Family	Elderly	Disabled	Other	Total	Family	Elderly	Disabled	Other	Total
Section 8 Voucher	2,838	412	511	428	4,190	149	22	27	23	221
Public Housing Units	1,805	595	446	384	3,229	94	31	23	20	169
Section 202/811(Elderly)	0	152	152	0	304	0	8	8	0	16
Section 8 Project, 236, Tax Credit, Loan Subsidies	2,080	0	0	0	2,080	4,062	0	0	0	4,062
Total (by Category)	6,722	1,159	1,109	812	9,802	4,306	61	58	43	4,468

Source: Charlotte Housing Authority, 2008; North Carolina Housing Finance Agency, 2008; US HUD, 2008.

In addition to rental units, there are an estimated 12,500 units of subsidized owner-occupied housing in Mecklenburg County. Data limitations do not, however, permit disaggregating these estimates into very low and low income household groups. Subsidies include down payment assistance and low interest loans through several programs coordinated by the North Carolina Housing Finance Agency. The latter include the HOME program and Mortgage Revenue Bond/Mortgage Credit Certificate Programs. Other non-profits such as Habitat for Humanity provide no-interest mortgages to those who qualify for the program.

Very Low and Low Income Housing Inventory

Subsidized housing only provides a partial picture of the overall supply available to very low and low income households. Because of housing shortages or other factors, low income householders also occupy market rate housing. In order to determine the overall supply of housing stock, data from the US Census Public Use Microdata Sample (PUMS) for Mecklenburg County were used. PUMS is a household level sample survey conducted by the U.S. Census every year. The three year average provides a five percent sample size which reduces the degree of error at the county level. The PUMS data for 2005-2007 provided income and housing estimates. These three-year income ranges were adjusted to match 2009 dollar values. One way to determine the realistic supply of all available housing and its cost to the occupants is to identify the components of the total housing supply in the relevant pricing ranges and the total housing demand for these price points. The following tables and maps present the overall rental and owner housing inventory for very low and low income households in Mecklenburg County.

Very low income rental housing stock: Because income ranges are based on the 2009 income estimates, the values in the PUMS database have been adjusted to match 2009 dollar values. The term "vacant unit" includes units for rent and units rented but not currently occupied.

Using the income limits described previously, the maximum monthly rent was calculated not to exceed 30 percent of the monthly income. Following the HUD fair housing practices, the maximum household size for a particular unit was also calculated. Consequently, the maximum household size for a Studio or 1 Bedroom unit is to be two people. For each additional bedroom, the household size maximum could be increased by two people. Based on these maximum rent and unit size parameters, the number of units was selected from the PUMS.

As seen on Table 5, Mecklenburg County contained over 10,017 very low income rental housing units in 2007. The largest supply of affordable very low income housing was targeted at the smallest households. That is, those households with two members that would occupy studio and one bedroom units. Nearly 64 percent or 6,349 rental units were available in this category. As household size increases, the available rental housing stock declines.

Table 5. Very Low Income Rental Housing Inventory by Unit Size in Mecklenburg County, 2007

Minimum Unit Size	Maximum Household Size	Maximum Family Income	Maximum Monthly Rent	Units in Price Range and Unit Size	Vacant Units
Studio/1 Bedroom	2	$15,950	$399	6,349	478
2 Bedrooms	4	$19,950	$499	2,704	388
3 Bedrooms	6	$23,150	$579	865	75
4+Bedrooms	7+	$24,750	$619	99	0
Total				10,017	941

Source: US HUD; PUMS, 2007.

Table 6 shows that Mecklenburg County has 95,427 housing units in the low income rental housing inventory. There were 8,719 vacant units in 2007. The largest inventory of affordable low income housing, 63.5 percent, is provided to the smallest households comprising two persons and limited to one bedroom. Conversely, households with seven or more members have the fewest options, less than one percent of the inventory.

Table 6. Low Income Rental Housing Inventory by Unit Size in Mecklenburg County, 2007

Minimum Unit Size	Maximum Household Size	Maximum Family Income	Maximum Monthly Rent	Units in Price Range and Unit Size	Vacant Units
Studio/1 Bedroom	2	$31,980	$800	60,598	6,137
2 Bedrooms	4	$39,960	$999	26,443	2,180
3 Bedrooms	6	$46,380	$1,160	7,981	402
4+Bedrooms	7+	$49,500	$1,238	405	0
Total				95,427	8,719

Source: US HUD; PUMS, 2007.

Very low income owner housing stock: The estimation of very low income owner-occupied housing was developed using the PUMS data and HUD standards. The income limits used for renter housing were also used to determine the maximum mortgage payment for owner housing. Since the PUMS value ranges do not correspond directly to the housing prices calculated, the nearest values indicated in the PUMS database were used.

Table 7 shows there were over 20,000 very low income owner-occupied units in Mecklenburg County in 2007. The nearly 1,900 vacant units included those homes for sale, as well as, units sold but not occupied.

Table 7. Very Low Income Owner Housing Inventory by Unit Size in Mecklenburg County, 2007

Minimum Unit Size	Maximum Household Size	Maximum Family Income	Maximum Housing Price	Maximum Mortgage	Units in Price Range and Unit Size	Vacant Units
Studio/ 1 Bedroom	2	$15,950	$0 - $62,500	$399	6,645	1,237
2 Bedrooms	4	$19,950	$62,500 - $81,250	$499	7,826	513
3 Bedrooms	6	$23,150	$81,250 - $93,750	$579	5,150	115
4+Bedrooms	7+	$24,750	$93,750 - $100,000	$619	436	0
Total					20,057	1,865

Source: US HUD; PUMS, 2007.

A review of owner-occupied data shows that the distribution of housing inventory is less skewed than the rental housing inventory. The largest concentration of owner-occupied affordable housing is in the two bedroom category, 39 percent. Additionally, a significant proportion of homes are evidenced in the studio/one bedroom size and three bedroom size, 33.1 percent and 25.7 percent respectively. But, the stock of largest owner-occupied units of four or more bedrooms is virtually non-existent, less than one percent.

Low income owner housing stock: Table 8 presents low income owner-occupied housing inventory in Mecklenburg County. The total number of units was less than 111,000; with just under 4,000 vacant units. A comparison between the very low and low income owner-occupied housing reveals sharp differences. First, the absolute size of the inventory is significant, with far fewer owner-occupied units of very low income housing. Quantitatively, there are five times more low income homeowners than very low income owner-occupied units in the county.

Table 8. Low Income Owner Housing Inventory by Unit Size in Mecklenburg County, 2007

Unit Size	Maximum Household Size	Maximum Family Income	Maximum Housing Price	Maximum Mortgage	Units in Price Range and Unit Size	Vacant Units
Minimum Studio/1 Bedroom	2	$31,980	$62,500 - $131,250	$800	51,642	2,218
Minimum 2 Bedroom	4	$39,960	$131,250 - $162,500	$999	28,412	766
Minimum 3 Bedroom	6	$46,380	$162,500 - $187,500	$1,160	24,339	999
Minimum 4 Bedroom	7+	$49,500	$187,500 - $200,000	$1,238	6,246	0
Total					110,639	3,983

Source: US HUD; PUMS, 2007.

Secondly, the distribution of low income owner-occupied housing does not mirror the very low income owner-occupied inventory. The largest segment of low income owner-occupied is concentrated in studio/one bedroom units. Nearly 47 percent of the total available housing was in this category. The next largest segment is in the two bedroom category, 25.7 percent. For very low income homeowners, 33 percent is described as studio/one bedroom. Whereas, among very low income owner-occupied housing, the two bedroom units are the largest category, comprising 39 percent. For both groups, the largest housing types, with four bedrooms, were the least represented owner-occupied housing type.

Assessing Affordable Housing Demand: Household Characteristics

The demand for affordable housing was compiled using the PUMS data and a survey conducted with agencies providing services to very low and low income households. As previously shown in Table 2, median family income was used as the baseline for determining these two below-median income target groups. The PUMS data provides detailed information about the ownership, household size, and characteristics. Table 9 shows the number of very low income renter households by household size based on the established income limits. In addition, the percentage of households paying more than 30 percent for housing, or those defined as "housing cost burdened," was included to indicate a level of affordable housing demand.

Table 9. Very Low Income Renter Households by Household Size in Mecklenburg County, 2007

Maximum Household Size	Maximum Family Income	Very Low Income Households	Very Low Income Housing Cost Burdened Households
2	$15,950	18,821	16,536
4	$19,950	6,540	5,967
6	$23,150	1,675	1,599
7+	$24,750	77	77
Total		27,113	24,179

Source: US HUD; PUMS, 2007.

The number of very low income households paying more than 30 percent for housing is almost 90 percent of the 27,113 very low income households. The greatest numbers of housing cost burdened households were clustered in the two smallest categories of households. Nearly two-thirds (68.3 percent) of housing cost burdened households had two or fewer members. Almost one-quarter (24.7 percent) were households with two to four members.

The number of low income households who are housing cost burdened in the low income category are presented on Table 10. Although the number of low income renter households is over 34,000, the proportion of housing cost burdened households is less among very low income households. Nonetheless, over 72 percent of low income households pay more than 30 percent of their income for their housing. As with the very low income renter group, the largest concentration of housing cost burdened renters are found in the smallest households. Slightly more than two-thirds (69.6 percent) of the housing cost burdened come from households with two or fewer members. The next largest concentration is among households with two to four members (25.6 percent).

Table 10. Low Income Renter Households by Household Size in Mecklenburg County, 2007

Maximum Household Size	Maximum Family Income	Low Income Households	Low Income Housing Cost Burdened Households
2	$31,980	22,345	17,087
4	$39,960	9,277	6,282
6	$46,380	2,184	1,390
7+	$49,500	250	115
Total		34,056	24,874

Source: US HUD; PUMS, 2007.

When combined, an estimated 49,053 renter households in 2007 were housing cost burdened. Thus, 80 percent of all low and very low income households renting their housing units at that time were housing cost burdened.

Tables 11 and 12 present the housing cost burdened estimates for very low and low income households living in owner occupied homes. Typically, these units are not free of debt. They are subject to loan obligations and an accompanying monthly mortgage payment as the cost of housing.

As shown on Table 11, the overwhelming majority (82.4 percent) of Mecklenburg County owner households meeting the criteria for very low income households are housing cost burdened. The only group significantly below this level is the smallest household size (one to two person households).

Table 11. Very Low Income Owner Households by Household Size in Mecklenburg County, 2007

Maximum Household Size	Maximum Family Income	Very Low Income Households	Very Low Income Housing Cost Burdened Households
2	$15,950	9,856	8,002
4	$19,950	1,551	1,314
6	$23,150	571	519
7+	$24,750	216	216
Total		12,194	10,051

Source: US HUD; PUMS, 2007.

The number of low income households who are deemed to be housing cost burdened is presented in Table 12. The overall level of housing burden for low income cost is less severe. Nonetheless, nearly 65 percent of homeowners in this category face housing cost burdened pressures. Mirroring the findings for low income homeowners, the smallest households display the lowest percentage of economic stress.

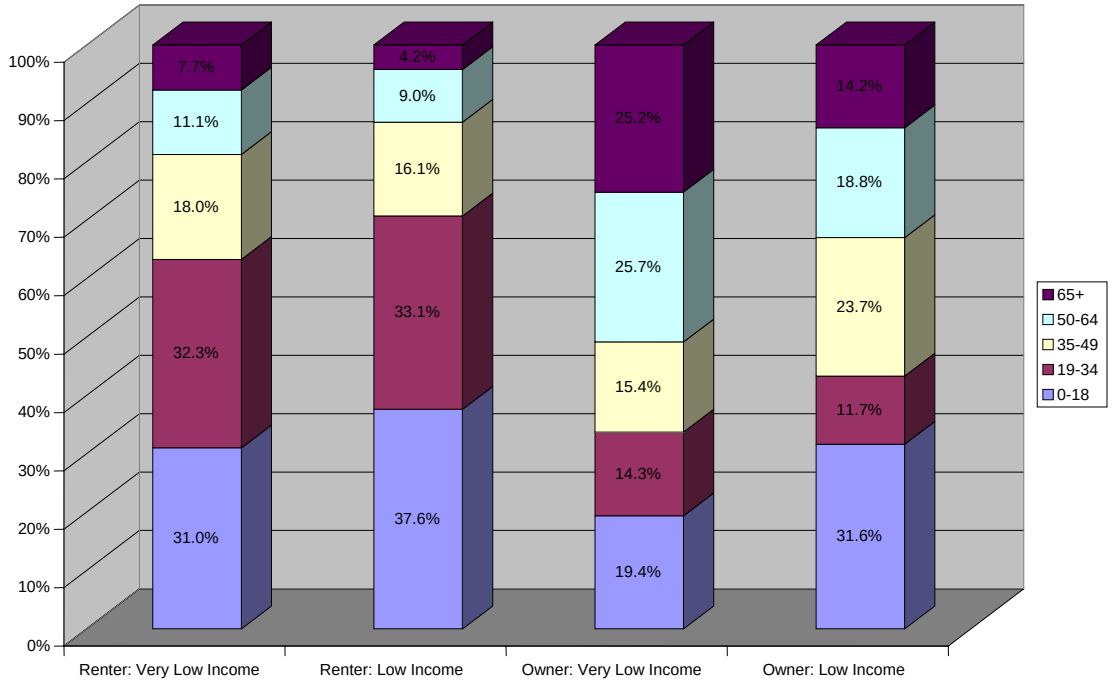
Table 12. Low Income Owner Households by Household Size in Mecklenburg County, 2007

Maximum Household Size	Maximum Family Income	Low Income Households	Housing Cost Burdened Low Income Households
2	$31,980	15,390	8,806
4	$39,960	5,574	4,559
6	$46,380	2,252	1,641
7+	$49,500	96	96
Total		23,312	15,102

Source: US HUD; PUMS, 2007.

In order to better understand the households who make up the housing cost burdened population in Mecklenburg County, demographic profiles were compiled by age, race, employment status, and educational attainment. Figure 1 demonstrates the differences and similarities among the five broad population groups of (1) 18 years of age and younger; (2) 19-34 years of age; (3) 35-49 years of age; (4) 50-64 years of age; and (5) 65 years of age and older. While there is likely to be a familial relationship between the first age group and other age groups, there is a distinct difference between the percentages of 19-31 year olds who are housing cost burdened and rent their housing and those who own their housing units. In contrast, householders who are 35 years of age or older comprise the majority of the very low and low income housing cost burdened population of homeowners. Age differences are linked to rental versus homeowner housing burdens.

Figure 1. Housing Cost Burdened Households by Age Group: Households Paying More than 30 Percent for Housing Costs, Household Members by Age Groups



Source: PUMS, 2007.

The racial distribution of the housing cost burden in Mecklenburg County is presented in the following figures. Figures 2 and 3 provide pictures of housing cost burden among very low and low income renters; while Figures 4 and 5 target homeowners. In all four cases, African-Americans have disproportionate rates of housing cost burden. A second significant pattern is a racial dichotomy in renter and homeowner burden. Specifically, there are large numbers of African-Americans in both the very low and low income categories of renter-occupied households, as compared to the numbers of Whites in the very low and low income categories of owner-occupied households.

Figure 2. Persons in Renter-Occupied Households Paying More than 30 Percent for Housing: Very Low Income by Race, 2009

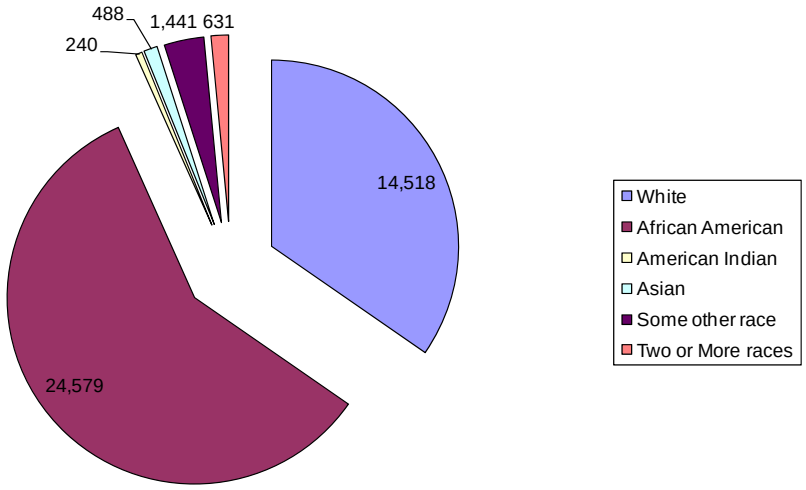


Figure 3. Persons in Renter-Occupied Households Paying More than 30 Percent for Housing: Low Income by Race, 2009

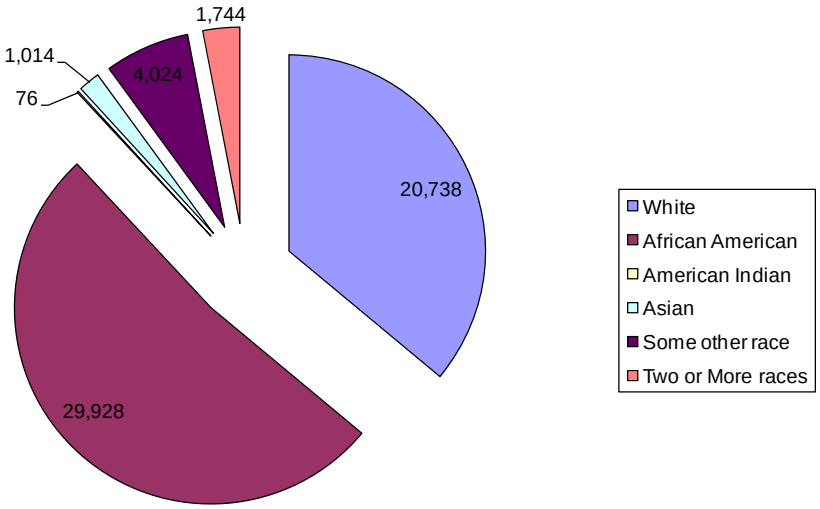


Figure 4. Persons in Owner-Occupied Households Paying More than 30 Percent for Housing: Very Low Income by Race, 2009

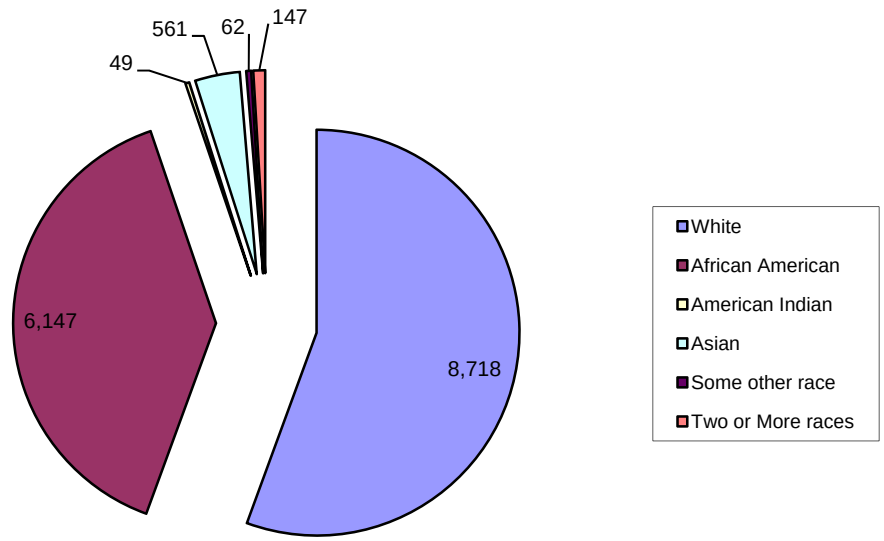


Figure 5. Persons in Owner-Occupied Households Paying More than 30 Percent for Housing: Low Income by Race, 2009

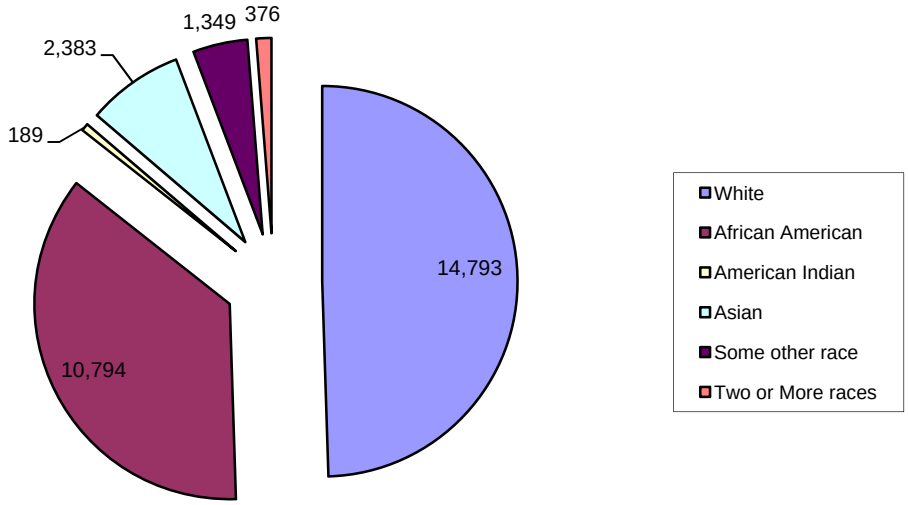
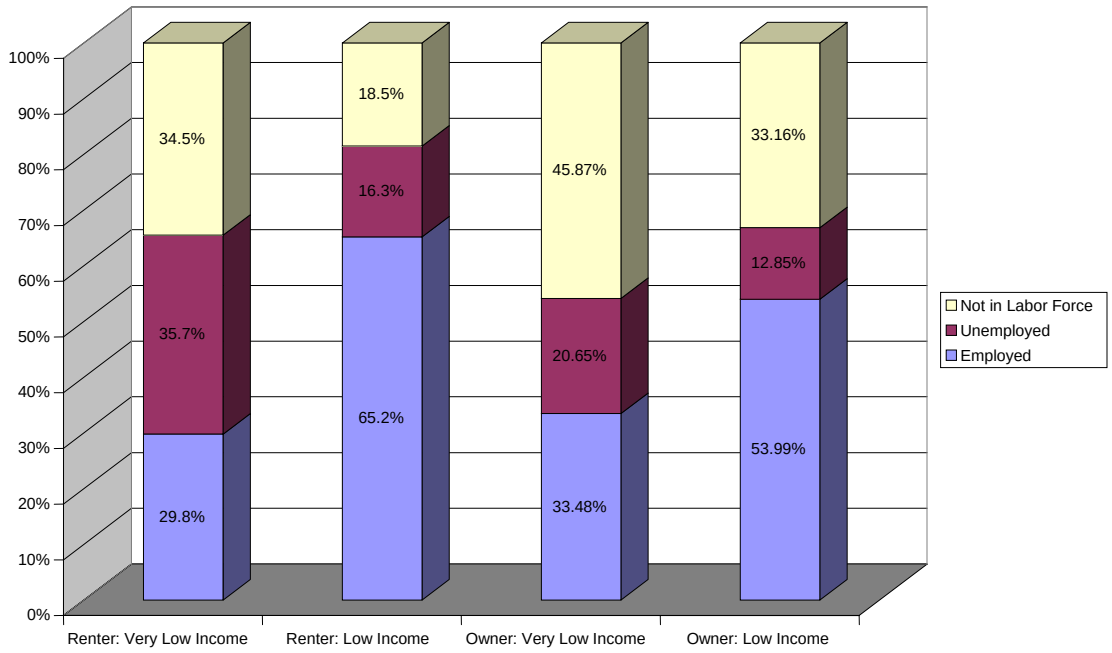


Figure 6 offers insights into the distribution of housing cost burdened households linked to employment status. Three categories are utilized. Employed and unemployed refer to active participation in the labor market. Those not in the labor force group encompasses retired workers, disabled and handicapped persons, homemakers, students, and those not looking for employment. The graph shows an approximately one-third split each among those employed, unemployed, and those not in the labor force for the very low income households who are renters. The percentage of those employed increases for the low income households in the renter group, and both the very low and low income owner-occupied households. An interesting observation is how almost one-half of those households with very low income who occupy owner households units are not in the labor force.

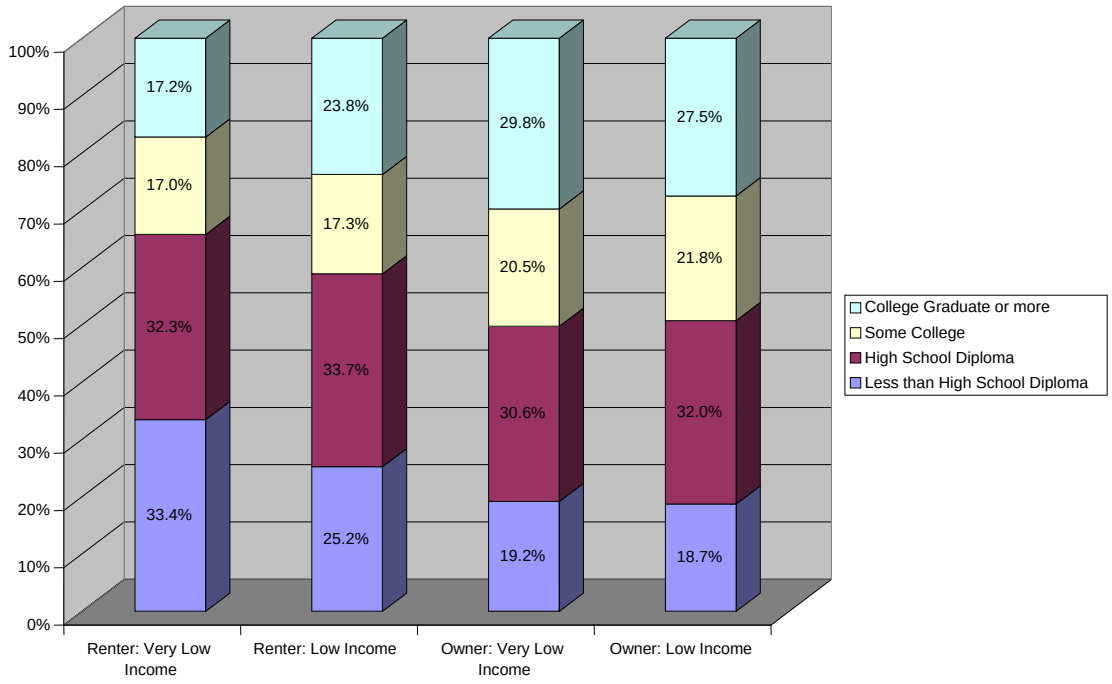
Figure 6. Households Paying More than 30 Percent for Housing: Employment Status for Household Members between Ages 25-65



Source: PUMS, 2007.

Figure 7 presents these data across educational attainment categories. Four standard groupings are used. Following standard socio-economic models, renters tend to be less educated when compared to owners.

Figure 7. Educational Attainment for Household Members Aged 25 and Older



Source: PUMS, 2007.

Housing Needs Analysis

Combining the housing supply and household estimates, the rental and homeowner housing needs assessment was developed. Following the format used in the earlier analyses, very low and low income household housing needs are identified. Geographic distributions of housing needs at the census tract scale were also developed for each subcategory.

Table 13 and Figure 8 present the analytical findings for very low income renters. As seen in the table, there are 24,179 very low income households experiencing housing cost burdened conditions. Among the very low income households, only 4,010 live in housing available at these income levels. The largest proportion of rental housing stock in this rental range is occupied by households earning higher income levels. Because of the shortage of housing stock, 20,169 very low income households are forced to rent higher costing housing options.

Figure 8 presents the location of housing cost burdened very low income renters at the tract level. A review of the map shows the largest concentration of householders live in Westside and North Charlotte neighborhoods, immediately adjacent to Center City. Select neighborhoods in Eastside Charlotte and the University City area also host large proportions of housing cost burdened renters.

Table 13. Very Low Income Rental Housing Cost Burdened Households and Rental Housing Stock in Mecklenburg County, 2007

HUD Fair Market Standards				Housing Inventory		Occupying Households		Other Very Low Income Households	
Minimum Unit Size	Max Household Size Maximum	Maximum Family Income	Maximum Rent (30% of Monthly Income)	Units in Price Range and Unit Size	Vacant Units	Very Low Income Housing Burdened Households	All Non-burdened Households	Additional Cost Burdened Households	Total Very Low Income Housing Burdened Households
Studio/1 Bedroom	2	$15,950	$399	6,349	478	2,589	3,282	13,947	16,536
2 Bedrooms	4	$19,950	$499	2,704	388	1,054	1,262	4,913	5,967
3 Bedrooms	6	$23,150	$579	865	75	313	477	1,286	1,599
4+Bedrooms	7+	$24,750	$619	99	0	54	45	23	77
Total				10,017	941	4,010	5,066	20,169	24,179

Source: US HUD, PUMS, 2007.

Figure 8. Estimated Very Low Income Renter-Occupied Households Paying More than 30 Percent in Housing Costs, 2009

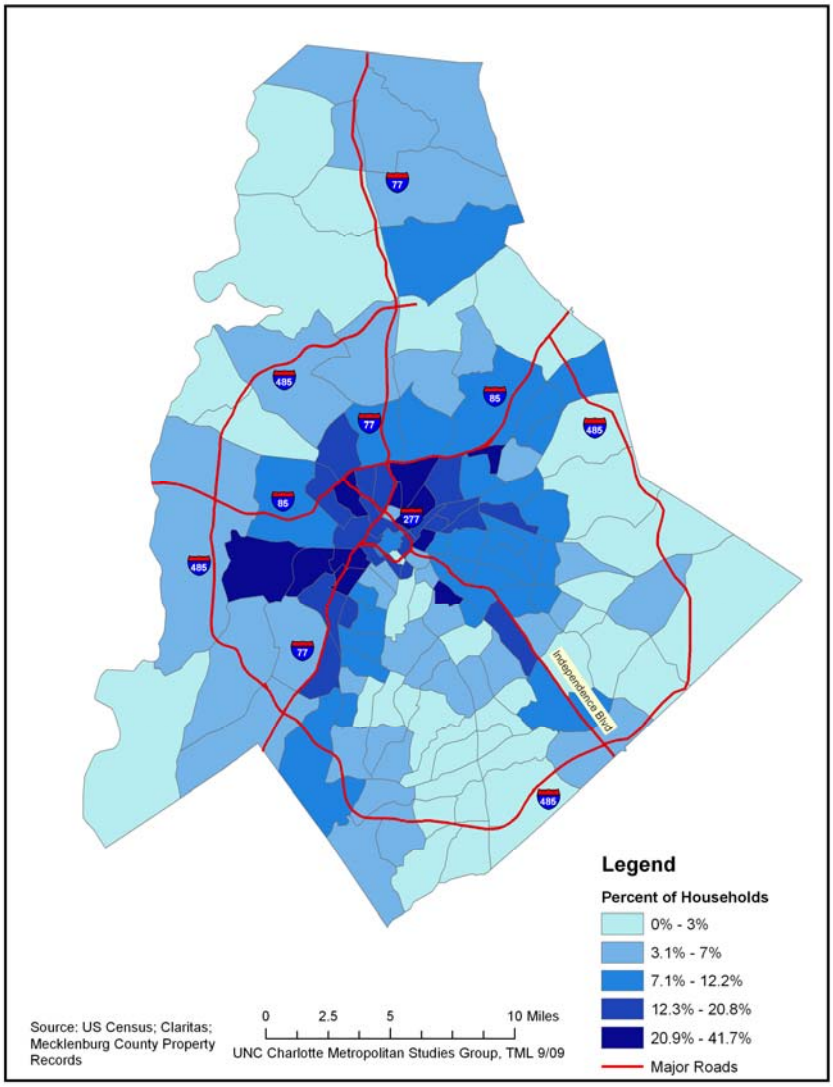


Table 14 and Figure 9 provide the results for low income renter households. While the supply of rental housing stock is much larger (95,427 occupied units), the pattern of occupancy and inadequate supply are still strongly evidenced. The number of low income households experiencing housing cost burdened status is 24,874. Nearly 19,500 low income residents are renting housing in the low income rental price range, but a majority of housing stock is occupied by households with higher income levels.

As seen in the mapped results, low income housing cost burdened renters are less concentrated than low income households (Figure 9). Moreover, the proportion of struggling households is far lower at the individual census tract level. The highest concentration for very low income households was over 40 percent, but for low income households, the highest level was 16.6 percent.

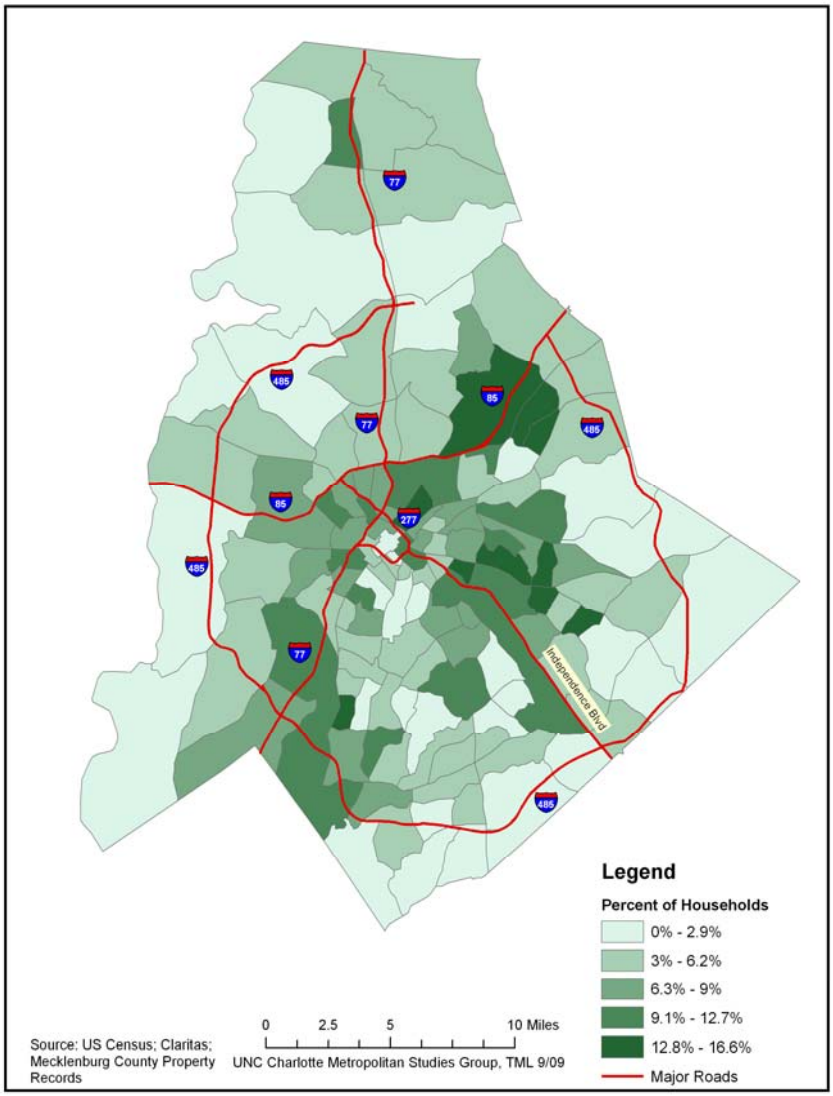
Geographically, the largest percentages of low income householders with housing cost burdened challenges are found in Northeast Charlotte, the University City area, Eastside Charlotte, and Southwest Charlotte. There is not the same level of concentration or clustering of census tracts that was evidenced for very low income renters.

Table 14. Low Income Rental Housing Cost Burdened Households and Housing Stock in Mecklenburg County, 2007

HUD Fair Market Standards				Housing Inventory		Occupying Households			Other Low Income Households	
Minimum Unit Size	Max Household Size Maximum	Maximum Family Income	Maximum Rent (30% of Monthly Income)	Units in Price Range and Unit Size	Vacant Units	Low Income Housing Burdened Households	Other Housing Burdened Households	All Non-burdened Households	Additional Cost Burdened Households	Total Low Income Housing Burdened Households
Studio/1 Bedroom	2	$31,980	$800	60,598	6,137	11,705	13,855	28,901	5,382	17,087
2 Bedrooms	4	$39,960	$999	26,443	2,180	6,282	5,470	12,511	0	6,282
3 Bedrooms	6	$46,380	$1,160	7,981	402	1,390	2,705	3,484	0	1,390
4+Bedrooms	7+	$49,500	$1,238	405	0	58	137	210	57	115
Total				95,427	8,719	19,435	22,167	45,106	5,439	24,874

Source: US HUD, PUMS, 2007.

Figure 9. Estimated Low Income Renter-Occupied Households Paying More than 30 Percent in Housing Costs, 2009



The results of the analyses completed for owner-occupied housing strongly replicate those of the rental housing market. Table 15 and Figure 10 present the findings for very low income owner-occupied housing. The supply of housing in this category is twice the size of the rental housing supply, but a lower percentage of very low income households are occupying these homes. Of the 20,057 homes in this category, 2,572 are owned by very low income house burdened households.

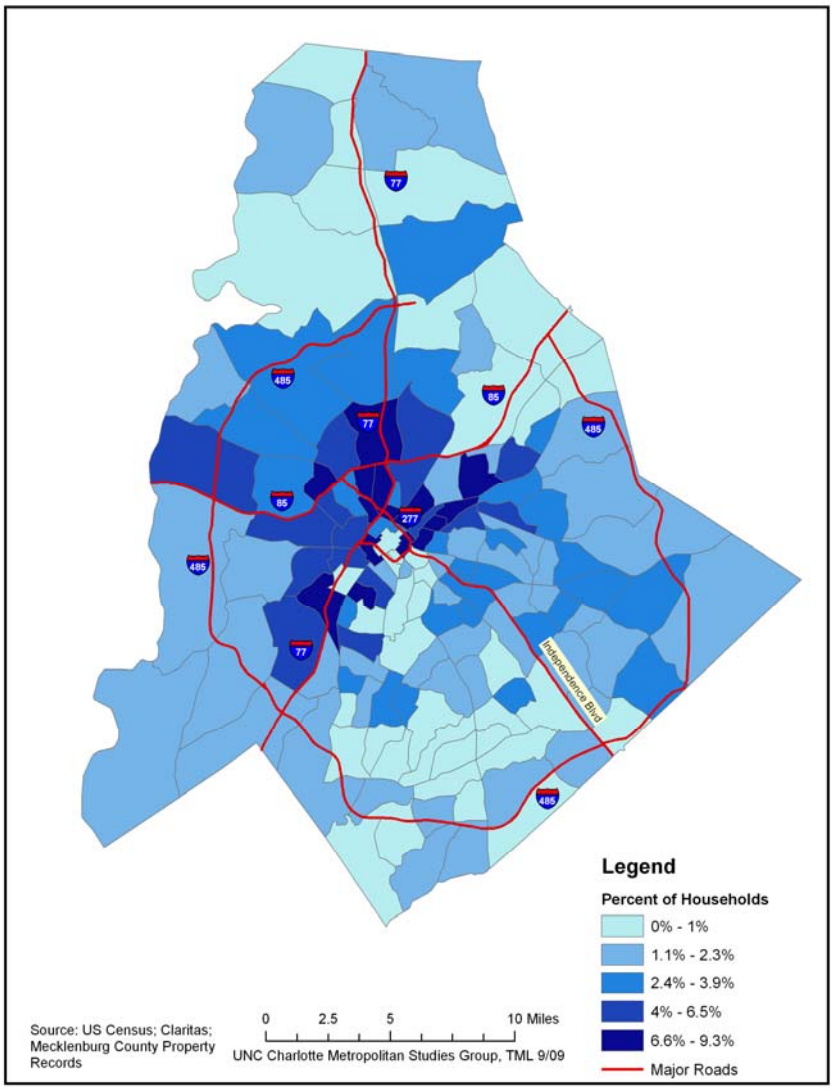
The overwhelming majority (17,485) of homes are owned by households with higher income levels. The total number of very low income home owning households with housing cost burden is 10,051. The strongest concentration of these households is distributed in an arc of census tracts surrounding Center City, stretching from the Northeast to Southwest. The percentage of very low income homeowners was also significantly below renter levels. Specifically, the highest proportion of very low income owners in any census tract was less than 10 percent, compared to over 40 percent among renters.

Table 15. Very Low Income Owner Housing Cost Burdened Households and Housing Stock in Mecklenburg County, 2007

HUD Fair Market Standards				Housing Inventory		Occupying Households		Other Very Low Income Households	
Minimum Unit Size	Max Household Size Maximum	Maximum Family Income	Maximum Mortgage (30% of Monthly Income)	Units in Price Range and Unit Size	Vacant Units	Very Low Income Housing Burdened Households	All Non-burdened Households	Additional Cost Burdened Households	Total Very Low Income Housing Burdened Households
Studio/1 Bedroom	2	$15,950	$399	6645	1,237	913	5,732	7,089	8,002
2 Bedrooms	4	$19,950	$499	7826	513	1,121	6,705	193	1,314
3 Bedrooms	6	$23,150	$579	5150	115	519	4,612	0	519
4+Bedrooms	7+	$24,750	$619	436	0	19	436	197	216
Total				20,057	1,865	2,572	17,485	7,479	10,051

Source: US HUD, PUMS, 2007.

Figure 10. Estimated Very Low Income Owner-Occupied Households Paying More than 30 Percent in Housing Costs, 2009



The low income home ownership findings are presented on Table 16 and Figure 11. When compared with very low income homeowners, the supply of housing stock is much larger (110,639 units), although ownership of these dwellings is largely controlled by wealthier households. Only 11,095 are owned by low income households. Compared with very low income home ownership, low income households have slightly less access to affordable housing (10 percent versus 12.8 percent). Slightly more than 15,000 low income households are housing cost burdened in Mecklenburg County.

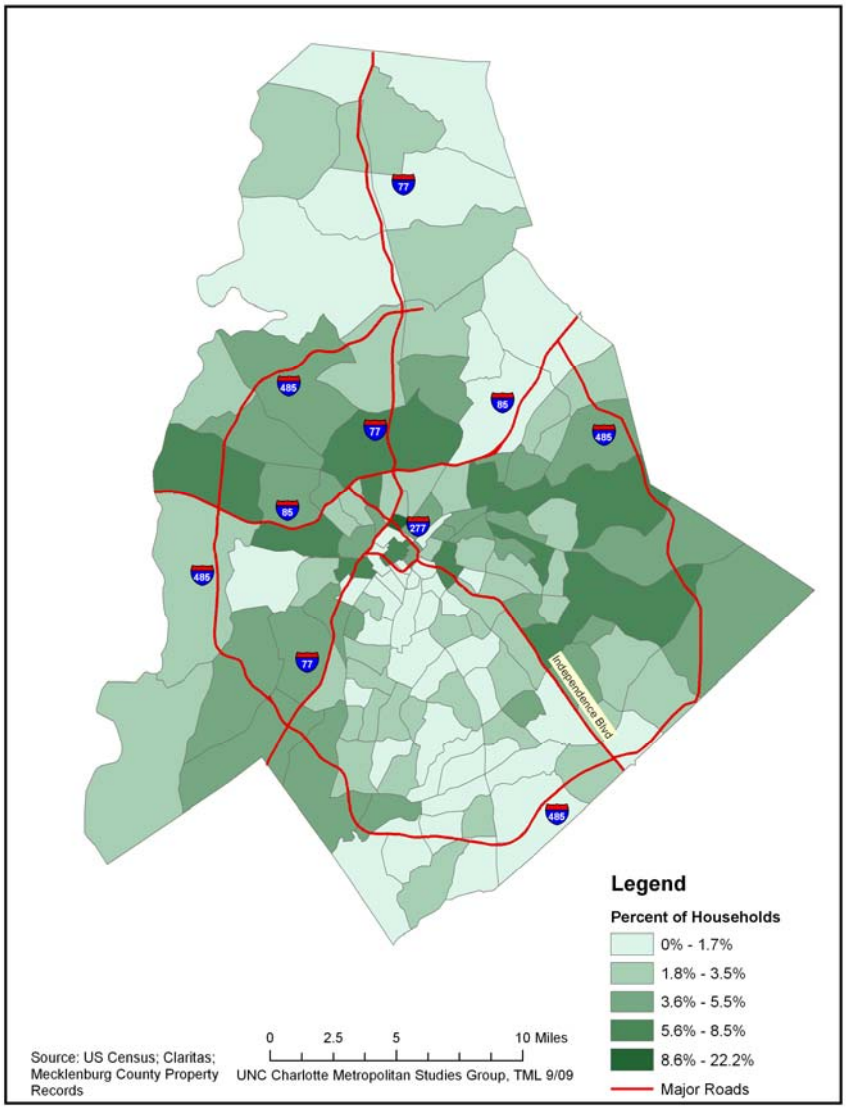
The pattern of low income homeowners suffering housing burden is less concentrated and more suburban. Broad areas in East Charlotte, Mint Hill, North Charlotte, and Westside Charlotte are evident. Only the South Central and North sections of Mecklenburg County were exempt from low income housing cost burden (Figure 11).

Table 16. Low Income Owner Housing Cost Burdened Households and Housing Stock in Mecklenburg County, 2007

HUD Fair Market Standards				Housing Inventory		Occupying Households			Other Low Income Households	
Minimum Unit Size	Max Household Size Maximum	Maximum Family Income	Maximum Mortgage (30% of Income)	Units in Price Range and Unit Size	Vacant Units	Low Income Housing Burdened Households	Other Housing Burdened Households	All Non-burdened Households	Additional Cost Burdened Households	Total Low Income Housing Burdened Households
Studio/1 Bedroom	2	$31,980	$800	51,642	2,128	6,737	10,590	32,187	2,069	8,806
2 Bedrooms	4	$39,960	$999	28,412	766	2,704	6,631	18,311	1,855	4,559
3 Bedroom	6	$46,380	$1,160	24,339	999	1,557	4,223	17,560	84	1,641
4 Bedroom	7+	$49,500	$1,238	6,246	0	96	4,906	1,244	0	96
Total				110,639	3,893	11,094	26,350	69,302	4,008	15,102

Source: US HUD, PUMS, 2007; Calculations by Thomas Ludden.

Figure 11. Estimated Low Income Owner-Occupied Households Paying More than 30 Percent in Housing Costs, 2009



III. HOUSING TREND ANALYSIS

Mecklenburg County has experienced strong population growth over the past 20 years. As seen on Table 17, population in the county has been estimated to have grown by nearly 400,000 residents during the past two decades. This translates into a rate of growth averaging over one percent per year. Going forward, the North Carolina State Demographer projects continued, sustained population growth through 2020. Over the next decade, absolute population increases of 168,668 newcomers are expected to bring the county's population to more than one million residents. The rate of population growth is projected to decline slightly, but remains over the one percent per year level.

Table 17. Mecklenburg County Population, 1990-2020

Year	1990	2000	2010	2020
Total Population	511,211	695,370	910,755	1,079,423
Population Change per Year		4%	3%	2%

Source: North Carolina Office of State Budget and Management, 2009.

Between 1990 and 2009, the proportion of all rental households in Mecklenburg County paying more than 30 percent for housing has remained constant at around 35 percent. Assuming the proportion of housing cost burdened rental households is stable between 2010 and 2020, the estimated number of households renting homes will increase by almost 1,000 a year to almost 63,000 in 2020 (Table 18).

Table 18. Mecklenburg County Renter Households: Paying More than 30 Percent

Year	1990	2000	2010	2020
Number of Households	26,917	37,139	53,102	62,936

Source: North Carolina Office of State Budget and Management, 2009; Claritas.

A model for projecting housing demand through 2019 was constructed using the previously referenced analyses and expected changes in key housing market predictor variables. Critical variables were selected to track changes in the rental housing market. These included average rent, the number of new single family housing units completed, the number of multi-family units completed, 30-year fixed interest rate, change in consumer price index, unemployment rate, and the number of vacant apartment units. These variables were analyzed for trends in order to determine adjustments over the next 10 years. The performance of individual variables was based upon trend analysis. In turn, the data was manipulated using a time series regression model. Table 19 presents key housing trend data and the expected changes in the housing market.

Table 19. Mecklenburg County Housing Statistics, 1999-2019

Year	Average Rent	Overall Number of Housing Units Completed	Number of Multi-Family Units Completed	Vacant Apartment Units	Inflation Adjusted Rent
1999	670	14,300	3,782	4,594	869
2009	697	9,707	5,136	13,599	697
2019	975	5,114	2,099	7,815	795

Source: Carolinas Real Data; Bureau of Labor Statistics; Freddie Mac; Mecklenburg County Property Records.

The modeling results indicate that the average rent in Mecklenburg County is expected to increase to almost $1,000 a month. Inflation and the increased demand for housing in Mecklenburg County will escalate this expense. With the slowing in population growth, the demand for housing decreases and the number of new housing units will decrease to slightly more than 5,000 units. The number of multi-family units will all decrease to approximately 2,000 units annually. These trends also consider the trend toward redevelopment and a decreasing supply of raw land for new residential development. The number of vacant apartments will also see a decrease from the current levels to 2009. The inflation adjusted rent will also increase from 2009, but will not be as high as it was in 1999.

IV. RENTAL HOUSING SUPPLIERS' PERSPECTIVE

Among the challenges facing low and very low income residents looking for housing options are the barriers created by rental agents and landlords. Rental agreements and qualifying standards are fundamental to protecting rental properties and ensuring a fair return on economic investments. But, for housing consumers, especially individuals and families struggling with low incomes or past legal problems, standard rental qualifiers may eliminate their opportunity to live in a significant proportion of the rental housing market.

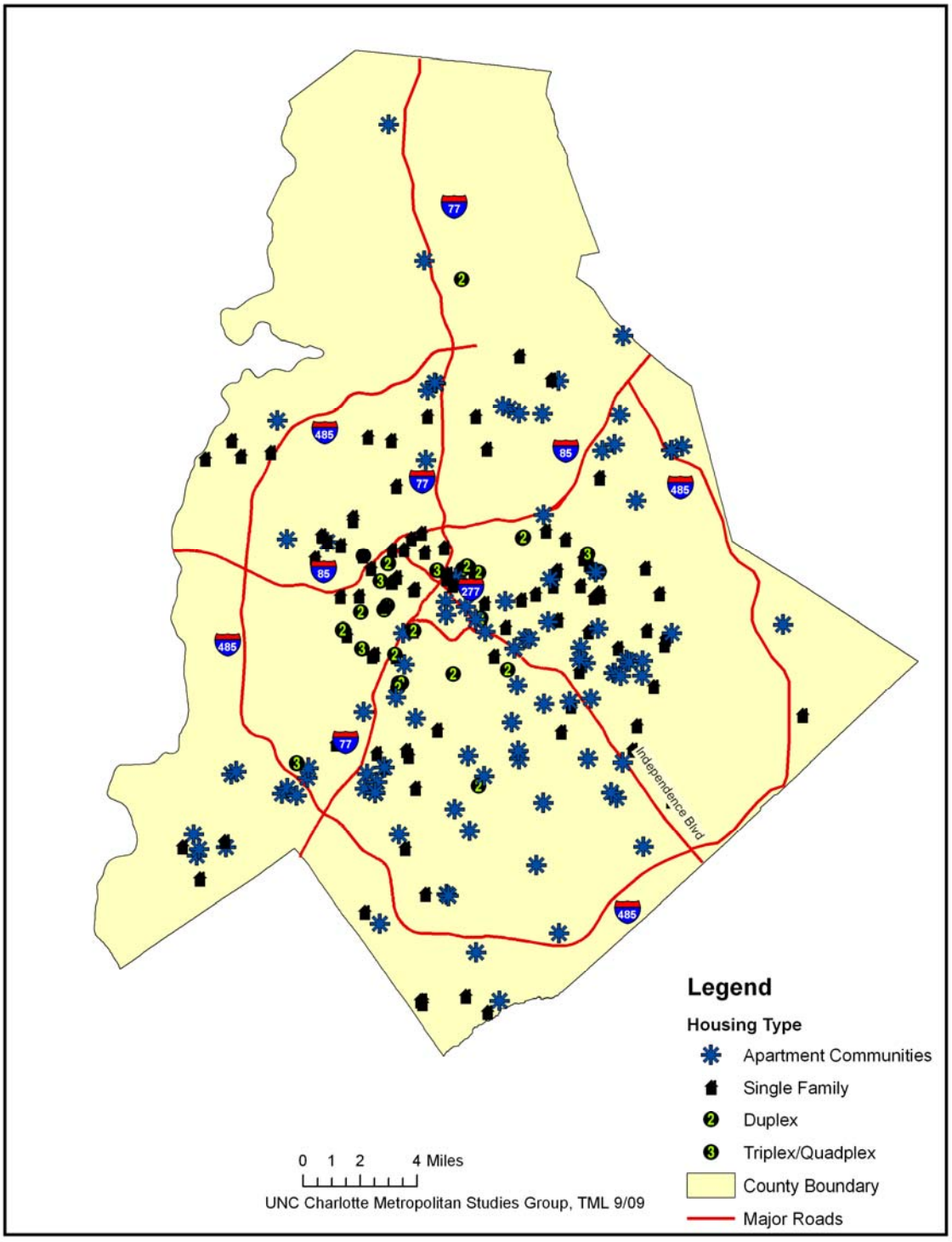
In order to assess the scope of rental rules and qualifying standards, an anonymous internet administered survey was conducted with the two largest rental housing organizations in Mecklenburg County. The Greater Charlotte Apartment Association and the Charlotte Landlord Association provided a listing of membership and endorsed the survey to their members. A smaller set of rental housing providers that work with Crisis Assistance Ministry (CAM) were also contacted and asked to participate in the survey.

The primary goal of the survey was to obtain forthright answers to questions regarding required and preferred information requested by landlords from potential tenants in these households, as well as to corroborate what conditions would prevent landlords from agreeing to rent their units to these potential low and very low income households.

There were 216 usable responses to the online survey. The geographical distribution of the user respondents was broadly distributed across Charlotte and Mecklenburg County. As shown on Figure 12, only the northern quadrant of the county was underrepresented. Among the respondents, 153 indicated that they owned rental property. It is an assumption that the remaining respondents managed property for property owners. Respondents included those who rented single family houses (51.6 percent of the respondents). Apartment community landlords represented 48.4 percent of the respondents. A significant number of those answering were owners of multiple properties. Fifty-one owners owned more than one apartment community.

Local anecdotal evidence, as well as, empirical research from other US cities suggests that common rental screening rules and lease agreements are significant barriers for very low and low income populations in the rental housing market. The survey findings affirm the widespread use of these instruments to Mecklenburg County landlords and rental agents.

Figure 12. Housing Provider Survey, 2009



A review of Tables 20 and 21 presents, in rank order, the required and preferred information and legal agreements that prospective tenants in Mecklenburg County face when renting housing. The scope of background information and contractual obligations is extensive and broadly based. A wide range of employment, credit, criminal, legal, and reference information are basic requirements for most landlords or rental agents. Compiling or accessing the pre-rental information would represent a challenging task.

Table 20. Rank Order of Required Information from Prospective Tenants

		N	%
1	Documentation of primary lessee employment	96	91.4%
2	Minimum length lease	94	89.5%
3	Minimum security deposit	93	88.6%
4	Documentation of minimum income of primary lessee	92	87.6%
5	Criminal background check on primary lessee	90	85.7%
6	Maximum number of occupants/bedroom	87	82.9%
7	Credit check on primary lessee (rating of 1-5 or better)	85	81.0%
8	Criminal background check on secondary lessee/other occupants	76	72.4%
9	Reference from previous landlord for primary lessee	72	68.6%
10	Documentation of secondary lessee employment	68	64.8%
11	Credit check on secondary lessee/other occupants	66	62.9%
12	Documentation of minimum income of secondary lessee	65	61.9%
13	Citizenship/immigration status of primary lessee	55	52.4%
14	Reference from previous landlord for secondary lessee	49	46.7%
15	Citizenship/immigration status of secondary lessee/other occupants	49	46.7%
16	Marital status of primary lessee	32	30.5%
17	Marital status of secondary lessee	29	27.6%
18	Multiple wage earners for Household	15	14.3%

Table 21. Rank Order of Preferred Information and Agreements from Prospective Tenants

		N	%
1	Multiple wage earners for Household	47	45.2%
2	Reference from previous landlord for secondary lessee	38	36.5%
3	Documentation of secondary lessee employment	31	29.8%
4	Documentation of minimum income of secondary lessee	31	29.8%
5	Reference from previous landlord for primary lessee	25	24.0%
6	Credit check on secondary lessee/other occupants	25	24.0%
7	Citizenship/immigration status of secondary lessee/other occupants	21	20.2%
8	Citizenship/immigration status of primary lessee	18	17.3%
9	Marital status of secondary lessee	18	17.3%
10	Credit check on primary lessee (rating of 1-5 or better)	17	16.3%
11	Criminal background check on secondary lessee/other occupants	17	16.3%
12	Marital status of primary lessee	17	16.3%
13	Documentation of minimum income of primary lessee	10	9.6%
14	Criminal background check on primary lessee	10	9.6%
15	Maximum number of occupants/bedroom	9	8.7%
16	Documentation of primary lessee employment	8	7.7%
17	Minimum length lease	7	6.7%
18	Minimum security deposit	7	6.7%

Beyond providing this screening information and entering into a lease for rental property, potential renters are turned away or refused rent for a wide array of reasons. As seen on Table 22, applicants with past criminal activity or evictions from a former house are almost without the opportunity to rent a residence in Mecklenburg County. The combined impact of economic disadvantage and legal or criminal histories leads to a sizable portion of households in Mecklenburg County with no rental options.

Table 22. Rank Order of Grounds for Rental Refusal

		N	%
1	Conviction/arrest of primary lessee for violent crime	96	94.1%
2	Prior evictions of primary lessee	94	92.2%
3	Conviction/arrest of secondary lessee/other occupant for violent crime	93	91.2%
4	Conviction/arrest of primary lessee for threatening others	92	90.2%
5	Conviction/arrest of primary lessee for felony	90	88.2%
6	Conviction/arrest of primary lessee for drug-related crime	87	85.3%
7	Prior evictions of secondary lessee/other occupants	87	85.3%
8	Conviction/arrest of secondary lessee/other occupants for felony	86	84.3%
9	Conviction/arrest of secondary lessee/occupant for threatening others	86	84.3%
10	Conviction/arrest of secondary lessee/other occupant for drug-related crime	82	80.4%
11	Judgments against primary lessee	60	58.8%
12	Judgments against secondary lessee/other occupants	46	45.1%
13	Pending collections against primary lessee	43	42.2%
14	Liens against primary lessee	37	36.3%
15	Pending collections against secondary lessee/other occupants	35	34.3%
16	Liens against secondary lessee/other occupants	28	27.5%
17	Conviction/arrest of primary lessee for misdemeanor	27	26.5%
18	Conviction/arrest of secondary lessee/other occupant for misdemeanor	27	26.5%

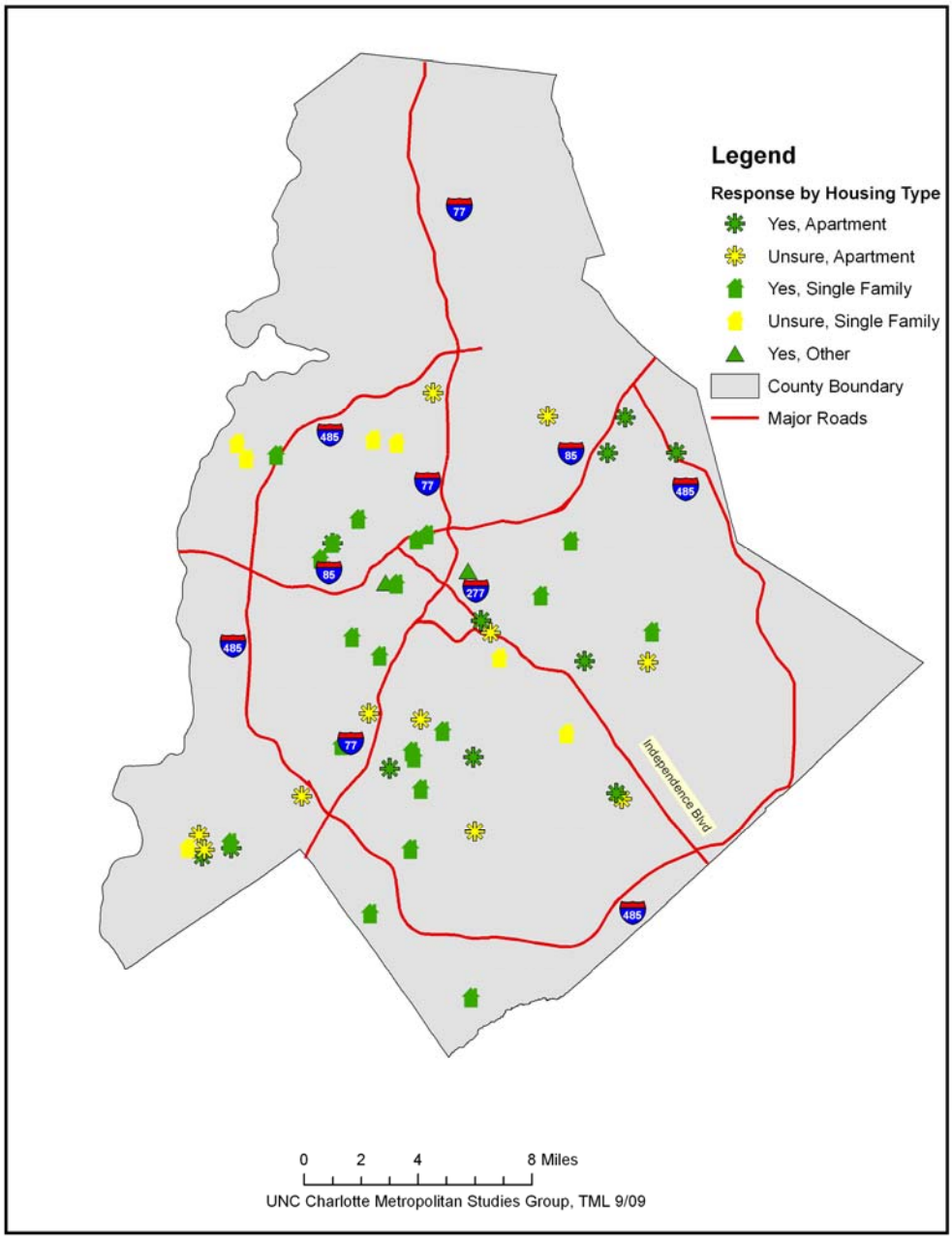
As a part of the renter landlord survey, respondents were questioned about their willingness to participate in rental assistance. The results of this line of questions were generally positive. Among 104 respondents, 55 percent of the respondents indicated they had accepted Section 8 vouchers in the past. From a small group of 47 landlords or rental agents who had not participated in past rental assistance programming (Section 8), 44.7 percent responded that they would be willing to join in a rental assistance program, with appropriate conditions. Another 23.4 percent said that they were "unsure" about joining such a program. A follow-up open-ended question asked the positive respondents what are the crucial considerations for participating in such a program. In general, most of the issues raised in this probe were related to economic and behavioral concerns surrounding the tenants. A sample of these responses is listed below.

- system must be time sensitive to landlord expenses
- reasonable standards with penalties for tenant if they cause damage
- automated payments; easy to get confirmation of eligibility
- no violent or drug related criminals
- avoid having to deal with Housing and Urban Development and additional paperwork/scrutiny

- transparency of program; use Apartment Association of North Carolina lease and addenda

Also important to these results was the geographical distribution of potential participants. As seen on Figure 13, those respondents indicating a willingness to try were widely distributed across Mecklenburg County. A spread effect of housing low income residents is valued for helping minimize negative impacts and assisting low income households. The research results presented in Chapter VIII offer extensive evidence of the public good costs of concentrated housing burden.

Figure 13. Willing to Participate in Rental Assistance, 2009



V. HOUSEHOLDER'S PERSPECTIVE

Focus Groups

A second component for assessing the barriers to increasing household wealth and securing housing consisted of two focus groups of low income and at-risk housing consumers. The primary purpose for the focus groups was to supplement the quantitatively derived data with the qualitative insights of low income rental housing users. Following discussions with several public rental housing providers regarding the research process and identifying housing clients, the research team arranged to work with Crisis Assistance Ministry (CAM).

The two focus groups were structured to represent two diverse perspectives. One group was composed of traditional clients of CAM. It was demographically heterogeneous and included single and married females, single and married males, as well as single parents, both female and male, and a range of ages between approximately 20 and 50 years of age. All participants had a history of dealing with CAM. The second group was made up of new CAM clients. These were persons who had not experienced housing hardships in the past, nor other issues that would have brought them to CAM before the current economic downturn. This group was also demographically mixed.

Both focus groups were given the same questions. In general, they were asked about the underlying circumstances that precipitated their current need for assistance; the changes in their lives occurring as a consequence of their current status; and, what things about their lives would they change in order to provide greater stability.

A common response from both focus groups was the spillover impact of economic difficulties on life views and family situations. Over and over again, either the lack of a job or the need for a better-paying job was heard from practically each individual in both focus groups. Many were out-of-work after having been fired or laid off. A widespread consequence was the need to sacrifice family needs, including health insurance. Juggling expenses, respondents would delay paying utility bills or give up private autos. Participants shared the hardships of explaining to their children the severe challenges the family faced.

One difference between the focus groups was their coping strategy. Traditional clients seemed resigned to their current circumstances; whereas the new clients, formerly independent of assistance, were struggling to understand their situation and figure a way to navigate their new lives.

In the pervasive circumstances of personal financial crisis, respondents' housing options were part of a larger set of critical needs. Utility service, especially water service, was basic. For some, daycare and child support payments were necessary expenses. Among the newly struggling group members, the expense and need to downsize their housing or relocate to less costly housing options meant moving costs or higher transit expenses that further disrupted their circumstances.

When queried about the resources that would assist in avoiding their housing plight, respondents suggested the need for financial advice and education, improved transparency for credit checks, and opportunities to improve credit scores. In a commentary, panelists noted rich people have financial advisors, but poor people need them too. They need help understanding their problems and develop strategies to improve their circumstances. They need a bottom line number that they would need to earn to get back to being able to pay what they owe and to meet their monthly bills. They need to learn to save so as to meet the one time emergencies that often lead them to CAM. Finally, they need some positive support.

All of the participants had troubling accounts of dealing with bad credit, including potential employers, housing providers, and others running credit checks and then turning them away. The example of how people with speeding tickets can get them off the record by going to a defensive driving school and receiving a "prayer for judgment" that prevents the incident from appearing on their record was mentioned more than once. The participants wondered why there is no way to get rid of a bad credit score, even after the credit issue has been cleared up. According to respondents, bad credit follows you wherever you go.

VI. HOMELESS POPULATIONS: DEMOGRAPHIC AND BACKGROUND CHARACTERISTICS

In addition to the issue of affordable housing for intact households, there are individuals and families in Mecklenburg County who are homeless. Homeless people live on the streets, they also move from place to place, often living with relatives or friends and are difficult to count and survey. Information about this group of people is nevertheless critical when providing a comprehensive picture of the demand for affordable and accessible housing. On-the-street providers who interact daily with homeless people are an excellent source of information. In addition, the longitudinal counting of homeless people can help assess the status of this group and gauge the challenges that confront homeless populations. During the past three years, biannual "Point in Time" surveys of Charlotte's homeless population were conducted. January and July were periods for the census. Beyond counting the homeless, the survey reported on demographic and special characteristics of the homeless population.

A review of Tables 23-26 document the growing number of homeless people living in this community. Between 2007-2009, the numbers of homeless people steadily grew to 4,477 or nearly 30 percent. The traditional public image of the homeless as single men is not supported by the county data. As seen on Table 24, large numbers of women, children, and households with dependent children live among Charlotte's homeless population. Table 26 presents data surrounding the greatest needs and challenges facing the homeless population. Substance abuse and severe mental illness are the two greatest disabilities for this community.

In February 2010, these data were augmented with a vulnerability assessment of Charlotte's chronically homeless population. The Charlotte Vulnerability Index Study, guided by Common Ground, New York City, and funded by the Charlotte Housing Authority, estimated the scope of vulnerability or risk of high mortality among the homeless population. Of 807 chronically homeless counted, 388 or 48 percent were identified as vulnerable. This subpopulation of homeless people has the greatest need for housing and supportive services. A detailed demographic profile of the vulnerable population and their risk factors is attached as Appendix B: Report from the Charlotte Vulnerability Index 2010.

Table 23. Point in Time Homeless Count – Total Persons

All Persons						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	849	2,272	329			3,450
July 2007	775	1,994	272			3,041
Jan. 2008	1,214	1,952	472			3,638
July 2008	775	1,987	577			3,339
Jan. 2009	1,136	795	550	1,636		4,117
July 2009	684	700	1,013	2,080		4,477

Total Households						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	711	1,711	326			2,748
July 2007	497	995	989			2,481
Jan. 2008	1,067	1,409	504			2,980
July 2008	485	1,473	574			2,532
Jan. 2009	831	653	548	1,186		3,218
July 2009	506	530	1,013	1,399		3,448

Adults						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	928	2,549	330			3,807
July 2007	854	2,206	286			3,346
Jan. 2008	1,305	2,244	498			4,047
July 2008	851	2,212	583			3,646
Jan. 2009	1,246	882	551	1,837		4,516
July 2009	777	770	1,013	2,380		4,940

Source: Mecklenburg County.

Table 24. Point in Time Homeless Count – Households with Dependent Children

All Persons						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	201	754	4			959
July 2007	197	566	34			797
Jan. 2008	227	802	30			1,059
July 2008	207	583	7			797
Jan. 2009	326	193	3	609		1,131
July 2009	261	161	0	1,087		1,509

Total Households						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	69	210	1			280
July 2007	74	182	13			269
Jan. 2008	77	279	36			392
July 2008	74	205	5			284
Jan. 2009	104	74	1	184		363
July 2009	83	63	0	315		461

Men						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	7	51	0			58
July 2007	13	30	5			48
Jan. 2008	5	41	11			57
July 2008	1	21	1			23
Jan. 2009	10	11	0	24		45
July 2009	10	3	0	44		57

Women						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	72	226	1			299
July 2007	66	182	9			257
Jan. 2008	86	251	15			352
July 2008	75	204	5			284
Jan. 2009	100	76	1	177		354
July 2009	83	67	0	256		406

Children						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	122	477	3			602
July 2007	118	354	20			492
Jan. 2008	136	510	4			650
July 2008	131	358	1			490
Jan. 2009	216	106	2	408		732
July 2009	168	91	0	787		1,046

Source: Mecklenburg County.

Table 25. Point in Time Homeless Count – Households without Dependent Children

All Persons						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	648	1,518	325			2,491
July 2007	578	1,428	238			2,244
Jan. 2008	987	1,150	442			2,579
July 2008	568	1,404	570			2,542
Jan. 2009	810	602	547	1,027		2,986
July 2009	423	539	1,013	993		2,968

Total Households						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	642	1,501	325			2,468
July 2007	423	813	976			2,212
Jan. 2008	990	1,130	468			2,588
July 2008	411	1,268	569			2,248
Jan. 2009	727	579	547	1,002		2,855
July 2009	423	467	1,013	1,084		2,987

Men						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	458	1,150	259			1,867
July 2007	378	1,072	146			1,596
Jan. 2008	803	802	360			1,965
July 2008	389	1,032	454			1,875
Jan. 2009	646	430	432	724		2,232
July 2009	271	403	849	685		2,208

Women						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	190	368	66			624
July 2007	200	356	92			648
Jan. 2008	184	348	82			614
July 2008	179	372	116			667
Jan. 2009	164	172	115	303		754
July 2009	152	136	164	308		760

Source: Mecklenburg County.

Table 26. Point in Time Homeless Count – Special Subpopulations

Severely Mentally Ill						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	129	185	31			345
July 2007	108	147	52			307
Jan. 2008	204	104	32			340
July 2008	180	233	52			465
Jan. 2009	139	204	31	97		471
July 2009	71	140	39	78		328

Diagnosed Substance Use Disorder						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	225	619	58			902
July 2007	197	763	75			1,035
Jan. 2008	486	468	47			1,001
July 2008	363	762	115			1,240
Jan. 2009	233	591	110	263		1,197
July 2009	94	496	101	184		875

Veterans						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	113	184	5			302
July 2007	38	65	25			128
Jan. 2008	127	51	3			181
July 2008	53	82	0			135
Jan. 2009	117	44	13	71		245
July 2009	38	54	7	81		180

Persons with HIV/AIDS						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	21	32	14			67
July 2007	13	38	9			60
Jan. 2008	22	23	1			46
July 2008	18	24	4			46
Jan. 2009	18	36	5	15		74
July 2009	0	34	9	15		58

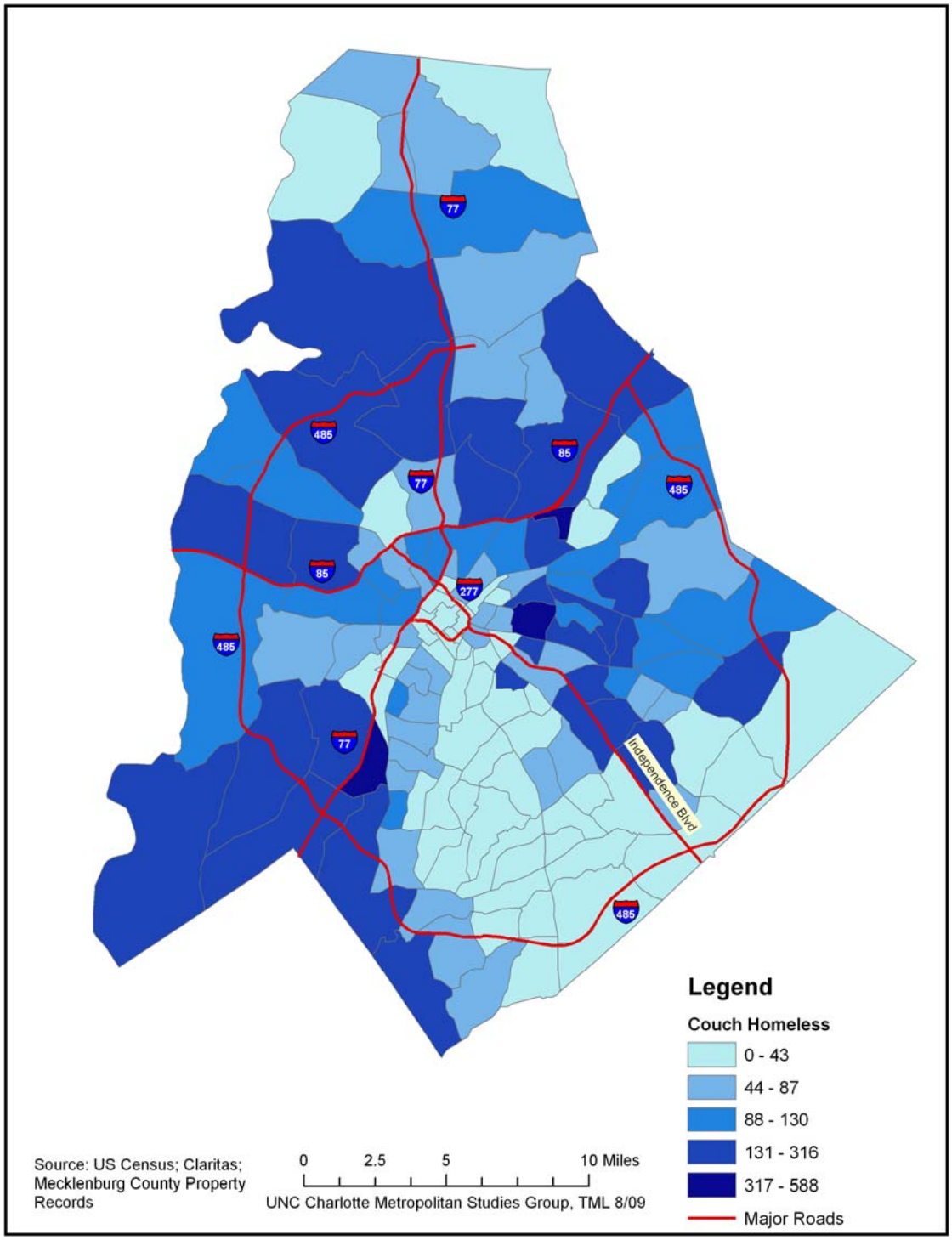
Victims of Domestic Violence						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	96	63	4			163
July 2007	88	102	7			197
Jan. 2008	72	78	9			159
July 2008	6	11	2			19
Jan. 2009	58	88	6	81		233
July 2009	40	89	7	75		211

Unaccompanied Youth						
Date	Sheltered		Unsheltered	Precariously Housed Homeless		Total
	Emergency/ Seasonal	Transitional				
Jan. 2007	1	4	5			10
July 2007	3	9	9			21
Jan. 2008	7	10	51			68
July 2008	6	11	2			19
Jan. 2009	10	4	2	41		57
July 2009	8	11	3	75		97

Source: Mecklenburg County.

In addition to the street homeless, Mecklenburg County has a significant number of couch homeless. This term refers to populations that are precariously housed; and generally means persons staying with a friend or relative. As such, this group is uncounted by conventional surveys or point in time counts. Although difficult to ascertain, researchers at the University of Detroit Mercy estimate that between one and two percent of the local metropolitan area's total population is experiencing this category of homeless situation. For the Charlotte metropolitan region, the expected couch homeless rate is 1.65 percent (Hoback, 2009). This translates into an estimated 12,552 couch homeless persons in Mecklenburg County. Figure 14 shows where these precariously housed or couch homeless people are spatially distributed throughout the county. The significance of identifying this at-risk population centers around the importance of intervention in order to prevent the downward spiral of couch homeless to homeless on the street, as the one often precedes the other (Hoback, 2009). In presenting the homeless numbers for 2007-2009, precariously housed numbers are included for 2009.

Figure 14. Couch Homeless, 2009



VII. SERVICE PROVIDER PERSPECTIVE

As a tool to better understand the needs of the housing cost burdened population and homeless residents of Mecklenburg County, a survey of all housing support services organizations was conducted. The purpose of the survey was to assess the needs of clients, collect service provision data, and identify the barriers to increasing household wealth and securing housing.

Twenty-four organizations responded to an internet deployed survey questionnaire. When asked what types of housing services their organization provides, over half of the respondents indicated that they provide transitional housing, emergency shelter, or a safe haven. Six respondent agencies provide permanent supportive housing. Crisis Assistance Ministry (CAM), serving an average of over 2,200 people per month, was the largest respondent to this survey. While most of the respondents were private organizations, Charlotte and Mecklenburg County service agencies also participated.

Service providers indicated that in a majority of cases, clients seeking housing assistance were coming from staying with family or friends (couch homeless), loss of rental homes, emergency shelters, or living on the street. At the present time, renters or former renters were the largest single group seeking housing services.

A number of the respondent organizations had focused missions. They offered specialized services and/or served targeted populations. Among these were programs for persons living with HIV/AIDS, pregnant teens, domestic violence victims, and post-hospitalization. Most of the service providers indicated that they worked with at-risk populations such as the homeless, disabled, and veterans.

Specific populations served by the responding organizations were divergent and reflected the scope of housing needs in Mecklenburg County. Table 27 shows estimates of the number of organizations providing services and the number of clients served. The large organizational coverage reflects service missions with general or non-targeted user profiles. The wide variance in client usage is a measure of organizational capacity and/or the demand for services.

Table 27. Service Provision Profile

User Group	Number of Organizations	Estimated Clients
Single-Parent Families	13	28,218
Elderly	11	19,267
Immigrants	12	11,928
Homeless	17	10,402+
Physically Disabled	12	7,864
Mentally Disabled	14	5,905
Unwed Mothers/Mothers-To-Be	12	2,069
Recently Released from Incarceration	11	1,907
Victims of Domestic Violence	13	1,085
Recovering Substance Abusers	12	827
HIV/AIDS	12	739
Veterans	11	526
Chronically Ill	10	53
Runaways and Emancipated Minors	9	3
Other - Working Poor facing eviction or utility disconnection, Homeless with pets	4	8,431

The array of services provided to clients was extensive. They encompassed housing related programming, including pre- and post-foreclosure counseling; emergency rent and utility assistance; educational support and job training services; maternity and teen parenting assistance; and, help in post-hospital recuperation situations.

The respondents were unable to provide detailed information on the number of beds in Mecklenburg County available for emergency shelter, transitional housing, or safe haven. The data gap arose from recordkeeping issues. There were, however, general bed counts. Table 28 provides those estimates. The largest numbers of beds are in emergency housing services. Families have the greatest number of options, with independent youth having very limited shelter places.

The length of stay in emergency shelters, transitional housing, and safe havens was also difficult to ascertain. Among the six agencies which did respond to this question, one-half indicated that their clients stayed an average of six to 12 months. Residence in transitional housing lasted the longest, with agencies indicating average stays of over 12 months. During the past year, eight agencies reported providing 514 clients with transitional housing, with 18 agencies matching 1,581 clients to permanent housing.

Table 28. Total Number of Available Beds

Category	Type of Housing	Available Beds
Men	Emergency Shelter	268
	Transitional Housing	124
	Safe Haven	2
Women	Emergency Shelter	44
	Transitional Housing	162
	Safe Haven	10
Families	Emergency Shelter	328
	Transitional Housing	144
	Safe Haven	10
Youth	Emergency Shelter	26
	Transitional Housing	45 (part of family)
	Safe Haven	10

The need for housing assistance services far exceeds the capacity of local organizations to meet demand. Over 41 percent of the respondents reported keeping a housing waiting list. Among those service providers, one organization identified 3 to 5 families on their list, while another agency reported 447 clients on their waiting list. Unfortunately, agencies were not able to provide counts or estimates of the number of persons or families seeking assistance, who were turned away without assistance.

Table 29 presents a matrix of the range of services provided by respondents and an explanation of the service provisions. Nineteen organizations provided all of the services listed in the survey questionnaire.

Table 29. Services

Service	Providing Services	Referral Services	Providing and Referral	Needed but not Available
Case management and services coordination	10	5	4	0
Benefits counseling and advocacy	9	4	3	1
Outreach and engagement	6	7	3	2
Providing transitional housing	6	10	1	0
Money management and other independent living skills, training and assistance	5	5	7	2
Youth programs	5	9	2	1
Activities, classes, workshops and special events to promote relationship-building, mutual aid and community enjoyment/fun	5	5	5	3
Homeownership education	5	7	2	3
Eviction prevention services	5	6	3	1
Training in basic skills required to care for one's personal needs	5	5	4	0
Domestic violence prevention support	4	11	1	1
Parenting training and support	4	7	4	2
Temporary emergency financial assistance	4	12	1	1
Resettling homeless people into transitional housing	4	5	6	0
Subsidizing transitional housing	4	9	2	2
Substance use management, harm reduction, abstinence & relapse support	3	10	3	1
Career/job counseling, development and placement	3	9	5	1
Tenant education and mediation	3	12	1	0
Education and vocational training	2	11	5	0
Developing housing for low-income households	2	6	1	1
Legal support services	2	12	1	1
Child care programs	1	12	2	1
Developing below-market rental housing	1	6	1	7
Mental health services and treatment	0	14	3	0
Primary health care and medication management	0	15	1	1

VIII. LINKING HOUSING AFFORDABILITY TO RELATED SOCIAL ISSUES

There is wide agreement among analysts that housing market imperfects can lead to major social costs. The effects of inadequate housing supply and housing costs have been empirically examined and tested by social scientists in cities and counties across North America. The findings presented in this section are an objective cross-section of the scientific literature. Although these data do not represent research carried out in Mecklenburg County, they are informative and provide a strong inference for local conditions. All of the publications and research reports cited in this section are referenced in Appendix A.

The information is organized to represent five dimensions of housing affordability and four key categories of social costs. Table 30 presents the hypothesized interactions between housing supply shortfalls and social costs in Mecklenburg County, based upon the evidence from other communities. What is not substantiated by these source studies is the severity or scale of costs that have occurred or might be expected to occur in Mecklenburg County. Therefore, our quantitative estimates of costs are constructed to reflect only the most cautious or conservative estimates. While the estimates put forth in this section are in no way intended to be all inclusive, they are designed to serve as a catalyst for discussion and a call for future research.

Table 30. Dimensions of Housing Affordability and the Related Social Costs

	Education	**Healthcare**	**Criminal Justice**	**Transportation**
Neighborhoods	*Hypothesis:* *Distressed neighborhoods have a negative impact on academic achievement.*	*Hypothesis:* *Residents of distressed neighborhoods experience more health problems.*	*Hypothesis:* *Criminal activity is more prevalent in impoverished neighborhoods*	*Hypothesis:* *Residents of distressed neighborhoods must travel farther to work and retail outlets.*
Homeownership	*Hypothesis:* Children of renters perform worse in school than children of owners.	*Hypothesis:* *Renters experience more health problems than owners.*	*Hypothesis:* *Higher homeownership rates are associated with lower crime rates*	*Hypothesis:* Affordable transit-oriented housing is undersupplied.
Public Assistance	*Hypothesis:* *Tenant-based affordable housing programs impact students differently than place-based programs.*	*Hypothesis:* *Residents of public housing experience more health problems than voucher and certificate recipients.*	*Hypothesis:* *Public housing is associated with more crime than tenant-based affordable housing programs.*	*Hypothesis:* *Tenant-based affordable housing programs reduce commute times and distance to work.*
Housing Quality	*Hypothesis:* *Poor housing quality encourages poor academic performance.*	*Hypothesis:* *Poor housing quality is related to poor health status.*	*Hypothesis:* *Deferred maintenance encourages criminal activity.*	*Hypothesis:* *The housing filtering process contributes to vehicle miles traveled.*
Homelessness	*Hypothesis:* *Homeless children perform worse in school than permanently housed children.*	*Hypothesis:* *Homeless individuals experience more health problems than the permanently housed.*	*Hypothesis:* *Homelessness is associated with increased criminal justice expenditures.*	*Hypothesis:* *Access to transportation is a significant problem for the homeless.*

Neighborhood Effects

Economically disadvantaged families often live in areas with high concentrations of crime, poverty, and unemployment due to a lack of affordable housing elsewhere. These conditions are problematic because they have been found to have negative effects on local residents. The research summarized below considers the linkages between neighborhoods and education, healthcare, criminal justice, and transportation.

Neighborhoods and Education

Social disorganization theory offers a useful starting point to examine the relationship between neighborhoods and education. It focuses on risks and resources at the neighborhood level that have countervailing effects on children (Byrd and Chavous, 2009). Key components of the theoretical framework include: collective socialization processes, social networks, social control mechanisms, economic opportunities, and institutional structures (Nettles et al., 2008; Ainsworth, 2002). Each can affect academic achievement in positive and negative ways.

Collective socialization processes refer to interactions individuals have with their surroundings that shape their norms and values (Crowder and South, 2003). Children residing in neighborhoods with an abundance of well-educated and employed adults are anticipated to succeed in school because the value placed on education by the community is transcended to the younger generation by example. Alternatively, children living in areas with high concentrations of poverty, pervasive criminal activity and low levels of educational attainment are expected to mimic these behaviors and struggle in school. Empirical studies confirm the importance of collective socialization processes and some even conclude that the number of college graduates and professionals living within a neighborhood has nearly as great of an impact on academic outcomes as the quality of the instruction children receive in the classroom (Byrd and Chavous, 2009; Ainsworth, 2002).

Children that do not live in affluent neighborhoods may still have opportunities to interact with college educated professionals if constructive social networks are in place. For example, many civic organizations attempt to provide economically disadvantaged adolescents with exposure to positive adult role models through extracurricular activities. Despite these efforts, constructive social networks are too often missing in impoverished neighborhoods. Parents residing in these areas may also lack the financial resources necessary to effectively monitor the activity of their children, leaving them susceptible to negative peer influences (Ainsworth, 2002). The combination of destructive social networks and weak social control mechanism creates significant risks for economically disadvantaged students. Scholars have found children living in distressed neighborhoods often suffer from limited social control, have a higher probability of interacting with deviant peers, and in turn have a higher probability of engaging in deviant behavior themselves (Brody et al., 2002). Such behavior clearly has the potential to disrupt a child's education.

The economic opportunities available within a neighborhood have additionally been found to affect education in a manner similar to that of collective socialization processes and social networks. Children familiar with high paying jobs, as well as the adults that hold such jobs, tend to see education as a means of obtaining future financial success. On the contrary, a dearth of economic opportunity reinforces perceptions that education is not a viable option to improve one's life. Empirical studies have found perceptions of neighborhood quality are related to the value placed on education by students and the amount of effort put forth in school (Cabello et al., 2004; Bowen et al., 2002; Ainsworth, 2002).

Institutional resources, such as schools and community centers, are a final factor at the neighborhood level expected to affect academic outcomes. The quality of these institutions

influences not only the instruction received by a student, but also the adult role models and social networks to which they are exposed. Both the availability and perceived quality of institutional resources have been found to impact grade point averages and the value placed on school by adolescents (Byrd and Chavous, 2009).

Two interesting empirical studies summarized by Rosenbaum (1995) illustrate the impact of collective socialization process, social networks and institutional resources on academic achievement. These studies relied on data collected from the Gautreaux Program in Chicago, which was implemented in response to a court order requiring desegregation of the city's public housing projects. The program provided a unique opportunity to examine neighborhood effects because housing vouchers were randomly assigned to low income black families with similar characteristics, allowing some to reside in suburban areas and others in poor urban areas.

The first of these studies found adolescents moving to the suburbs initially had problems adjusting to their new schools, but quickly acclimated. Despite some reports of racial tension, students in the experimental group noted greater levels of satisfaction with teachers and higher academic standards. The second study found only 5 percent of students moving to the suburbs dropped out of school, as compared to 20 percent of the control group remaining in poor urban areas. Grades were similar across the two groups, although 40 percent of the students in the experimental group enrolled in college-track classes, while only 24 percent of the students in the control group did the same. Similarly, 54 percent of the students moving to the suburbs went on to college, while only 21 percent of the control group pursued post-secondary education. The experimental group and the control group reported similar degrees of social interaction, but members of the experimental group reported more interaction with white students.

The empirical evidence presented above suggests that the academic outcomes of poor children can be improved by providing their families with access to affordable housing in stable neighborhoods. Nonetheless, a related body of research indicates that neighborhood continuity may be just as important as neighborhood quality. A number of studies have examined the impact of residential and school mobility on academic achievement. The results are critically important because low-income families move much more frequently than other segments of the population in response to housing issues (Heinlein and Shinn, 2000).

From a social capital perspective, moving to a new neighborhood or school can impinge upon a child's ability to form relationships with peers and teachers that contribute to long-run academic success. It may also be difficult for teachers to identify the educational needs of highly mobile students because they have less interaction with faculty and staff before moving on to another school. The problem is compounded by waiting lists and other systemic delays that slow the delivery of supplemental educational services (Julianelle and Forcarinis, 2003).

Isolating the impact of student mobility on academic achievement is difficult because families that move frequently potentially have unobservable characteristics that differentiate them from other households. Longitudinal studies including controls for "pre-move" measures of social capital and academic aptitude have been employed to address the issue. These studies generally conclude that residential mobility and school mobility have a negative effect on standardized tests scores and educational aspirations, with the greatest impact occurring in situations where

both moves occur simultaneously (Pribesh and Downey, 1999). Moving from school to school early in a child's academic career has also been found to have a more detrimental impact on standardized test scores and grade retention rates than moves that occur later on (Heinlein and Shinn, 2000).

An empirical study completed by Pribesh and Downey (1999) examined the effects of mobility on students after including variables in the statistical analysis to control for "pre-move" measures of social capital, academic achievement and stressful life events. Fluctuations in social capital were first estimated as a function of moving. Social capital was measured using a series of survey questions designed to identify a student's participation in extracurricular activities. Questions were also asked to assess parents' relationships with their child, other parents and the school system. School mobility and residential mobility were found to reduce social capital. The most significant declines were observed when a child changed residences and schools simultaneously. Mobility explained approximately 5 percent of the variance in standardized test scores and academic aspirations after controlling for preexisting levels of social capital and other family characteristics. Highly mobile students were found to have lower levels of social capital before a move, which proved to be a mitigating factor limiting the observed impact of mobility on academic outcomes.

A second longitudinal study completed by Heinlein and Shinn (2000) examined the effect of mobility on standardized test scores in the New York City public school system. A series of control variables were included in the statistical analysis to serve as proxies for a child's socioeconomic status. The study did not find a relationship between school mobility and standardized test scores or grade retention after controlling for "pre-move" standardized test scores. After dropping the control for prior academic achievement, school mobility was found to have a strong negative impact on standardized test scores for students moving three or more times since entering kindergarten. Approximately 48 percent of sixth grade students moving fewer than three times performed at or above grade level in math, while only 38 percent performed at similar levels in the highly mobile group. An assessment of standardized reading scores between the two groups produced similar results. Only 18 percent of the highly mobile students performed at or above grade level, as compared to 27 percent of the less mobile students. Similar results were observed for third graders. Approximately 49 percent and 30 percent of the students moving fewer than three times since kindergarten performed at or above grade level in math and reading respectively, as compared to 35 percent and 23 percent in the less mobile group.

The results of the aforementioned mobility studies are noteworthy because they suggest that academic outcomes can be improved by ensuring families with children do not have to move repeatedly to find affordable housing. They also indicate that programs designed to provide disadvantaged families with access to housing in more stable neighborhoods must be mindful of the potentially disruptive effects of mobility on education. The latter of these issues is especially important in light of uncertainty regarding the nature of the relationship between neighborhood characteristics and academic achievement. Proponents of epidemic theory argue that improvements in neighborhood quality affect academic outcomes in a nonlinear fashion, in which negative social outcomes only spread through community like a disease once concentrations of poverty and crime exceed threshold levels (Crane, 1991). The position is

interesting because it draws into question whether public resources should be used to help families move out of moderately disadvantaged areas if only small improvements in education can be achieved. The disruptive impact of moving may offset any benefit derived from residing in a more affluent area with better institutional resources. Considerable disagreement exists regarding the merits of epidemic theory and many scholars maintain that even small improvements in neighborhood quality can have a measurable impact on academic outcomes.

There is more agreement that neighborhood effects can vary with the age, gender and race of a child. Adolescents are potentially more susceptible to neighborhood effects than younger children because they have greater exposure to environmental factors outside the home (Emory et al., 2008; Nettles et al., 2008; Thompson, 2002; Shumow et al., 1999). Females also appear to have stronger relationships within their neighborhoods, which may amplify or diminish neighborhood effects by increasing their exposure to risk factors and resources (Crane, 1991). Racial segregation in the housing market may additionally increase the magnitude of neighborhood effects if it encourages the formation of cohesive communities of minority residents that are unable to build external social networks (Crowder and South, 2003). Empirical studies offer inconsistent results on all three of these issues, although there does appear to be agreement that age, gender and race influence neighborhood effects in meaningful ways.

Much of the research discussed above indicates that neighborhoods have an independent effect on the academic success of children. The relationship is mitigated by individual and family characteristics, but remains statistically significant in many studies after controlling for these factors. Thus, programs that provide economically disadvantaged families with access to affordable housing in stable neighborhoods can help children succeed in school. Such programs can also potentially reduce the cost of supplemental educational services required for this segment of the population.

Neighborhoods and Crime

Neighborhood characteristics are anticipated to influence crime and victimization rates through several of the causal mechanisms discussed above. Negative peer associations, in conjunction with limited economic opportunity and weak social control mechanisms, may perpetuate criminal activity in economically disadvantaged areas in the absence of intervening factors. Numerous studies have attempted to estimate the magnitude of such neighborhood effects.

In a census tract-level analysis of New York City, Hannon and Cuddy (2006) examined the potential impact of neighborhood ecology on drug dependence mortality. Drug-related death rates were greater in areas with high poverty, significant numbers of young adults and males, and concentrated populations of minority residents. After controlling for poverty, homeownership rates and measures of blight had independent effects on the prevalence of drug-related mortality. The results of the study must be interpreted with caution because the findings only demonstrate the drug-users concentrate in certain types of areas. The methodology falls short of demonstrating a causal relationship between neighborhood quality and crime. Other studies attempt to establish such a link.

Moving to Opportunity (MTO) demonstrations conducted in Baltimore, Boston, Chicago, Los Angeles, and New York offer the best opportunities to examine the relationship between neighborhoods and crime (Ludwig et al., 2008). Families participating in these demonstrations resided in public housing or project-based Section 8 housing located in neighborhoods with poverty rates exceeding 40 percent before being randomly assigned to three groups. Those assigned to the experimental group received counseling assistance from local nonprofit organizations and vouchers for private-sector rental housing in low poverty areas. Families assigned to the comparison group received unrestricted housing vouchers and no counseling. The remaining families were assigned to a control group that did not receive rental-assistance or counseling, but remained eligible for public housing.

In an early evaluation of Boston's MTO demonstration, boys in the experimental and comparison groups exhibited approximately one-third fewer behavioral problems than those in the control group (Katz et al., 2001). Perceived safety was also found to increase, while exposure to violent crime and criminal victimization declined. Similar results were observed in Baltimore (Ludwig et al., 2001). Experimental and comparison group members 11 to 16 years old experienced a reduction in violent-crime arrests relative to the control group. Property-crime arrests were somewhat higher among teens in the experimental group, but the effect persisted for only a short time after relocation.

A follow-up study of Baltimore's MTO demonstration found moving to neighborhoods with less poverty and crime affected boys and girls differently. Both genders experienced fewer violent crime arrests after random assignment when compared to the control group. Females were arrested less often for other crimes during this period of time as well. After several years, beneficial neighborhood effects continued only for young females. Property crime arrests became more common in the experimental male group than in the control group (Ludwig et al., 2008). A second evaluation of Baltimore's MTO demonstration reached similar conclusions. Males 12 to 19 years old in the experimental and comparison groups self-reported more behavioral problems than those in the control group. Moving to more stable neighborhoods had little to no impact on the criminal behavior of girls (Orr et al., 2003).

While the MTO studies discussed thus far provide some evidence that moving to more affluent neighborhoods reduces crime and victimization rates, especially among girls, the causal mechanisms underlying the observation are not clearly established. Alternative sources of data have been used to address the issue. Sampson and Raudenbush (1997), for example, argued that variations in crime rates that cannot be explained by aggregated demographic characteristics of an individual can be attributed to the collective efficacy of a neighborhood. Social structures and organizations were anticipated to influence a community's ability to promote common values and maintain social control. After surveying residents of 343 Chicago neighborhoods and controlling for individual characteristics, measures of collective efficacy were found to be negatively related to criminal violence.

Other studies have utilized a variety of datasets and methodologies to examine the relationship between neighborhoods and crime. Miles-Doan (1998) relied on law enforcement and US Census data for Duval County, Florida to examine the importance of neighborhood context on the incidence of domestic violence. Neighborhoods with high concentrations of poverty, unemployment and female-headed households were found to have dramatically higher rates of

domestic violence than otherwise comparable neighborhoods. Walsh and Taylor (2007) investigated the relationship between community characteristics and motor vehicle theft rates over a ten year period. The study found greater increases in auto theft in more racially mixed communities, as well as in areas surrounded by neighborhoods with higher initial motor vehicle theft rates. Allen (1996), on the other hand, failed to find a statistically significant relationship between relative poverty at the neighborhood level and several indicators of criminal activity.

Notwithstanding limited evidence to the contrary, there does appear to be a general consensus in the academic literature that a positive relationship exists between neighborhood deprivation and crime. MTO studies provide the most convincing support for the position. Having established a causal link, it is possible in principle to estimate the cost savings associated with a reduction in criminal activity resulting from a reduction in concentrated poverty. At least one rigorous study has attempted to derive such estimates. Kling et al. (2005) compared differences in crime costs between experimental and control group youth participating in one MTO program. Costs associated with criminal activity among experimental group youth were found to be 15 percent to 33 percent lower than those associated with the control group. While the results were not statistically significant in a pooled sample of boys and girls, large and statistically significant cost savings were observed for girls under some sets of assumptions.

The research summarized above indicates that crime and victimization rates can be reduced by investing in affordable housing programs that limit concentrations of poverty. Such an approach may be especially beneficial for parents with adolescent daughters, who appear to be very susceptible to positive neighborhood effects. Supportive social programs are also necessary to prevent adolescents, in particular boys, from reverting back to deviant behavior after the initial impact of relocating to a more stable neighborhood wears off. These steps are necessary to ensure moving to a new neighborhood does not have a destabilizing effect on a child.

Neighborhoods and Healthcare

With the notable exceptions of criminal activity and unsafe buildings that can lead to injury, neighborhood characteristics are not expected to contribute directly to the health status of local residents. There are, however, at least two indirect ways in which distressed neighborhoods may have a detrimental impact on both adults and children. Some neighborhoods arguably provide residents with access to better healthcare services and reduce their exposure to long-term "weathering" processes such as stress and resource deprivation (Ellen et al., 2001). Several empirical studies confirm these presumptions and suggest that neighborhoods can affect physical and psychological health.

Katz et al. (2001) took advantage of MTO data from Boston to examine the causal relationship between neighborhood quality and health. In this study, the health status of both adults and children moving to more affluent neighborhoods improved as compared to those remaining in low-income communities. For adults, the authors reported improvements in overall health and mental health. The mean self-reported health status of experimental group members increased by 51 percent more than that of control group members. A higher number of adults in the experimental group also reported feeling "calm and peaceful". Children in the experimental and comparison groups experienced improved health status as well. Those moving to more affluent

neighborhoods had fewer behavioral problems, incidents of depression, and asthma attacks requiring medical attention.

In a related study, Leventhal and Brooks-Gunn (2003) interviewed 550 families participating in New York's MTO demonstration at the 3-year follow-up point. Parents moving to more affluent neighborhoods reported significantly less psychological distress than parents that did not move. Boys relocating with their families were also found to have significantly fewer depressive episodes and dependency problems than those remaining in public housing.

An interim evaluation of the New York MTO conducted by HUD offered results similar to those of the two studies discussed above (Orr et al., 2003). The study found a large reduction in the incidence of obesity in the experimental group, as well as less psychological distress and depression. Among children, some of the significant effects of MTO on health included reductions in psychological distress, depressive episodes, and anxiety disorders among girls.

While only a few empirical studies have examined the relationship between neighborhoods and health status, the existing research offers compelling evidence that physical and psychological health can be improved by providing economically disadvantaged families with access to housing in stable areas. The conclusion generally holds for both adults and children. The most common health benefits include reductions in depressive episodes, anxiety and stress.

Neighborhoods and Transportation

Affordable housing is rarely located in neighborhoods that provide convenient access to public services, employment and amenities. This may force low-income individuals to commute long distances to work each day or travel multiple miles to find basic retail stores. While these examples represent only a fraction of the transportation related challenges faced by economically disadvantaged families on a daily basis, they do help illustrate the scope of the problem.

One well documented theoretical link between neighborhoods, transportation and employment opportunities is referred to as spatial mismatch. Proponents of this theory argue that a geographic disconnect exists between affordable housing and entry-level jobs. The problem is hypothesized to exist as a result of the ongoing suburbanization of employment centers, which has left low-income families behind in blighted urban neighborhoods with few economic opportunities. The geographic disconnect persists because many entry-level workers lack the financial resources necessary to move to the suburbs or refuse to accept jobs located far from their homes because the burden of commuting exceeds the benefits derived from employment. Some spatial mismatch scholars additionally argue that entry-level workers are simply unaware of employment opportunities outside of their neighborhood and lack the capacity to seek them out (Gobillon et al., 2007).

Several empirical studies have attempted to estimate the severity of spatial mismatch. Allard and Danziger (2003) studied welfare recipients in the Detroit metropolitan area and found housing in close proximity to employment increased the probability of an individual obtaining a job and ultimately leaving welfare. The results were generally consistent with those of Blumenberg (2002), who concluded long commutes and reliance on public transit created significant

obstacles for welfare recipients seeking to find and retain employment. Other studies conducted at the neighborhood level offer additional evidence that skill-matched jobs in close proximity to affordable housing encourage employment and limit reliance on welfare (Immergluck, 1998; Blumenberg and Ong, 1998). These findings suggest housing policies that reduce the cost of commuting to and from work can have a positive impact on low-income individuals.

Despite the results reported above, scholarly debate continues to surround spatial mismatch theory. Several studies have found job accessibility is not a significant problem for low-income workers in some areas. Blumenberg and Shiki (2003) concluded that welfare recipients living in Fresno County, California had relatively good access to employment and public transportation compared to other residents. An analysis of four urban neighborhoods in Cleveland, Ohio completed by Gottlieb and Lentnek (2001) also failed to find strong evidence that workers residing in low-income neighborhoods did not have access to skill-matched jobs. Hess's (2005) study of two counties in upstate New York additionally found high concentrations of low-wage employment in urban areas composed primarily of poor residents. It remains unclear whether housing policy can effectively expand the employment opportunities available to low-income workers in all cities based on the findings existing research.

A second transportation related challenge faced by residents of impoverished neighborhoods is limited access to retail establishments. The problem is pronounced in cities where real estate development patterns have encouraged supermarkets, drug stores and other necessity retailers to flee stagnant urban neighborhoods in favor of suburban locations in close proximity to affluent customers. Alwitt and Donley (1997) addressed the issue by examining the availability of different types of retail outlets in poor and non-poor neighborhoods throughout Chicago. The study concluded that poor neighborhoods had approximately 50 percent fewer retail establishments than more affluent areas. Existing retail establishments in poor neighborhoods also tended to be smaller in size, potentially indicating limited selection and higher prices. These differences persisted in some model specifications after controlling for the aggregate purchasing power of local consumers. The findings reflect national trends that have left many low and moderate-income urban neighborhoods under-retailed (Eisenhauer, 2001).

Several studies have additionally found access to retail establishments is even more limited in neighborhoods comprised predominately of low-income minority residents. Zenk et al. (2005) concluded that impoverished neighborhoods in Detroit with high concentrations of African American residents were over a mile farther away from large chain supermarkets than comparable neighborhoods with an abundance of white residents. Studies completed by Moore and Diez Roux (2006), Powell et al. (2007), and others have also found significantly fewer supermarkets in poor black neighborhoods. The results are important because chain supermarkets offer a larger selection of healthy products at lower prices than smaller grocery stores, which can reduce the prevalence of obesity and other health problems within low-income minority population (Chung and Myers, 1999; Powell et al., 2007; Laraia, 2004). Ensuring the availability of geographically dispersed affordable housing can address these issues, while simultaneously providing economically disadvantaged individuals with better access to employment.

Homeownership

Many members of the general public recognize the importance of preventing concentrated poverty and are supportive of efforts to help low and moderate-income families obtain affordable housing in stable neighborhoods (Mueller and Tighe, 2007). However, there is ongoing debate regarding the best way to achieve the objective. Some favor initiatives to increase the supply of affordable rental housing, while others prefer programs that encourage homeownership through various types of public subsidies. Both approaches have merit and can generate positive social outcomes. Homeownership may be particularly beneficial for some families.

Homeownership and Education

Homeownership is expected to contribute to the academic success of children for a variety of reasons. First, numerous empirical studies have found homeownership reduces residential mobility due to the transaction costs associated with selling a home (Dietz and Haurin, 2003; Hanoushek and Quigley, 1974; Speare, 1974). This may put the children of homeowners in a better position than those of renters to develop social capital. Second, homeownership provides adults with a financial incentive to monitor the activities that go on within their neighborhood due to stronger community ties and an interest in preserving area property values (Green and White, 1997). These social control mechanisms can reduce negative peer effects and encourage children to embrace the benefits of education. Third, homeownership may encourage civic involvement and improve parenting skills (DiPasquale and Glaeser, 1999; Rossi and Weber, 1996). Both of these results can stimulate positive academic outcomes. At least five recently completed empirical studies have tested these hypotheses.

Aaronsen (2000) examined the impact of homeownership on public school retention after controlling for several variables related to educational attainment. Children of homeowners were less likely to drop out of school than those of renters, but the relationship was mitigated by several factors. Approximately half of the impact of homeownership dissipated after controlling for residential mobility. The detrimental effects of residential mobility were pronounced for students residing in low income areas, while homeownership had the greatest effect on school retention rates in more affluent neighborhoods.

Green and White (1997) analyzed the impact of homeownership on both dropout rates and teen pregnancy. The estimated dropout rate for children of renters with average income levels was approximately 4 percent higher than that of homeowners. A larger effect was observed in a subset of low income households. Children of renters in this group were 9 percent more likely to drop out of high school than children of homeowners. Tenure mitigated the impact of homeownership on school retention, but the relationship remained statistically significant after controlling for the number of years a family resided in a home or apartment. The prevalence of teen pregnancy was 2-4 percent lower amongst children of homeowners.

A study of low income families completed by Harkness and Newman (2003) found children of homeowners were 13 percent more likely to graduate from high school and 6 percent more likely to pursue post-secondary education than the children of renters. Homeownership had the greatest impact in stable neighborhoods with relatively high income levels. Interestingly,

neighborhood quality had a much less pronounced effect on the educational outcomes of renters. The authors concluded that low-income families with children might be better served in some instances by becoming homeowners in their current neighborhood rather than renting in a more affluent area.

Other studies have explored the relationship between homeownership and education using alternative measures of academic achievement. Haurin et al. (2002) found homeownership increased standardized test scores 7-9 percent and reduced behavioral problems 1-3 percent after controlling for a child's socioeconomic status. Boyle (2002) examined the prevalence of behavioral problems using multilevel regression techniques to control for family, school, and neighborhood characteristics. Family and neighborhood characteristics explained more than half of the variance in behavioral problems, but homeownership still had a statistically significant impact after controlling for these nested variables. There was also some evidence that homeownership increased receptive vocabulary among children included in the research.

Although much of the existing research indicates homeownership influences academic outcomes primarily through a reduction in residential mobility, there is some evidence that other factors are at work. Social control mechanisms and improved parenting skills may explain at least a portion of the observed difference in academic outcomes between children of homeowners and children of renters. Subsidy programs that encourage homeownership in stable neighborhoods may therefore benefit moderately disadvantaged families in ways that cannot easily be replicated through other types of affordable housing initiatives.

Homeownership and Crime

The causal mechanisms through which homeownership influences education also affect criminal behavior, albeit in different ways. Residential stability promotes the development of dense social networks and frequent communications among neighbors that may reduce crime by encouraging collective supervision of property (DiPasquale and Glaeser, 1999; McNulty and Holloway, 2000). Several empirical studies comparing the sociability of homeowners and renters provide support for this hypothesis.

Rossi and Weber (1996) compared measures of social capital among homeowners and renters after controlling for age and socioeconomic status. The research found homeowners were more likely than renters to be members of organized social groups. DiPasquale and Glaeser (1999) arrived at somewhat similar conclusions. The authors found homeownership was positively related to measures of social capital. Rohe and Stegman (1994) compared community and social participation among low-income homeowners and renters. The research found homeowners were more likely to be involved in neighborhood organizations. In several of these studies, alternative model specifications failed to find a statistically significant difference between the sociability of homeowners and renters, so the results must be interpreted cautiously.

Another body of research attempts to measure important differences between homeowners and renters by comparing their commitment to the maintenance of the dwelling unit in which they reside. Several of these studies have found homeowners have stronger financial and social incentives to invest in the upkeep of their property than do renters (Rohe and Stewart, 1996;

Ioannides, 2002). This behavior can potentially deter crime because proper maintenance is a visible sign of guardianship (Rephann, 2009; Brown et al., 2004). Empirical studies indicate that homeowners are more likely than renters to occupy dwellings in superior condition and to invest in property maintenance (Galster, 1983; Spivak, 1991). However, there is considerable debate regarding the magnitude of these differences (Gatzlaff et al., 1998).

Finally, homeownership may limit criminal activity by indirectly discouraging adolescents from engaging in deviant behavior. Such a result is expected because homeowners have a financial incentive to closely monitor the activity of children living in their neighborhood (Green and White, 1997). Homeowners additionally develop parenting skills and higher levels of self-esteem through the homeownership process that are passed on to their children (Haurin et al., 2002). While survey data offers some evidence that self-esteem levels are in fact higher among homeowners (Rossi and Weber, 1996), empirical research offer inconsistent results. Rohe and Stegman (1994) compared the perceptions of low-income homeowners before and after purchasing a home and failed to find a statistically significant increase in self-esteem after the purchase, although higher levels of life satisfaction were observed.

Somewhat surprisingly, empirical studies directly examining the relationship between homeownership and crime rates are less common than those that evaluate the underlying causal mechanisms that link the two together. The studies that do exist offer relatively consistent results. Krivo and Peterson (2000) estimated a 24 percent decrease in homicide rates in response to a 10 percent increase in homeownership among white families. Alba et al. (1994) concluded that homeownership reduced exposure to both property crime and violent crime, while Glaeser and Sacerdote (1999) found cities with higher homeownership rates experienced less criminal victimization. White (2001) observed a negative relationship between homeownership and murder rates in high-income cities and a positive relationship between homeownership and burglary rates in low-income cities. The results are potentially attributable to improved property maintenance and communication among neighbors.

Homeownership and Healthcare

Homeownership can affect physical and psychological health directly and indirectly. Families residing in owner-occupied housing are known to invest more in the upkeep of their property than renters, which is likely to reduce the risk of injuries and respiratory problems associated with housing conditions. At the same time, reduced mobility provides homeowners with better information about local healthcare providers, allowing families to turn to doctors before their condition becomes more difficult to treat (Dietz and Haurin, 2003). Promoting homeownership as a source of personal wealth also increases the resources available to families to spend on healthcare (Acevedo-Garcia et al., 2004), while greater self-esteem and life satisfaction associated with owning a home may improve psychological health. Few studies have examined these causal mechanisms individually to determine which is at work, but there is some evidence that homeownership can improve health status.

Dunn and Hayes (2000) used survey data from two Vancouver neighborhoods to identify the effect of housing characteristics and social status on the overall health of residents. In one neighborhood, respondent homeowners self-reported better health status and greater health satisfaction than renters. In the other neighborhood, no statistically significant relationships were

found. Rossi and Weber (1996) reported similarly mixed results. Data obtained from the National Survey of Families and Households suggested that homeowners self-reported somewhat higher physical health than renters, while an analysis of General Social Survey data did not return any statistically significant associations. Robert and House (1996) found homeownership was associated with "physical limitations," but not with self-reported health status or a number of chronic conditions. Other studies have concluded homeownership may reduce mortality rates among middle-aged adults and impact health status through mechanism unrelated to higher self-esteem and life satisfaction (Macintyre et al., 1998).

Psychological health, measured in terms of mental health, happiness and incidents of depression, also appears to be affected by housing status. The accumulated body of empirical research suggests the relationship can may be positive or negative (Dunn and Hayes, 2000; Rossi and Weber, 1996). For example, some studies have found homeowners are more stress resistant than renters and experience less strain, depression and substance abuse after stressful life events. Others have found homeownership has negative effects because some families, particularly those with low-incomes, do not enjoy the freedom or feeling of control associated with owning a home. This may translate into heightened stress levels and poor health conditions.

The most promising results have emerged in studies examining the relationship between homeownership and childhood depression. Cairney (2005) used data from the National Population Health Survey to trace the impact of living in an owner-occupied house on the probability of depressive episodes in children of different ages. The prevalence of depression was three times higher among 12 to 14 year-olds living in rental dwellings than it was among comparable children living in owner-occupied housing. In a cohort of 15 to 19 year-olds, the prevalence of depression was only 3 percent higher among children of renters than children of homeowners. Boyle (2002) also found lower levels of psychological distress among children of homeowners than children of renters in a study utilizing an index score to measure emotional-behavioral problems.

Other studies have explored the negative consequences of homeownership. Nettleton and Burrows (1998) used data from the British Household Panel Survey to consider the impact of mortgage arrears on the health of indebted homeowners and their use of primary healthcare after controlling for income, existing health problems, and age. Mortgage indebtedness was found to have an independent effect on subjective wellbeing. It also increased the likelihood of an individual visiting a general health practitioner. A follow-up qualitative analysis demonstrated that the causes of the negative relationship included fear of default and anxiety associated with the responsibility of maintaining a home (Nettleton and Burrows, 2000).

The results of the research presented above indicate that homeownership can promote a number of positive healthcare outcomes. However, it can also be a destabilizing force for low-income families if it creates an unmanageable financial burden. Steps must therefore be taken to promote the availability of affordable rental housing, in addition to homeownership opportunities, in order to ensure appropriate options are available for economically disadvantaged families.

Homeownership and Transportation

The research presented thus far suggests that low and moderate-income families with the financial resources necessary to purchase a home can derive a number of benefits by doing so. Unfortunately, there may be a dearth of affordable housing options near public transportation. A comprehensive literature review completed by Hess and Lombardi (2004) found few instances of transit-oriented development near transit stations in middle-income areas. These projects were generally located in rapidly growing suburban areas or in gentrifying urban neighborhoods.

The lack of moderately priced residential development near transit stations does not appear to be a product of limited consumer demand. Levine and Frank (2007) surveyed nearly 1,500 residents of metropolitan Atlanta to determine if unmet market demand existed for different types of residential development. Respondents participating in the study were asked to rank their desire to move to another neighborhood and their preference for neighborhoods with automobile-oriented characteristics and transit-oriented characteristics. Any correlation between desire to move and preferred neighborhood characteristics was hypothesized to serve as evidence of unmet market demand because families would presumably move if neighborhoods consistent with their tastes were available. Desire to move was correlated with a preference for transit-oriented neighborhoods, leading the authors to conclude that municipal land use regulations, rather than a lack of market demand, prevented the development of transit-oriented projects.

Levine and Inam (2004) reached similar conclusions in a study of real estate developer's perceptions of transit-oriented development. Respondents from across the county noted unmet market demand for housing in mixed-use communities near public transportation, but expressed concerns that land use regulations prevented it from being developed. Cumbersome design guidelines, excessive parking requirements and zoning ordinances separating land uses were all cited as factors contributing to the problem.

Ensuring the availability of moderately priced homeownership opportunities near public transportation is extremely important because low income families often rely on buses and rail. Glaeser et al. (2008), among others, argues that the need for convenient access to public transportation remains the primary reason why poor families continue to cluster in city centers. Moving to a suburban neighborhood in search of affordable owner-occupied housing may simply not be an option because these areas offer limited connectivity. Public sector efforts to expand the supply of affordable transit-oriented housing may address this issue, while also providing the auxiliary benefit of reducing vehicle miles traveled by area residents (Cao, 2009).

Housing Assistance

A wide variety of programs have emerged over time to help economically disadvantaged families obtain affordable rental housing. These initiatives include traditional public housing programs, as well as voucher and certificate programs that reduce the cost of privately-owned rental housing for families that meet specified income guidelines. Each type of program has advantages and disadvantages that are explored in the literature presented below. The results indicate that both public housing and subsidized rental housing owned by the private sector have a legitimate place in a diversified affordable housing program.

Housing Assistance and Education

There is little disagreement in the existing academic literature that public housing projects are often located in economically disadvantaged areas (Newman and Harkness, 2000). This creates significant challenges for researchers because neighborhood effects must be disentangled from public housing effects in order to isolate the impact of this type of affordable housing program on academic achievement. At least three empirical studies have used rigorous methodological approaches to estimate the impact of public housing residency on different measures of academic success.

Newman and Harkness (2000) examined the effects of different types of housing assistance programs on educational attainment. The cross-sectional study found neither public housing residency before the age of fifteen nor the number of years spent in public housing had a statistically significant impact on the number of years spent in school, high school graduation, or postsecondary education. The point in childhood when an individual resided in public housing was also unrelated to the aforementioned measures of educational attainment. All of these findings led the authors to conclude that public housing, in and of itself, did not have a detrimental effect on academic success.

Currie and Yelowitz (2000) also challenged negative perceptions of public housing. The authors hypothesized that public housing serves specific segments of the population very well due to administrative guidelines that benefit some families more than others. After controlling for a number of variables anticipated to influence academic achievement, the cross-sectional study found families living in properties owned by public housing authorities experienced less crowding and were more likely to reside in small apartment complexes than were other low-income households. Children living in public housing were also 11 percent less likely to have been held back in school than similar students residing elsewhere.

A study conducted by Jacob (2004) potentially offers the most methodologically sound evidence that public housing does not have a negative effect on academic outcomes. The research took advantage of data obtained from children living in high-rise public housing projects in Chicago that were forced to move to Section 8 housing after their buildings were demolished or closed. Children relocating to Section 8 housing did not perform better or worse than their peers remaining in public housing.

Each of the studies summarized above suggest public housing is capable of providing low-income families with a satisfactory living environment that does not have a negative effect on academic outcomes. However, the fact that many public housing projects are located in economically disadvantaged areas exposes families to detrimental neighborhood effects that have been found to lower standardized test scores, reduce educational attainment and stimulate behavioral problems. Public housing projects must be made available in stable neighborhoods to maximize the potential benefits.

Housing Assistance and Crime

There are several theoretical reasons to believe public housing may be related to heightened levels of criminal activity. Private sector landlords can be more selective than public housing authorities when choosing tenants. They also have a stronger financial incentive to monitor the behavior of those residing in their property. Thus, public housing projects may attract the criminally-inclined because it is the only option available to them (Santiago et al., 2003). There is also some evidence that public housing projects suffer from a lack of collective efficacy. One stream of research claims public housing residents are less likely to work together to solve community problems and are more likely to hold divergent views as to what constitutes acceptable behavior (Taylor 2001). This may prevent communal supervision of property and children within a public housing complex. Regardless of which of these causal mechanisms is at work, three arguments have been put forth to explain the relationship between public housing and crime: public housing may encourage neighborhood crime by attracting the criminally inclined to the area; public housing may expose area residents to a higher probability of criminal victimization; and public housing may encourage the economically disadvantaged individuals living within the complex participating in deviant behavior. All of these hypotheses have been tested empirically.

The first of the propositions presented has arguably received the most attention. Existing research appears to support the existence of a positive relationship between public housing and crime; yet some social scientists call for more evidence before drawing definitive conclusions (Freeman and Botein, 2002). An early study completed by Ronecek et al. (1981) found proximity to public housing had a small, albeit statistically significant, impact on the prevalence of violent crime in 4,000 neighborhoods throughout Cleveland. However, adjacency to public housing was one of the least important predictors of violent crime in their model after controlling for socio-economic status and the housing characteristics of adjacent blocks.

McNulty and Holloway (2000) tried to determine the impact of distance from public housing on crime rates in neighborhoods with different racial compositions throughout Atlanta. Communities in very close proximity to public housing were found to be more likely to have high crime rates, although no statistically significant difference was observed farther away. In a community-level analysis of Louisville, Suresh and Vito (2007) found a tendency of aggravated assaults to cluster around certain low-income public housing developments. The authors concluded that revitalization efforts, in combination with the acquisitions of nearby abandoned properties, caused a shift in the clustering pattern of violent crime. Other criminal behavior studies have included proximity to public housing as a control variable and reached similar conclusions (Glaeser and Sacerdote, 2000).

Empirical evidence demonstrating a relationship between public housing and crime does not necessarily support a conclusion that private management offers a better option. Far fewer studies have addressed this question directly. Ones that have offer mixed results. Bowie (2001) failed to find private management reduced crime and victimization in a quasi-experimental study of crime and personal safety in public housing throughout Miami. Break-ins and thefts were more common in privately managed sites, while shootings and violent crime were more common

in publicly managed sites. No statistically significant difference was observed in perceptions of personal safety among the residents of either type of housing.

Some researchers argue that it is not public housing *per se* that encourages crime, but rather high concentration of poverty that contribute to residential instability and social disorder (Sampson, 1990). If the hypothesis is true, scattered site public housing should stimulate less criminal activity than concentrated public housing. An empirical analysis completed by Santiago et al. (2003) found no statistical evidence that small-scale dispersed public housing developments increased violent crime, property crime, criminal mischief, or disorderly conduct. To the contrary, weak evidence was found that criminal rates were lower around these sites.

The hypothesis that public housing increases the probability of criminal activity among its residents has been studied less extensively than crime at the neighborhood level. Ireland et al. (2003) compared self-reported crime and violence among adolescents and young adults residing in public housing projects to low-income adolescents living outside of public housing in Rochester, New York, and Pittsburgh, Pennsylvania. In Rochester, the authors did not find any statistically significant difference in property crime and violent crimes rates between the two groups. Higher levels of violent crime were observed among public housing residents in Pittsburgh.

There is a larger body of evidence that suggests residents of public housing projects have a higher probability of being victimized than those living outside public housing in similar neighborhoods (Du Rant et al., 1995; Holzman et al., 2001). DeFrances and Smith (1998) examined victimization rates in public housing communities using data from the 1995 National Crime Victimization Survey (NCVS). In the total population, public housing residents reported higher serious victimization rates compared to people living elsewhere. Public housing residents in urban areas were also found to be at greater risk of victimization regardless of race. Contradictory results were found in a study completed by Glaeser and Sacerdote (2000) using the same dataset. A negative and statistically significant relationship was found between public housing and violent crime victimization. These studies examined different types of crimes and used dissimilar research methods, which may explain the discrepancy in the results.

Zelon et al. (1994) examined victimization in different types of public housing projects such as high-rise buildings, low-rise buildings, townhouses, and scattered sites. High-rise dwellings enjoyed lower property crime rates, but violent crime occurred most often in this type of environment. Townhouses suffered the highest property crime rates. The study did not compare crime in public housing developments to those of the surrounding community.

Once again, the challenge of disentangling neighborhood effects from public housing effects makes it difficult to determine whether one type of housing assistance program generates better social outcomes than another. Existing research does, however, strongly support the conclusion that reducing concentrations of poverty is important to deter criminal activity regardless of whether affordable housing is owned by the public sector or the private sector. The ongoing shift towards tenant-based affordable housing programs may be justified to the extent these policies provide economically disadvantaged families with access to better neighborhoods.

Scattered site public housing also appears to be an option capable of generating many of the same benefits when appropriately managed.

Housing Assistance and Healthcare

Unhealthy behaviors and deteriorating buildings appear to pose significant health risks for public housing residents (Fertig and Reingold, 2007). Rigorous empirical analysis of the health effects of public housing is nonetheless scant. Only a handful of studies completed over the last decade have tried to trace the relationship using econometric techniques capable of addressing unobservable tenant characteristics and self-selection problems. The issue is worthy of consideration because public housing has the potential to generate positive health effects. Public housing may allow people to live in better environments than they could otherwise afford, thereby limiting the detrimental effects of overcrowding, which has been shown to relate to stress, unsanitary conditions, and the spread of infectious disease (Mann et al., 1992). Other positive factors associated with public housing may include proximity to social services and positive peer effects (Rertig and Reingold, 2007).

Rertig and Reingold (2007) found public housing had few negative effects on health status. The only exceptions were mothers' overall health and the probability of obesity. Residing in public housing significantly worsened a mother's health status and significantly increased the probability of a mother being overweight. The findings must be interpreted cautiously because housing quality, together with unobserved neighborhood and tenant characteristics, seem to be more plausible explanations for these health outcomes than government ownership of affordable housing. The supposition is supported by empirical research comparing health outcomes in large public housing projects to those in scattered site public housing projects. Lower prevalence of depression, substance abuse and traumatic events were observed in scattered site projects in a comparative study completed in Yonkers, NY (Briggs & the Yonkers Family and Community Project, 1997). The findings indirectly support a conclusion that variables other than public ownership and management influence health outcomes in subsidized housing residents.

Housing Assistance and Transportation

Policymakers interested in reducing concentrations of poverty in blighted urban neighborhoods have increasingly turned to tenant-based affordable housing programs and mixed-income development as alternatives to more traditional public housing projects. These initiatives provide low-income workers with greater geographic flexibility when deciding where to live and have been found to influence travel behavior in some instances. Bania et al. (2003), for example, compared housing and labor market outcomes of former welfare recipients receiving different types of public housing assistance in Cuyahoga County, Ohio. Recipients of housing vouchers and certificates were found to live in more geographically dispersed areas than public housing residents, place-based Section 8 housing residents, and individuals not receiving any form of housing assistance at all. Voucher and certificate recipients also had shorter commutes to work and better access to public transportation than did individuals in the comparison groups.

Despite the potential benefits, voucher and certificate programs are not without problems. Research conducted by Popkin et al. (2000) found many low-income families were ill equipped to compete for housing in mixed-income communities even with the help of subsidies. Some of

these individuals were unable to satisfy strict screening requirements put in place by private sector landlords as a result of criminal records or poor credit histories. Public housing may therefore be an essential component of diversified affordable housing programs in the short-term to prevent very low-income tenants from falling through the cracks.

Housing Quality

Housing is generally considered affordable if it consumes no more than 30 percent of a household's gross income. This type of definition is useful because it provides an objective measure, but it fails to take into account housing quality. Economically disadvantaged families are often forced to crowd into dilapidated rental units in an attempt to reduce their housing costs. While technically affordable, such conditions do not adequately serve a household's needs and can contribute to a number of negative social outcomes. A growing body of empirical research confirms this expectation. Academic achievement, criminal behavior, health status, and transportation choices all appear to be influenced directly and indirectly by housing quality.

Housing Quality and Education

There are several causal mechanisms through which housing quality can affect the academic outcomes of children. One of the most commonly cited is crowding. Residential crowding appears to encourage social withdrawal among children, a reduction in parental responsiveness among adults, and greater parent-child conflict (Evans et al., 1998; Maxwell, 2003; Evans et al., 2006). All of these behaviors have a negative impact on education. Parents living in crowded environments have additionally been found to speak to their children in less complex ways, which may result in delayed cognitive development if children respond by speaking in less sophisticated manners themselves (Evans et al., 1999).

Another variable closely related to housing quality is noise. Students exposed to high levels of noise pollution at school or at home experience more behavioral problems, higher levels of stress and impaired cognitive performance when compared to peers benefitting from quieter environments (Evans, 2006). The most profound effects have been observed in studies focusing on noise generated by airports and busy roads, although day-to-day noise has also been found to create stress for children and reduce motivation levels (Haines et al., 2001; Evans et al., 1995; Evans et al., 2001). The risk is potentially significant for low-income families because reasonably priced housing is often located in noisy areas that have proven unattractive for higher-end residential development. Crowding may compound the problem by producing high levels of noise within a home (Evans et al., 2006).

In addition to crowding and noise, at least two studies completed in the last decade suggest that the physical condition of a house affects a child's potential for academic success. Evans et al. (2001) examined the relationship between housing quality, behavioral problems and task persistence among low and moderate income third-graders. An index comprised of 88 housing characteristics was created to measure the overall quality of the house in which a child resided, while the number of times a child attempted to solve an unsolvable puzzle was used as a proxy for task persistence. Parental responses to a series of questions related to a child's conduct were used to create an index measuring behavioral problems. Housing quality was positively related

to task persistence and negatively related to behavioral problems after controlling for socioeconomic variables and gender.

Gifford and Lacombe (2006) also used an index measuring overall housing quality to estimate housing's impact on the socio-emotional health of children in Canada. Surveys were completed by one parent and one teacher for each child participating in the study to obtain a measure of the emotional health. Overall housing quality was not found to affect teacher-reported emotional health, but it did have a statistically significant negative effect on parent-reported emotional health. The magnitude of the impact was moderated by socioeconomic and demographic variables included in the analysis. These measures of socio-emotional health contribute to academic outcomes and are anticipated to link housing quality to education.

Housing Quality and Crime

The social capital and criminology literature document a connection between the physical characteristics of housing and crime. Different residential structures appear capable of encouraging or discouraging deviant behavior. For example, large multifamily apartment buildings may encourage criminal activity if residents do not have close relationships with their neighbors or an incentive to exert guardianship over common areas. Population density within a housing complex may also stimulate criminal activity by reducing the probability of criminals being caught. Alternatively, high rates of homeownership and low rates of residential mobility within neighborhoods comprised predominately of single-family homes may discourage crime. Measuring these relationships is difficult because families living in multifamily housing may have different characteristics than those living in single-family homes. Five recently completed empirical studies address the issue.

A city-level analysis conducted by Glaeser and Sacerdote (2000) found no connection between burglaries and multifamily housing. Street crimes such as robberies and auto theft, on the other hand, were much more prevalent near multifamily residential structures. Predicted levels of victimization were 6.7 percent higher for those living in apartment buildings relative to those residing in single-family detached dwellings. In a second study of crime rates in cities, Glaeser and Sacerdote (1999) concluded that the low probability of being arrested in densely populated areas explained approximately one-fifth of urban crime. Although no direct tests of the effects of population density in large apartment buildings on crime were conducted, the logic may be applicable to densely populated housing.

Empirical studies have also considered the relationship between property maintenance and criminal behavior. The findings are important because signs of abandonment or physical deterioration can create favorable conditions for socially unacceptable behavior. Brown et al. (2004) studied the direct effect of residential decay on crime rates. Poor roof conditions, peeling paint, inadequate yard maintenance, litter, and graffiti were all used as proxies for visible decay. After controlling for earlier levels of crime, physical decay was linked to unexpected increases in crime rates. Research conducted by Sampson and Raudenbush (1999) suggested that some of the observed relationship between property maintenance and crime may be spurious because neighborhood characteristics are correlated with housing conditions. Their study found measures of housing maintenance only had a statistically significant effect on robberies after controlling

for neighborhood quality. Other types of crime, including burglary and homicide, were not associated with property maintenance. The authors did, however, warn of a cascading mechanism that may ultimately stimulate crime in areas with deteriorating housing conditions.

Housing Quality and Healthcare

The relationship between housing quality and health status is well documented. Worn structures may pose a threat of injury. Exposure to toxic substances, moisture and mold may result in respiratory infection or other illnesses. Poor maintenance may have a negative impact on psychological well-being. Existing research supports each of these propositions.

Poorly maintained housing increases the likelihood of injuries, especially burns and falls (Krieger and Higgins, 2002). A study conducted in Chicago found unprotected radiators and pipes were directly related to the risk of injury among children in public housing (Quinlan, 1996). An inspection of two multifamily buildings found 79 percent of all units had problems such as missing radiator covers and insufficient insulation around radiator pipes. Another study completed by Shenassa et al. (2004) found concentrated rental housing and older housing was associated with higher rates of nonfatal pediatric injury. The risk of falling and being burned increased by 17 percent and 34 percent respectively, with every 10 percent increase in housing built before 1950 in the neighborhood. The results of the hierarchical analyses demonstrated that housing conditions and pediatric injury were related to neighborhood characteristics.

Hynes et al. (2003) used survey data collected in two neighborhoods in Massachusetts to examine the relationship between housing quality and health conditions unrelated to injury. The study found overheating, as well as higher levels of moisture and mold, increased the prevalence of sore throats among local residents. Those living in units with mold and smoke were more likely to cough. Overheating predicted both dizziness and tiredness among dwellers, while moisture and mold had the most detrimental effects on children's health. Andriessen et al. (1998) and Gent et al. (2002) also found home moisture increased reports of coughing and upper respiratory symptoms in children after controlling for other health-related factors.

Lead exposure is another health problem closely related to housing quality. It can contribute to reproductive system damage in adults, as well as mental and physical developmental problems in children (Griffith et al., 1998). Empirical studies have found lead exposure, primarily from paint and pipes, can cause neurological damage in children under the age of six and increased rates of infant mortality (Krieger and Higgins, 2002; Troesken, 2008). Research conducted by Griffith et al. (1998) found home values and population density predicted lead levels in children's blood, supporting the supposition that older housing increases lead exposure.

The effects of housing quality have also been traced to psychological well-being. Evans et al. (2003) reviewed thirty-seven studies conducted between 1962 and 2001. All of them found positive associations between housing and psychological health. More recent studies conducted in Europe and the United States found dampness, mold and other measures of housing quality were related to depression in both children and the elderly, although the relationship was mitigated by perceptions of control over housing and place attachment (Shenassa et al., 2007; Evans et al., 2002; Evans et al., 2001). These studies, in conjunction with those examining

physical ailments, suggest housing environment has a strong impact on the health status of residents.

Housing Quality and Transportation

The relationship between housing quality and transportation can be examined by considering the filtering process that often takes place in residential neighborhoods. Since families tend to improve the quality of their housing over time as their earnings increase, residential units vacated by upwardly mobile families are repeatedly passed backward to less and less affluent families until they are abandoned or redeveloped. Suburbanization is generally the outcome of this process when vacant land is available on the urban fringe for new development (Bier, 2001).

Two problems result from the filtering process as described above. Relatively affluent families move to remote suburban neighborhoods that encourage extensive automobile use, while low income families become concentrated in distressed urban neighborhoods with dilapidated housing. Public or private sector capital must be attracted to these blighted areas in order to reverse the trend. Some municipalities have chosen to invest in mixed income housing as a means of bringing both people and capital back into distressed areas. The most successful of these projects from a transportation perspective include mixed land uses and dense construction.

There is a growing body of evidence that compact mixed-use development can limit automobile usage within a community. Studies summarized by Cervero and Duncan (2006), for example, contend that an appropriate balance of housing, retail and employment opportunities can reduce vehicle miles traveled by more than 15 percent to 25 percent in some cases. Public sector investment may be justified to encourage these positive externalities if affordable residential units can be delivered to the market at the same time by requiring the development of mixed income housing.

Homelessness

The social consequences of homelessness are extensive and a considerable amount of research has been devoted to the topic. Each of the studies summarized below demonstrates a clear link between chronic and temporary homelessness and education, crime, healthcare, and transportation. The findings indicate that this severe form of housing deprivation affects children and adults negatively.

Homelessness and Education

Comparative studies completed by Wood et al. (1990) and Zima et al. (1994), among others, suggest homeless children are far more likely to suffer from behavioral disorders and academic delays than their permanently housed peers. It is, however, difficult to determine if these problems are attributable to homelessness or other poverty-related issues correlated with housing status. A growing body of empirical research attempts to answer the question. Buckner (2008) offers a comprehensive overview of the studies completed over the last two decades, three of which are summarized below. The results indicate homelessness can hinder the academic success of children in a number of ways.

Rubin et al. (1996) compared the standardized test scores received by a group of homeless children to those received by a control group of permanently housed children selected from the same public school classrooms. Homeless children scored significantly lower in several academic areas despite similar levels of verbal and nonverbal intelligence. Approximately 54 percent to 75 percent of the homeless students were below grade level, as compared to 22 percent to 50 percent of the permanently housed students. Homeless children were also nearly five times more likely to have repeated a grade.

A study completed by Buckner et al. (2001) went a step further by measuring the impact of residential mobility, school mobility and housing status on the educational outcomes of low-income students in Massachusetts. Standardized test scores received by 80 homeless children were compared to those received by a group of 148 permanently housed children with similar socioeconomic profiles. All were single-parent families. A series of control variables were included in the statistical model to capture the effects of social support networks, life stressors and socioeconomic characteristics anticipated to influence academic achievement. School mobility, measured in terms of how many schools a child attended in the past year, was found to have a negative impact on test scores. Homelessness and residential mobility, on the other hand, did not have a statistically significant effect. Similar rates of absenteeism were reported for the test and control groups leading the authors to conclude school attendance and mobility had a greater impact on academic success than housing status.

Rafferty et al. (2004) used data collected by the New York City Department of Education to analyze the long-term effects of homelessness. The longitudinal study took advantage of standardized test scores available for 46 students before and after entering a temporary shelter. A control group of 87 children housed during the study period was selected from the public assistance roles. Approximately one year after entering a temporary shelter, the standardized reading scores of formerly homeless children were estimated to be 6 percent lower than their housed peers, controlling for prior levels of academic achievement. The observed difference in reading scores dissipated after five years. While no statistically significant relationship was found between standardized mathematics scores and homelessness, interviews conducted to augment the dataset uncovered other negative educational outcomes. Formerly homeless children attended more schools, had lower academic ambitions, reported less positive educational experiences, and were twice as likely to have repeated a grade.

The research presented above offers mixed results as to whether homelessness directly affects education. There is, however, little doubt that absenteeism and school mobility associated with homelessness have a detrimental impact on academic outcomes. Public school systems struggle to address these problems because diagnosing the special needs of highly mobile students is extraordinarily difficult. In fact, studies completed by Zima et al. (1997) and Buckner et al. (2001) have found as many as half of the children residing in temporary shelters require special education services, while less than one quarter actually receive it. Social programs targeting the homeless population must therefore focus not only on providing children with permanent shelter, but also on better assessing their educational needs.

Homelessness and Crime

There is a widespread belief that chronically homeless people are criminally inclined (Snow et al., 1989). It remains unclear whether this assertion is true, but there does appear to be a relationship between homelessness and criminal activity (Roman and Travis, 2006). Existing research indicates 9 percent to 12 percent of state prisoners were homeless at the time of arrest or homeless upon release (Ditton, 1999; Hughes et al., 2001). Other studies suggest more than 20 percent of the chronically homeless population has served time in prison or been convicted of a felony (Schlay and Rossi, 1992; Gelberg et al., 1988). Homeless people also experience much higher recidivism rates than other ex-convicts (Metraux and Culhane, 2004). Each of these observations provides some evidence of a causal link between homelessness and deviant behavior.

A separate stream of research focuses on the relationship between homelessness, criminal activity and mental illness. These studies show homelessness is an important factor contributing to the probability of incarceration for those with psychological problems (Lamb and Weinberger, 2001). Survey research indicates mentally ill offenders are more likely to be homeless before arrest than other inmates (McCarthy and Hagan, 1991; Ditton, 1999). After controlling for demographic and diagnostic factors, homelessness has also been found to greatly increase the risk of violent crime among the mentally ill (Martell, 1991).

Another avenue for homelessness to directly affect criminal activity is through adverse effects on children. If homelessness makes children more aggressive, one might expect later problems with delinquent and criminal behavior. Molnar et al. (1991) found evidence of withdrawal, disobedience and destructive behavior among homeless children. In another study, 66 percent of parents reported that their children participated in fights, exhibited restlessness or experienced depression after becoming homeless (Citizen's Committee for Children, 1988).

Fortunately, housing assistance programs appear to reduce criminal activity. Zhang (1997) found general assistance programs, including public housing, reduced crime rates more than other types of social programs. Ex-convicts have also cited family support and housing assistance as the most important factors helping them remain out of prison (La Vigne et al., 2004).

One type of program that has proven extremely successful is referred to as supportive housing. Permanent supportive housing initiatives provide individuals with rapid access to housing without requirements of sobriety or 'readiness', in combination with voluntary access to social services (Hirsch and Glasser, 2007). Programs such as *Housing First* aim to serve families whose head-of-household has disabling health conditions or substance abuse problems (Durham, 2005). The premise of the program seems to rest on the assumption that homelessness is easier to treat than cure. In other words, it may be more cost effective to simply provide shelter to homeless families with few strings attached in order to reduce the costs required to address social problems related to homelessness (Gladwell, 2006).

Preliminary studies have found supportive housing can be a cost-effective way to house disabled and formerly homeless people (Furman Center, 2008; Culhane et al., 2002; Kessell et al., 2006; Rog 2004). Rosenheck et al. (2003) reported the results of a randomized experiment in which

homeless veterans were randomly assigned to three groups. The first group received access to Section 8 vouchers and case-management counseling, the second received only counseling, and the last received the normal array of services available to homeless people in the area. Averaging across three years, the researchers found veterans in the first group spent 25 percent more days in an apartment, room or house than the regular service group and nearly 17 percent more days in such dwellings than the group only receiving case-management counseling. The differences were statistically significant in the first two years, although attenuated in the third.

In an observational study, Tsemberis and Eisenberg (2000) found 88 percent of the people entering a supportive housing program in New York City remained housed after five years as compared to 47 percent of people entering other residential programs. A cost-effectiveness study of a supportive housing project in Wake County, NC additionally found half of all interviewed participants remained living on the project's premises three years after entering the program (Walsh et al., 2007). Promoting such programs is important because there is a substantial amount of evidence that chronically homeless people often use expensive public services that may exceed the cost of simply providing these individuals with supportive housing.

Research estimating the potential cost savings emanating from supportive housing initiatives is just emerging, although there is some evidence that such programs reduce criminal justice system utilization. Culhane et al. (2002) assessed a New York City based supportive housing program using a matched pre/post-intervention comparison. The results indicated that incarceration rates were very similar in both the treatment and control groups before the intervention. After placement in supportive housing, the treatment group experienced an 85 percent reduction in the number of days spent in prison. An analysis of the time spent by program participants in New York City jails produced consistent results. Homeless people placed in permanent supportive housing were incarcerated less often and spent less time in jail. Before the intervention, 12 percent of the treatment group was incarcerated. This number dropped to 8.2 percent after placement. The total number of days incarcerated fell by 38 percent after entering supportive housing. The dynamic was not replicated in the control group. The results provide strong evidence that there is a relationship between homelessness and criminal activity that can be addressed through appropriate housing policy.

Homelessness and Healthcare

Homelessness is a health hazard because it limits access to resources capable of improving mental and physical well-being (Singer 2003). The detrimental effects can be severe for both adults and children. Numerous empirical studies reveal poor health status among homeless adults. Lewis et al. (2003) analyzed homeless women in Los Angeles and found 37 percent reported unmet medical needs. The figure was 16 percent higher than the same indicator in a national sample of working adults (Bloom et al., 1997). Flick (2007) found respiratory issues, digestive tract problems, coronary heart disease, skin disease, and injuries all occurred more frequently in the homeless population. In a large cross-sectional study of the homeless in San Francisco, White et al. (1997) concluded that homeless individuals were more likely to report poor or fair health status than individuals permanently housed. Homeless people were additionally more likely to suffer from high blood pressure, diabetes, and asthma.

The health status of homeless children also appears to be worse than that of their permanently housed peers. Poor nutrition, lack of hygiene and emotional stress are the hypothesized causal mechanisms. In a review of existing research, Buckner (2008) concluded that poverty and homelessness have consistently been linked to detrimental health outcomes. These health problems may include asthma and ear infections, as well as overall poor health and chronic physical disorders (Fox and Roth, 1989; Rafferty, 1991). Homelessness may even contribute to weak health status before a child is born because homeless mothers experience greater incidents of preterm delivery and low birth weight (Little et al., 2005).

Homelessness is a contributing factor to poor mental health among adults and children. Goodman et al. (1991) argued that homelessness directly increases the risk of emotional disorders through processes such as psychological trauma and learned helplessness. The detrimental effects can be short or long term. Empirical studies suggest as many as 51 percent of some homeless populations suffer from diagnosable psychological problems (Gory et al., 1990). The effect of homelessness on the mental health of children is somewhat more ambiguous. Many studies demonstrate that homeless children have a greater probability of emotional disorders (Fox et al., 1990; Buckner and Bassuk, 1997). However, these psychological problems may be caused by other stressors associated with homelessness rather than homelessness itself. A study of pre-school children conducted by Bassuk et al. (1997) found poor parenting practices and a history of physical abuse were significant predictors of poor psychological outcomes, while homelessness and residential instability were insignificant. Harpaz-Rotem et al. (2006) also reported no significant association between housing status and emotional problems.

The prevalence of severe physical and mental health problems among the homeless population is a significant problem because these individuals must often turn to public health services as a source of primary and emergency care. Several studies have attempted to estimate the public sector cost of providing these services, while simultaneously considering whether or not supportive housing initiatives can reduce the financial burden. Existing research varies in methodological rigor, but the results generally suggest supportive housing is a cost effective option.

Martinez and Burt (2006) investigated supportive housing's ability to reduce the use of acute public healthcare services in San Francisco. Approximately 80 percent of the participants were diagnosed with dual psychiatric and substance abuse disorder. After placement in permanent supportive housing, the percentage of residents with emergency room visits fell from 53 percent to 37 percent and the average number of emergency room visits declined from 1.94 to 0.86 per person. Total emergency room visits declined by 56 percent. All estimates were statistically significant.

In a recent study of mental health service utilization among *Housing First* participants in San Diego County, Gilmer et al. (2009) estimated the net cost of services for previously homeless individuals enrolled in the program to be $417 over two years. Among the participants, case management costs increased by $6,403 from pre to post-intervention; inpatient and emergency service costs declined by $6,103; and the costs of mental services went down by $570. Thus, tangible financial benefits derived from the program offset most of the operating costs rendering it nearly cost neutral.

The *Journal of the American Medical Association* recently published two articles devoted to changes in health service usage associated with housing and case-management programs. Sadowski et al. (2009) conducted randomized trials in two hospitals in Chicago, IL. Eighty-nine percent of the 407 participants had chronic medical illness. Approximately half of the patients were randomly assigned to a treatment group placed in supportive housing. Hospitalization and emergency room visits fell by 29 percent and 24 percent respectively in the intervention group. Lamier et al. compared public healthcare costs within a sample of chronically homeless individuals suffering from severe alcohol problems, some of whom were placed in supportive housing and some of whom were placed on a waiting list. A number of cost measures were included such as hospital-based medical services, substance abuse treatment, and emergency room visits. A median healthcare cost of $4,066 per month was estimated one year prior to the study. After six months of housing, median costs declined to $1492 and to $958 within one year. The econometric estimation showed a total cost reduction of 53 percent for the treatment group when compared to the control group (Cassel, 2009).

The studies presented thus far offer consistent results regarding supportive housing's ability to offset program costs through substantial reductions in medical expenditures. One study has, however, failed to find a statistically significant relationship between supportive housing and the cost of providing medical services to the homeless. Kessell et al. (2006) focused their attention on public health care utilization by homeless people with physical illness. The authors conducted a retrospective cohort study of 249 supportive housing program applicants, 114 of whom were housed. The analysis demonstrated that both groups had high rates of acute health services and ambulatory service use. No differences in usage patterns were detected between the treatment and control group two-years after placement in supportive housing. Despite this finding, there is a significant amount of evidence that supportive housing can be a cost-effective alternative worthy of additional consideration by communities faced with growing homeless populations.

Homelessness and Transportation

Homelessness is a transportation problem because those without stable housing are often unable to access essential public services or employment. Evidence of the relationship can be found throughout the academic literature. DiBlasio and Belcher (1995) interviewed 178 homeless people in urban shelters throughout Maryland to assess self-reported needs within the population. Over half of the respondents acknowledged transportation assistance as a critical need to help them deal with their problems. Interestingly, the need for transportation assistance was cited more frequently by women and was deemed more critical than healthcare, childcare and job training. Acosta and Toro (2000) reached similar conclusions in their assessment of 301 homeless people in Buffalo, New York, in which transportation assistance was identified as a more critical need than even affordable housing.

Related studies of homeless populations have found transportation acts as a barrier to healthcare. Lewis et al. (2003) analyzed the results of 974 interviews conducted with homeless women in Los Angeles County and noted that over two-thirds believed they would benefit from free transportation to medical clinics. Gelberg et al.'s (2004) qualitative analysis of 47 homeless women in Los Angeles also found a lack of transportation was a deterrent to preventative

healthcare. A third study completed by Ensign and Panke (2002) observed similar transportation related problems among a sample of 20 adolescent homeless women in Seattle, Washington.

Inadequate transportation has also been cited as one of the most common factors preventing homeless children from attending school (James and Lopez, 2003). Although the McKinney-Vento Act acknowledges the problem and requires school districts to take steps to ensure homeless children have the same transportation options available to other students, the legal mandate has proven difficult to satisfy due to limited public sector resources and excessive mobility among homeless families (Anderson et al., 1995). In some cases, school districts that have put formal programs in place to serve the transportation needs of homeless children have experienced costs more than ten times greater than those required to serve permanently housed students (Carlson et al., 2006). Each of these transportation related issues exacerbates the challenges already faced by homeless children.

Quantifying the Cost of Inadequate Affordable Housing in Mecklenburg County

The empirical studies summarized above provide valuable information to begin quantifying some of the social costs associated with an inadequate supply of affordable housing in Mecklenburg County. While it is beyond the scope of this report to place a monetary value on all of the social costs imposed upon the county by concentrated poverty, homelessness and poor housing conditions, the analysis presented offers a useful starting point. Select education, healthcare, criminal justice, and transportation costs are considered using data available from local, state and national resources. Conservative cost estimates were produced whenever possible to avoid erroneously attributing negative externalities associated with poverty in general to housing status.

Education Costs

Children living in poorly maintained rental housing in impoverished neighborhoods have consistently been found to experience less academic success than their otherwise similar peers. Existing research also suggests homeless children, as well as frequent movers, tend to struggle in school. Despite these findings, few studies have attempted to quantify the financial burden imposed upon public school systems by an inadequate supply of affordable housing. Data obtained from the Charlotte-Mecklenburg Schools (CMS) operating budget for the 2008-2009 fiscal year was used to address the question. The document was initially reviewed to identify sources of funding for supplemental education services benefiting economically disadvantaged students, at risk students, and students in the general population dealing with behavioral problems or academic delays. Over $130 million in annual funding was allocated for the provision of these services (CMS, 2008). Although not all of this funding exclusively benefited low-income students, the vast majority was assumed to do so for the purposes of the analysis presented in the following section. The assumption was made after consultation with CMS staff regarding the characteristics of the students receiving supplemental services.

Per conversations with CMS staff, approximately $319,575 of the Title I funding received in the fiscal year was set aside for services benefitting homeless children as defined by the McKinney-Vento Act. While these funds can be directly linked to housing status, they potentially represent

only a small portion of the financial resources devoted to housing related academic issues. It was therefore necessary to estimate the average per pupil funding available for supplemental services for economically disadvantaged students. A total of 133,664 students were enrolled in CMS in 2008, of which 58.80 percent were eligible for free or reduced price lunch (CMS Fast Facts 2008). The product of these two figures yielded an estimated 78,594 economically disadvantaged student. Total funding available for supplement educational services was then divided by the number of economically disadvantaged students in order to calculate per pupil funding of $1,658.

The preceding calculations made it possible to estimate the total amount of supplemental service funding available for precariously housed children by multiplying the average funding per pupil by the number of children enrolled in CMS with parents earning less than 80 percent of AMI and paying more than 30 percent of their household income for housing. Over $69 million in supplemental service funding was implicitly allocated to this segment of the student population. Clearly educational resources are not distributed in the linear manner described above, but the methodology does provide a conservative way to generate rough estimates of the funding available for specific segments of the student population.

The financial burden imposed upon Charlotte-Mecklenburg Schools by the inadequate supply of affordable housing was next estimated by assuming the aforementioned supplemental service funding could be allocated to other things in the event environmental conditions did not have a detrimental impact on precariously housed students. For the purposes of this analysis, a housing attributable factor of 4 percent to 7 percent was chosen, which generated estimated social costs ranging from $2,772,526 to $4,851,920 per year. The conservative housing attributable factors were selected in light of the substantial body of research discussed in the previous sections indicating stable housing conditions can increase standardized test scores by 7 percent to 9 percent, reduce dropout rates by as much as 75 percent, and nearly double participation in postsecondary education. After adding McKinney-Vento funding to the cost figures reported above, a total annual education cost indicator ranging from 3,092,101 to $5,171,495 was estimated as reported in Table 31.

Table 31. Education Cost Indicators

CMS Enrollment	133,664		
Percent Eligible for Free and Reduced Price Lunch	58.80%		
Economically Disadvantaged Students	78,594		
Funding for Supplemental Services	$130,288,606		
Average Per Pupil Funding for Supplemental Services	$1,658		
Precariously Housed Children Enrolled in CMS	41,812		
Estimated Cost of Serving Precariously Housed Children	$69,313,144		
Housing Attributable Factor (HAF):	4%		7%
Estimated Funding Associated with Housing Conditions:	$2,772,526		$4,851,920
McKinney-Vento Funding	$319,575		$319,575
Total Costs:	$3,092,101	to	$5,171,495

Healthcare Costs

Empirical studies discussed throughout this report establish a number of linkages between housing and health status. Impoverished neighborhoods, crowded living environments and homelessness, for example, have all been found to have a negative impact on the physical and mental health of both adults and children. The following exercise attempts to quantify some of the direct medical costs incurred by residents of Mecklenburg County as a result of the inadequate supply of affordable housing. Costs associated with treating the chronically homeless are first considered, followed by an analysis of four specific health conditions affecting the precariously housed population as a whole: depression, asthma, injuries resulting from falls, and teen pregnancy.

A study recently completed by the Urban Ministry Center (2009) tracked hospital admissions for thirteen chronically homeless individuals in Mecklenburg County over a three year period. The total hospital charges accrued by the group over the study period exceeded $1.2 million, with an average annual cost of $32,101 per homeless person. The generalizability of the cost estimate was questionable due to the small sample size, but it offered a useful starting point for the purposes of the cursory analysis presented in this report. Since conservative estimates indicate that 10 percent of the homeless population is chronically homeless, approximately 650 chronically homeless individuals were projected to reside in Mecklenburg County based on point-in-time counts conducted by Mecklenburg County Homeless Services (2009). Thus, the annual cost of providing medical treatment to the chronically homeless in area hospitals was estimated to be $20,865,650. Not all of these costs can be attributed to homelessness because economically disadvantaged individuals tend to experience more health problems than their peers irrespective of housing status. However, empirical studies discussed earlier in this report have found hospital admissions and/or emergency room visits declined by 29 percent to 56 percent in response to supportive housing programs. These figures suggest hospital care associated with homelessness imposes a financial burden of $6,051,039 to $11,684,764 upon Mecklenburg County each year. These cost estimates may be extremely conservative in light of the results of another study recently completed by the Urban Ministry Center (2010). Surveys administered by a group of volunteers identified nearly 850 chronically homeless individuals in the area, a majority of which were hospitalized at least once in the last 12 months and did not have health insurance to cover the cost. Including another 200 chronically homeless individuals in the social cost calculations would increase the total impact by approximately $2,000,000 to $4,000,000 annually.

Attention was next turned to housing conditions affecting Mecklenburg County's precariously housed population as a whole. Several steps were taken to estimate the annual cost of treating housing related incidents of depression. The size of the precariously housed population was first calculated by adding the estimated 6,500 homeless individuals residing in the county to the 163,742 residents earning less than 80 percent of AMI and paying more than 30 percent of their household income for housing. The treatment rate for depression within the precariously housed population was then estimated using data from the North Carolina Behavioral Risk Factor Statistical Survey (2007). While over 20 percent of survey respondents in Mecklenburg County with household incomes below $50,000 reported being diagnosed with a depressive disorder, a treatment rate of 5 percent was used to complete the analysis because national studies suggest

only 25 percent to 33 percent of those diagnosed with depression actually receive treatment (Ganong, 2008; Barry and Thomas, 2005). Direct medical costs of $2,144 per case of depression per year were next derived from cost-of-illness studies (Luppa et al., 2007). Finally, the total annual cost of treating depression was estimated by calculating the product of the precariously housed population, the treatment rate and the cost of treatment. After attributing 7 percent to 9 percent of the annual cost of treating depression to housing related factors, a total cost estimate of $1,277,496 to $1,642,495 was derived within the population. The housing attributable factor was chosen to reflect the prevalence of depression among those living in impoverished neighborhoods and in poor quality housing.

The annual cost of treating asthma attacks triggered by poor housing conditions was estimated in much the same way. The size of the precariously housed population was once again calculated by adding the number of homeless individuals residing in Mecklenburg County to the number of residents earning less than 80 percent of AMI and paying more than 30 percent of their household income for housing. An asthma treatment rate was estimated based on the results of the North Carolina Behavioral Risk Factor Statistical Survey (2008), in which nearly 9 percent of Mecklenburg County residents with household incomes below $50,000 reported suffering from the disease. Direct medical costs of $1,805 per case of asthma per year were derived from cost-of-illness studies (Kamble and Bharmal, 2009). Although existing research suggests 30 percent to 40 percent of all asthma attacks are triggered by environmental factors, only 10 percent to 13 percent of the estimated annual cost of treating asthma was attributed to housing conditions in order to be conservative (Chenowith, 2007; Landrigan et al., 2002). The annual cost of treating housing related asthma attacks was $2,765,581 to $3,595,256 based on these assumptions.

Due to data constraints, a smaller population was examined to estimate the annual medical costs required to treat falls related to housing conditions in Mecklenburg County. The number of individuals over the age of 45 earning less than 80 percent of AMI and paying more than 30 percent of their household income for housing was first estimated. Data from the North Carolina Behavioral Risk Factor Statistical Survey (2008) was then used to identify the number of residents over the age of 45 injured as a result of a fall. Approximately 18 percent of Mecklenburg County respondents with household incomes below $50,000 acknowledged falling within the last three months and 39 percent of those falls resulted in an injury. After calculating the product of these two figures, a 7 percent treatment rate was estimated. Outpatient treatment costs of $1,676 per fall were estimated based on cost-of-illness studies (Stevens et al., 2006). Medical costs for hospitalization and surgery were excluded from the analysis in order to be conservative because no data was available regarding the severity of the injuries resulting from the falls. The housing attributable factor for falls was presumed to be 5 percent to 10 percent, resulting in estimated treatment costs ranging from $253,446 to $506,893 per year.

In order to estimate the annual cost of teen pregnancy potentially attributable to housing conditions, it was first necessary to identify the number of children born to women under the age of 20 in Mecklenburg County. The North Carolina Department of Health Statistics reported 1,332 such childbirths in 2008, of which 59 percent were estimated to be to mothers with household incomes below 200 percent of the poverty line (NCDHHS, 2008; NCPTUP, 2009). The average direct medical costs associated with each of these 786 births to economically disadvantaged teen mothers was estimated to be $4,573 based on the results of research

conducted by the National Center to Prevent Teen and Unwanted Pregnancy (NCPTUP, 2006). Since homeownership and limited residential mobility have been found to reduce teen pregnancy by as much as 2 percent to 4 percent, the same range was chosen for the housing attributable factor. The direct medical costs of teen pregnancy associated with an inadequate supply of affordable housing was therefore estimated to range from $71,888 to $143,775. The aggregate annual cost of addressing the five housing related health issues included in this analysis ranged from $10,419,450 to $17,573,182 as reported in Table 32.

Table 32. Healthcare Cost Indicators

	Population Size	Treatment Rate	Treatment Cost	Low Bounds Housing Affordability Factor	Upper Bounds Housing Affordability Factor	Low Bounds Cost Estimate	Upper Bounds Cost Estimate
Homelessness	650	100%	$32,101	29%	56%	$6,051,039	$11,684,764
Depression	170,242	5.00%	$2,144	7%	9%	$1,277,496	$1,642,495
Teen Pregnancy	786	100%	$4,573	2%	4%	$71,888	$143,775
Asthma	170,242	9.00%	$1,805	10%	13%	$2,765,581	$3,595,256
Falls	43,206	7.00%	$1,676	5%	10%	$253,446	$506,893
					Total Costs:	$10,419,450 to	$17,573,182

Crime Costs

There is a general consensus in the existing literature that homelessness and concentrated poverty increase criminal justice expenditures. In fact, a recent study completed by the Urban Ministry Center (2009) estimated that Mecklenburg County spends over $23 million per year incarcerating chronically homeless individuals. The figure was based on a Sheriff's department report, which found 20 percent of the inmates in county jails were chronically homeless. The cost of detaining these 600 inmates was approximately $110 per night. Many of the relatively minor criminal acts leading to these incarcerations could have been avoided by providing the offender with housing. For example, supportive housing programs in other parts of the country have reduced incarceration rates among the formerly homeless by as much as 40 percent to 85 percent. Developing supportive housing in Mecklenburg County could therefore reduce criminal justice expenditures by as much as $9,200,000 to $19,550,000 per year if similar results could be achieved. These cost estimates are conservative because they do not consider the administrative cost of processing homeless individuals and moving them through the judicial system.

Another way to estimate the cost of crime related to an inadequate supply of affordable housing in Mecklenburg County is by examining the financial burden imposed upon victims of crime living in impoverished areas. This was done by comparing the prevalence of different types of crime in "poor" and "non-poor" neighborhoods using data from the US Census and the Charlotte-Mecklenburg Police Department. Poor neighborhoods were defined as those with more than 40 percent of the population below the poverty line. Thirteen such neighborhoods were found in the county. Rape, assault, robbery, arson, larceny, burglary and motor vehicle theft were included in the analysis. Monetary costs of criminal victimization were obtained from national cost-of-crime studies conducted over the last two decades, with all figures inflated to 2008 dollars (Cohen, 2000; Miller et al., 1993). Only tangible victimization costs, such as

property damage and medical care, were included in the analysis. Lost productivity and diminished quality-of-life were not considered in order to be conservative. Per capita crime costs on an annual basis were derived by multiplying the number of times each crime occurred in a neighborhood by the estimated cost of the crime and then dividing the product by the number of individuals residing in the neighborhood. Table 30 reports the results.

Per capita victimization costs in impoverished neighborhoods were $180 higher than those observed in more affluent areas. Multiplying the per capita differential by the number of individuals residing in impoverished neighborhoods resulted in an aggregate population adjusted cost differential of $2,343,600. Based on the results of existing housing research, 15 percent to 33 percent of the cost differential was attributed to neighborhood effects. Although the projected victimization costs in these thirteen neighborhoods only ranged from $351,540 to $773,388 per year, it is important to remember that the estimate does not consider the public sector's cost of responding to crime or the lost economic opportunity associated with concentrated poverty. The estimated cost of crime in impoverished neighborhoods, plus the amount required to incarcerate chronically homeless offenders, resulted in a total criminal justice cost indicator of $9,551,540 to $20,323,388 per year as reported in Table 33.

Table 33. Criminal Justice Cost Indicators

	Cost of Crime	Incidents in Poor Areas	Per Capita Cost	Incidents in Non-Poor Areas	Per Capita Cost	Per Capita Differential
Rape	$4,110	14	$4	238	$1	$3
Assault	$865	802	$53	12,976	$15	$38
Robbery	$1,341	150	$15	2,785	$5	$10
Arson	$25,280	13	$25	273	$9	$16
Larceny	$512	1,165	$46	27,733	$19	$27
Burglary	$1,593	401	$49	11,098	$24	$25
Auto Theft	$4,943	254	$96	5,324	$36	$61
			$290		$110	$180
Per Capita Cost Differential:		$180				
Population in Poor Areas:		13,020				
Housing Attributable Factor (HAF):		15% to 33%				
Victimization Costs:		$351,540 to $773,388				
Homeless Incarceration Costs:		$9,200,000 to $19,550,000				
Total Costs:		$9,551,540 to $20,323,388				

Transportation Costs

Since the negative externalities generated by automobiles are far reaching and difficult to estimate, a conservative approach was taken to derive the transportation costs potentially attributable to Mecklenburg County's inadequate supply of affordable housing. The Victoria Transportation Institute regularly compiles data on both user costs and social costs per vehicle mile traveled (VMT) in North America. In 2007, those costs included an estimated $.07 per VMT for road construction, land acquisition and traffic services. Data available from the Federal Highway Administration also indicates that the per capita VMT in Charlotte, North Carolina is

approximately 12,447 (NCDOT, 2008). Multiplying these two figures by the estimated number of precariously housed individuals in Mecklenburg County yields an estimated direct transportation cost of $142,661,036 per year attributable to this segment of the population. Assuming annual VMT could be reduced by only 2 percent to 4 percent per year as a result of compact affordable housing development, the total cost attributable to housing conditions would range from $2,853,221 to $5,706,441 as reported in Table 34.

Table 34. Transportation Cost Indicators

	Baseline	2 Percent VMT Reduction		5 Percent VMT Reduction
Direct Transportation Costs Per VMT	$0.07	$0.07		$0.07
Annual Per Capita VMT in Charlotte	12,447	12,198		11,949
Precariously Housed Individuals	163,742	163,742		163,742
Transportation Cost Indicator	$142,661,036	$139,807,815		$136,954,595
Total Costs:		$2,853,221	to	$5,706,441

IX. POLICY RECOMMENDATIONS

This analysis recommends solutions of a very broad scope to identify areas within the key subpopulations of the very low and low income housing market. As such, this section of the report is intended to stimulate discussion and dialogue within the entire community and is not meant to represent formal policy recommendations from the Charlotte Housing Authority.

In spite of Charlotte-Mecklenburg's status as a global financial center, the vitality of this community requires the talents of a large and modestly compensated work force. Without hourly wage workers like bank tellers, day care workers, school bus drivers, and wait staff, and middle income professionals such as school teachers, fire fighters, nurses, and police officers, Charlotte-Mecklenburg, the second largest financial center in the U.S., could not function. As seen in Figures 15 and 16, many of these workers are not able to afford the fair market rent or mortgages for housing in the Charlotte metropolitan region without becoming cost burdened. Therefore, it is critically important to find solutions that do not force these workers out of the housing market.

The metropolitan housing market is comprised of numerous, diverse population segments whose needs and abilities must be taken into account when developing policy and strategic tools. Therefore, this analysis recommends solutions that address the key subpopulations of the very low and low income housing market. Earlier sections of this report have identified the most vulnerable and difficult to serve housing subpopulations. These include:

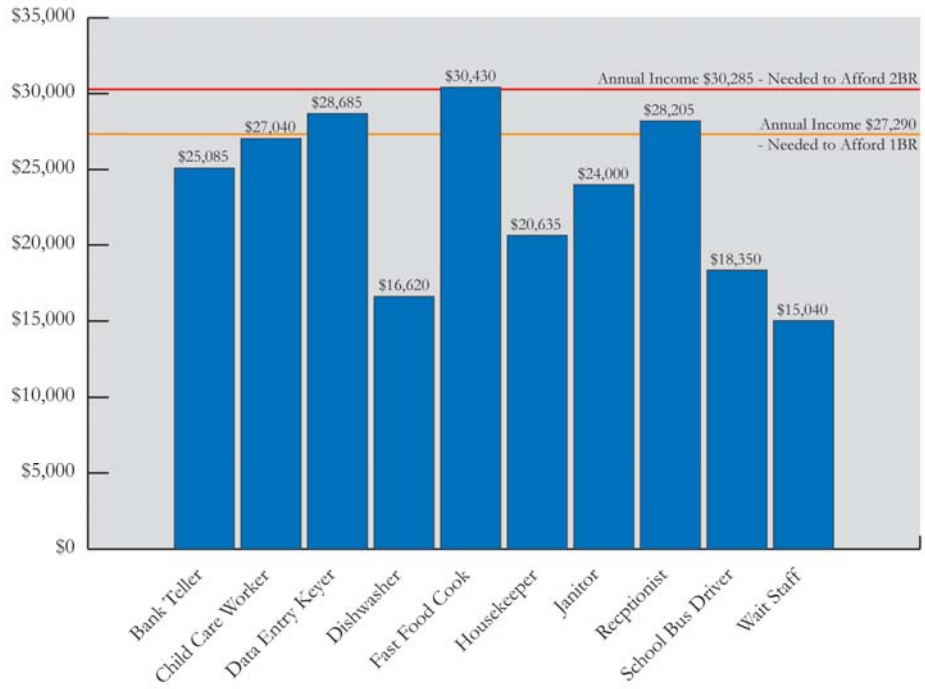
- the homeless;
- the "couch homeless";
- populations with chronic and multiple problems (health, drugs, etc.);
- ex-offenders;
- those newly impacted by economic conditions (especially job losses);
- low wage and low skill workers (especially in our high cost environment);
- emancipated minors; and,
- domestic abuse victims and their families.

As reported in this study, there are five basic types of problems that interfere with the provision of adequate amounts and quality of affordable housing in Mecklenburg County. Solutions to these include:

- increasing the available very low and low income housing stock;
- preserving the existing very low and low income housing stock;
- reducing unnecessary costs and excessive escalation in rents and housing costs;
- improving the factors in tenant behavior that will cause landlords to be more comfortable leasing to them; and,
- increasing tenant earning ability and/or improving their money management skills

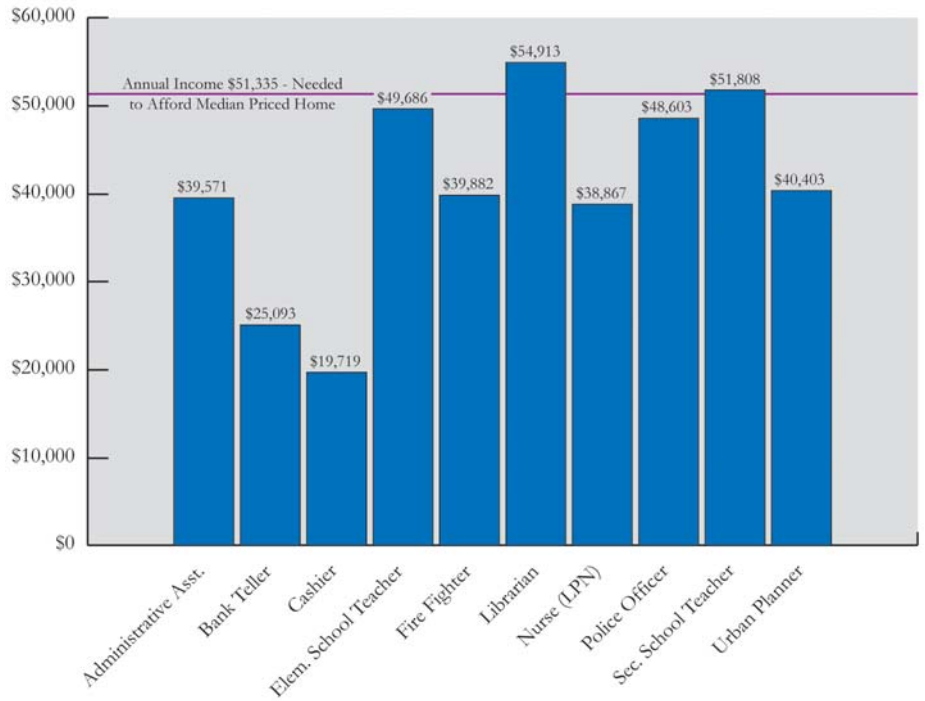
Each of the individual approaches noted for these five basic categories may require customization to meet the needs of the specific market segment being addressed, but the detail noted is intended to explain the generalities of how each would work.

Figure 15. Rental Market – 2008 Fair Market Rent: 1BR $682/month, 2BR $757/month



Source: Copyright 2000-2009 Center for Housing Policy.

Figure 16. Homeownership Market – 2008 Median Priced Home: $158,000



Source: Copyright 2000-2009 Center for Housing Policy.

Increasing the available very low and low income housing stock

a. encourage faith-based organizations and community-based organizations to sponsor/provide housing in coordination with the public sector (especially supportive and/or emergency housing)
b. require "a fair share" of affordable housing development at transit stops
c. require developers in "transit-rich" areas to separate the price of parking spaces from the total cost of a housing unit. This can improve housing affordability for buyers who choose not to purchase a parking space, as well as, help low and very low income renters who may not even own a car and can rely largely on the transit system
d. allow development/maintenance of accessory dwelling units (granny flats, garage apartments, etc.) in existing residential areas
e. require "a fair share" of affordable housing development countywide
f. encourage redevelopment/infill of existing transit-rich and jobs-rich areas with affordable housing (as part of a larger mixed-use and mixed income housing solution)
g. encourage large employers of low income workers to invest in an employer-assisted housing program (perhaps as part of the Housing Trust Fund)
h. encourage the development of live-work units as part of the redevelopment process for areas not consumed with gentrification pressures as a way of providing affordable housing
i. create an Urban Lank Bank Program which can promote infill and affordable housing development throughout the city by acquiring/reserving land for affordable housing, thus managing the cost of land in the face of speculative pressures
j. identify underutilized office parks or commercial sites as potential sites for creating mixed-use developments and adaptive reuse projects with affordable housing components
k. provide tax incentives or density bonuses for developer contributions to the Housing Trust Fund
l. draft and implement an ordinance to offset the loss of housing through redevelopment projects by requiring replacement of housing units with new construction, conversion, or creation of assisted housing
m. remove restrictions on group homes and modify the definition of family so that housing for these target groups can be more easily developed in existing residential areas
n. develop policies and ordinance detail to allow the appropriate development of single room occupancy (SOR) housing solutions

Preserving the existing very low and low income housing stock

a. work with owners/landlords via code enforcement, etc. to deal with deferred maintenance that can eventually lead to loss of housing stock
b. encourage application of the new North Carolina rehabilitation code, which includes varying code requirements depending on the level of work to be undertaken, so that strict building codes don't discourage the rehabilitation of housing

Reducing unnecessary costs and excessive escalation in rents and housing costs

a. maintain market in balance with reality by establishing strong land-use policies/plans that limit speculative pressures for inappropriate redevelopment especially in areas with existing very low/low income housing stock

Improving the factors in tenant behavior that will cause landlords to be more comfortable leasing to them

a. develop a landlord-approved "course" in proper renter behavior
b. establish a credit "repair" function for at-risk renters
c. develop a citywide screening process for potential renters of very low and low income rental properties
d. coordinate the development of affordable housing with supportive service functions such as child care centers, job training programs, health clinics, senior programs, and other community facilities

Increasing tenant earning ability and/or improving their money management skills

a. provide training and follow-up counseling on money management
b. encourage/require "living wage" policy for low income workers

Additional Policy Recommendations and Methods

The housing research literature and best practices evidence from across the United States offer a myriad of policy frameworks and strategies for addressing the issues associated with the provision of housing for very low and low income communities. The remaining portion of this report presents a set of options that match the needs identified in this report, as well as, the local political environment. In other words, what type of action would be effective and receive local public and private support. While there may be proposals that are new to this community, this compilation represents innovative approaches that appear to be applicable to the unique situations found in Charlotte-Mecklenburg. That having been said, one must realize that there are no "magic bullets" or quick fixes. More than anything else, what will be required is the political will to experiment with concepts that hold promise, maintaining realistic expectations and providing adequate financial and human resources to accomplish community needs.

It is also important to appreciate the appropriate roles for public, private, and not for profit sectors in any approach that is undertaken. Housing, especially affordable housing, is not a private good. It is more properly classified as a quasi-public good in that the consumption of a public good has spillover benefits that everyone enjoys. That tends to make free-riders of the rest of the community that is not in the "affordable housing market". As a result, a joint effort involving the private, not for profit, and governmental sectors will be required to address these issues and undertake these solutions. In particular, the governmental and not for profit sectors will have to develop workable models for dealing with many of the segments of the affordable housing market.

Initially, the governmental and not for profit sectors will have to absorb the risks that have traditionally prevented the private sector from addressing these market segments. But once they have identified and proven risk management techniques are deployed, the involvement of the

private sector can be more easily encouraged. However, there may be some segments of the affordable housing market for which there will never be risk management strategies adequate to make the involvement of the private sector reasonable. In those cases, the governmental and not for profit sectors can expect to remain the principle, if not the only, providers of housing services.

One of the most effective ways to deal with the private market's inability and/or unwillingness to address the affordable housing issue is to increase the amount, accuracy, and relevance of information about how the housing market is functioning. A significant factor in this inability and/or unwillingness is often the impact of speculation and gentrification. Information gaps can lead to existing affordable housing stock be removed from the market in favor of housing or other land uses that are hoped will be more economically lucrative.

Another significant factor can be the impact of not addressing the chronic nuisances on the part of the absentee landlords of affordable housing stock. For the sake of maintaining a regular stream of revenue from their property, some landlords may overlook persistent problems that can lead to not only the deterioration of their properties, but also the fabric of the surrounding neighborhood. In turn, individual property decline may affect the willingness of other areas to accept affordable housing in their midst. The result is often the eventual decline and elimination of existing affordable housing stock and heightened "NIMBY" reactions to the creation of new affordable housing, on the other.

A third significant factor in the private market's inability to address the issues surrounding affordable housing involves the cost of producing and maintaining this housing stock. Those wishing to rehabilitate an older building may be forced to adhere to either modern-day building regulations or the very cumbersome existing North Carolina Building Code. But this regulatory regime can often cost more than demolishing the structure and rebuilding on the site, leading many to opt for demolition or just to allow the housing to slowly deteriorate, while waiting on the impacts of general community growth to present more economically advantageous options. A related issue is the high cost of building new affordable housing stocks and the inability to recoup those costs. Indeed, rents affordable to low and very low income households render those households "housing cost burdened".

A fourth significant factor is the market status that affordable housing is really a "quasi-public good". And, as such, many in the private sector do not see this as their responsibility to address as part of their business plan. Thus employers of low and very low income persons, whose households are the ones in distress, may complain about the impact of high cost, unstable or unavailable housing stock for these workers, and the accompanying issues of high turnover and low morale, but seldom step forward to address the shortage.

What follows are some possible solutions and approaches to these problems. The options and opportunities presented here represent but a few of the ways in which these types of problems might be addressed in Charlotte-Mecklenburg. They include:

- The use of a land and housing market monitoring and reporting system to undercut the speculative market. While speculation is a normal market process, it has the effect of removing affordable housing stock from the community's inventory, encourages

landlords to allow it to slowly decline in anticipation of being able to take advantage of the speculation, or causes significant escalation in housing costs. If housing market speculation can be marginalized by a strong program land planning and concurrent zoning, then the pressures that often undermine the affordable housing inventory will be reduced.

- An aggressive chronic nuisance abatement program will allow existing affordable housing inventories and the neighborhoods that host them to remain safe, desirable, and available for low and very low income households.
- A concerted, public-sector initiative to encourage the use of the North Carolina Rehabilitation Code for the purpose of maintaining existing affordable housing inventories, as well as, creating more affordable housing units through the application of adaptive reuse of existing properties in strategic locations.
- Establishing a public/private sector cooperative employer assisted housing program to bring additional resources to bear on the housing shortage. The impact would more deeply involve the private sector in the solutions to the problems of affordable housing.
- Working more aggressively with faith-based and community-based not for profits to produce and manage affordable housing options, profitability prevents critical market segments from being adequately addressed.

Land and Housing Market Monitoring

Rapid change in real estate markets, boom and bust cycles, as well as speculation make it very difficult to manage the availability of housing stock across a wide variety of market segments in a dynamic metropolitan area. There a variety of techniques in property taxation and public finance, land use planning, and land information systems that can dampen boom-bust cycles within the framework of existing local government.

The four points that should be addressed are as follows. First, sticking to an adopted land use plan can do much to guide growth when it occurs and reduce the speculative pressures by assuring that the supply of developable land remains a known quantity in the development process. Second, the more information that elected officials, planners, developers, and citizens have about market conditions and growth trends, the more likely it is that policies can be developed to accommodate growth without a speculative boom in real estate prices. Third, local government can increase the responsiveness of property tax assessment practices to changes in market conditions and, not coincidentally, improving their financial stability by moving toward long-range planning of public budgets. And fourth, communities must apply the preceding techniques in the context of a larger vision for Mecklenburg County.

Boom-bust real estate markets reflect overly optimistic guesses about value and marketability made by builders, buyers, and local governments. Often, the information on real estate supply and demand that forms the basis for these guesses is fragmentary or unreliable. The only real way out of this dilemma is a more complete and accurate tracking of how real estate markets are performing. Local governments also need methods of applying this information to develop forecasts of downward and upward trends.

"Land market monitoring" is a phrase that describes the processes that can be employed by governments to monitor residential and other land uses within a jurisdiction. The advantages of a land market monitoring program are numerous. It can improve housing planning by shedding light on the impacts of existing land development policies, the current and future development capacity, and achieving balance around residential current or future employment centers.

In a land market monitoring program, information on land and housing markets is regularly collected, stored in a geographic information system (GIS), and used to generate detailed and timely data on land and housing prices, developable land supplies, urban development trends, and other measurable qualities of urban environments. While some cities and counties have adopted urban growth boundaries or other regulatory restraints on urban development, few conduct build-out analyses, estimate vacant land supplies, or monitor housing affordability. Such information, and more, could be readily available if governments establish a land market monitoring program.

Across the U.S., governments are paying more attention to the effects of new growth: where it goes, what it looks like, how it relates to transportation and other infrastructure needs, and its effect on the environment and natural resources. As a result, the governments of a growing number of jurisdictions have imposed land use controls in attempts to channel growth into certain areas and away from others.

There are at least two important and related implications to the use of such land use controls. First, there is ample and compelling evidence that growth management can adversely affect land and housing markets. Second, the adverse effects of growth management can be mitigated by paying careful attention to land supplies and housing production. Despite these advantages, few local governments devote the resources necessary to develop advanced monitoring systems.

Described below are communities that have made an effort to develop and implement a land market monitoring system in order to insure the continued availability of affordable housing for all segments of the housing market.

Minneapolis-St. Paul, Minnesota: Minneapolis-St. Paul is located at the northern edge of the slow growing upper Midwest. In the Twin Cities area, the Metropolitan Council oversees local planning and reviews local plans against its own plans. The Metropolitan Council, the planning entity for the seven-county Minneapolis-St. Paul (Twin Cities) region, is an appointed body. It is required to prepare a development guide, the "Blueprint". Among the components required by the Metropolitan Council legislation in a local comprehensive plan is a land use plan. That land use plan shall also include housing element plans and programs for providing adequate housing opportunities to meet existing and projected local and regional housing needs. The Metropolitan Council's work in land market monitoring can be found in their 2030 Regional Development Framework.

Sacramento, California: Sacramento is located east of San Francisco in central California. The California Government Code contains detailed requirements for the housing element of local plans, which must include: review of the previous housing element; existing and projected needs assessment; resource inventory; and identification of governmental and non-governmental

constraints on housing. Under the statute, the primary factor in the local government's housing needs assessment must be the allocation of regional housing needs prepared by regional councils of governments (COGs) under state supervision. Each COG must then determine the existing and projected need for its region. The Sacramento Area Council of Governments has performed this land market monitoring in its Sacramento Region Blueprint.

National Land Market Monitoring Demonstration Project, University of Maryland: The National Land Market Monitoring Demonstration Project was being administered by the National Center for Smart Growth Research and Education at the University of Maryland with five local government partners. The sponsors of the project were: the U.S. Department of Housing and Urban Development; the Lincoln Institute for Land Policy, the National Association of Realtors, and the National Association of Home Builders. The project has now been terminated, but valuable information and insights might be gained from their several years of effort.

The communities that were participating in this effort included:

- Portland Metro has the most experience measuring residential and employment capacity within the strict confines of an urban growth boundary.
- The Metro Council of Minneapolis-St. Paul has the most experience operating in a very large metropolitan area encompassed by an urban service area.
- The Maryland Department of Planning is the only state agency with a recent mandate to measure and monitor development capacity in priority funding areas within a large, diverse urban corridor.
- The Sacramento Area Council of Governments is rapidly expanding its monitoring capacity in the absence of any regional boundary and highly decentralized land use control.
- Orange County, Florida confronts the problem of monitoring development capacity in a fast growing region in the context of Florida's statewide concurrency policy.

The establishment of a similar system of land market monitoring, customized to the needs of Charlotte-Mecklenburg, should be evaluated and if found helpful, implemented using any and all resources appropriate, including UNC Charlotte's Urban Institute, local associations of home builders and realtors, as well as the planning and geographic information system functions of the municipal governments in Mecklenburg County.

Managing Chronic Nuisances to Preserve Sound, Affordable Housing

Rental property that is a site of nuisance behavior is often managed by a landlord who doesn't understand the full costs of renting to problem tenants. With the unfortunate exception of properties being held for very short terms in a rapidly rising market, the financial benefits of removing problem tenants, improving property reputation, and stabilizing one's tenant base around appropriate, lease-compliant behavior far outweigh the short term savings of avoiding an eviction.

Landlords who lack enough property management education may hold properties for years, while the quality of tenants declines. As a result, the landlord makes considerably less money

than he/she could have made. Those who believe a nuisance property exists because the landlord doesn't care may have it wrong. More often it is because the landlord doesn't understand how to act in his/her own best financial interests.

Among the types of information that might be useful to landlords so that they don't get caught up in problems associated with the economics of their investment are those that will help prevent those landlords from engaging in long-term deferred maintenance that can result in the eventual loss of the affordable housing stock and the deterioration of the neighborhoods around them. Approaches to address such problems might include the following:

- An objective, updated, and publicly accessible information from a land and housing market monitoring system could be of substantial use in preventing investment errors. An economic downturn often harms neighborhoods where low and very low income households live. When housing prices drop, those who purchased at the peak may be stuck with property whose rents cannot support the required maintenance.
- Strongly advising a housing inspection (if not requiring, like the requirement of repainting and fumigating between tenants) could reduce mistakes in purchasing or the discovery of expensive surprises after the sale. Buyers who discover after the sale, that required repairs are far greater than originally anticipated may also find themselves with a losing investment.
- A vigorous public-private campaign to encourage the use of the North Carolina Rehabilitation Code to maintain the structural integrity of the affordable housing stock at a price supportable by rents affordable to low and very low income households would help with this problem. Too many years of making a "profit" from the deferred maintenance can constitute a financial incentive, in the short term, to avoid maintenance while collecting market-rate rents can be attractive. Over time, this patterns catches up to the current owner, or a future one, who must invest significantly to bring the housing stock back to habitability standards. At that point, unless the housing market is very strong, the investment may be hard to justify. The result is either a further deteriorating structure causing a ripple effect of deterioration and disinvestment in the surrounding neighborhood or a substantial rehabilitation effort raising the cost of housing beyond the limits of affordability for low and very low income households.
- Implement a multi-agency system of response to chronic nuisance problems. Nuisance properties may exist in part by having violations that cross boundaries of agency responsibility. Different agencies are responsible for, but may not adequately coordinate, responses to problems such as littering, vandalism, trespassing on adjacent properties, blocked parking spaces, drug abuse, late-night shouting matches, barking dogs, truancy, intimidating behavior, etc. Because the combined impact of these behaviors is much more harmful that the individual items, properties suffering from them can have a serious community impact without ever becoming a priority for the agencies responsible. Repairing this weakness requires coordinated responses on multiple fronts. This could easily become an extension of the existing community policing efforts.

Adaptive Reuse and the North Carolina Rehabilitation Code

A significant part of the housing shortage challenge in Mecklenburg County is maintaining the existing affordable housing inventory. This inventory is often comprised of older homes that

have passed from one market segment and economic/racial group to another, and now, because of location or structural and functional obsolescence, can no longer demand market rate rents. Maintaining these houses is an important part of any strategy to house the low and very low income households. Therefore, strategies for periodic rehabilitation and upgrading of these homes must be part of any affordable housing solution.

In the past, developers wishing to rehabilitate an older structure had to meet the North Carolina Building Codes. As a consequence, this made the cost to rehabilitate a building very expensive and it was easier to demolish it rather than rebuild. The North Carolina Rehabilitation Code has changed this. The Rehabilitation Code clearly states all of the requirements for an existing building for contractors, design professionals, and local code officials. It clearly separates rehabilitation requirements from those for new construction, which should make it easier and more affordable to rehabilitate an older structure rather than tear it down and build new.

The North Carolina Rehabilitation Code was adopted statewide in 2006 and provides architects and developers an excellent tool for dealing with code issues in older structures. The code can be used as an alternate to the code for new buildings on all renovated structures and establishes code requirements that are tailor-made for existing buildings. These requirements attempt to work within the framework of the existing building and focuses on finding common sense solutions to the unique problems older buildings present without wholesale demolition and reconstruction. Another common challenge is satisfying current accessibility requirements in existing structures. This typically means having to make changes to the entrances, exits, toilet rooms, and doorways of a building.

There has been very little single-family residential work using the North Carolina Rehabilitation Code, but some multi-family work. The Rehabilitation Code is not the default code for work in existing buildings in Charlotte-Mecklenburg. It is typically only used in circumstances where the building code requirements would create excessive costs or loss of valuable historic features. It is a useful code in existing buildings and is the primary code used in Charlotte-Mecklenburg when rehabilitation projects take place in buildings that clearly won't meet the current code for new construction.

The new regulations give local buildings inspectors more latitude to accept alternative code measures in rehabilitation projects without compromising safety. The rules are designed to encourage investment in existing neighborhoods and older buildings and will:

- provide additional compliance tools for historic buildings
- promote affordable housing
- promote strong downtown areas and “Main Streets”
- focus development on existing infrastructure, reducing the need for new streets, water, and gas lines, etc.

The Rehabilitation Code is supported by a coalition including the Charlotte Chamber of Commerce, the Sierra Club, and the Real Estate and Building Industry Coalition.

In Charlotte, Alpha Mills is an example of a project that integrates the new and existing structures into a high density multi-family residential community. The exteriors of the new buildings blend with the exteriors of the mill built in 1900 to give a feeling of an established community. Located within walking distance of the center of Charlotte, there are 44 residential units inside of the 43,896 square foot former mill. Cost of construction was $2,647,500 versus an estimated cost $4,389,000 to build a new apartment building.

Table 35 presents the Alpha project data as well as three other local projects. In each case, the flexibility offered by progressive building standards provided lower cost housing, and also, office space.

The 31,820 square feet Royal Truss Manufacturing Building is twenty-five residential units located in a community inside the City of Charlotte known as Noda (North Davidson). A construction cost $1,360,000 transformed the 1950 era plant into uniquely designed condominiums. The estimated cost to build from ground zero is $3,182,000.

The Highland Mills project converted 173,461 square feet of a 1928 mill into 168 apartments. The cost of conversion was $8,684,023. To build from the ground up the estimated cost is $17,300,000.

The former Royal Insurance building had sat empty for several years until Maersk Inc. discovered that it met its need for several hundred thousand square feet of office space as quickly as possible. The reuse of the 335,000 square feet existing building saved $25,000,000 over building from the ground up. It was estimated by the general contractor that construction time was nearly halved by remodeling 9100 Arrowpoint Boulevard to meet Maersk's needs.

Table 35. Cost of Reuse Versus New Construction, Mecklenburg County

Project	Year Built	Occupancy	Size	Permit Construction Value	New Construction Cost	Percentage Savings
Alpha Mills	1900	Residential	43,896	$ 2,647,500	$ 4,389,600	40.00%
Royal Truss	1950s	Residential	31,820	$ 1,360,000	$ 3,182,000	57.00%
Highland Mills	1928	Residential	173,461	$ 8,684,023	$ 17,300,000	50.00%
Maersk	1985	Business	335,000	$ 17,350,000	$ 42,943,650	60.00%
Average percentage of savings: 52%						

Source: Mecklenburg County's Rehabilitation team for Senator Clodfelter.

Adaptive Reuse for the Creation of Affordable Housing

Another strategy for addressing the need to increase the inventory of affordable housing in Mecklenburg County is to make use of existing but underutilized (vacant) buildings, especially those in transit-rich or jobs-rich communities. The cost of adaptive rehabilitation and reuse can be considerably less expensive than the construction of new housing and can help to revitalize economically depressed areas. A careful program of identifying potential sites, such as closed

shopping centers, industrial or commercial facilities can be the first step in restoring otherwise active nuisance and eyesore properties to beneficial use and addressing the problem of lack of affordable housing inventory.

The term adaptive reuse refers to modifying existing structures for new purposes. When the original use of a structure changes or is no longer needed, reuse standards present the opportunity to change the primary function of the structure. Adaptive reuse can be more efficient, less expensive, and more environmentally responsible than new construction. Adaptive reuse projects have involved old school buildings, train stations, hospitals, and other public buildings; inns and hotels; and warehouses, factories, and other industrial buildings. These buildings have been converted into apartments, condominiums, co-housing projects, and live-work spaces.

What are adaptive reuse programs? Adaptive reuse means adapting an existing, economically obsolete building for a new, more productive purpose. The changes are typically substantial physical alterations that modify the building's original intended use. In many cases, an adaptive reuse project can convert an existing building to new apartments, live/work spaces, or other housing types.

When are adaptive reuse programs used? In cases where existing building(s) become economically obsolete or underutilized, adaptive reuse refers to the refurbishment of these building (e.g., commercial buildings, schools, churches) into affordable housing units.

Adaptive reuse of buildings creates new housing opportunities by converting pre-existing building structures into affordable housing units. This practice may help preserve historical architecture and stimulate economic investment in areas that may have lacked residential uses. The adaptive reuse of building into a residential use implies that a building structure exists and that it can be converted to residential use. In high growth areas, the availability of idle buildings may be limited. The practice typically requires extensive partnership and even subsidies in order to make available and convert an idle building.

Noted below is the process by which Sacramento, California has implemented an adaptive reuse program that, in turn, has created significant additional housing in a cramped and expensive urban environment. Working with the Planning Commission and the Neighborhood and Business Services Department of the City of Charlotte, something similar might be undertaken in anticipation of implementing a program customized for Charlotte-Mecklenburg.

During the Planning Process of the Housing Element of Area Plans

- Conduct a Survey: A comprehensive survey can help identify the extent of adaptive reuse possibilities within a community. The survey could address the property’s location, age, configuration, and structural condition, along with various political, financing, and tax-related considerations that may be applicable.
- Review Regulations: Review the Zoning Ordinance, historic preservation ordinances, and other development regulations for language and standards that allow or encourage adaptive reuse.

Potential Programs and Actions

- Revise the Zoning Ordinance: Encourage adaptive reuse through flexible zoning, such as mixed use, or by allowing residences as a permitted use in certain commercial and industrial zones.
- Adopt Design Guidelines: Design guidelines can provide useful parameters for adaptive reuse projects and help make developments and the neighborhood as a whole, more attractive for residents.
- Promote Multiple Objectives: Non-profit and for-profit developers have been able to combine creative planning, government grants and loans, and federal tax incentives not only to rescue individual sites but also to spark neighborhood revitalization.
- Provide Useful Information: Special handbooks written for building officials can provide guidance for meeting building code requirements for older buildings.
- Identify Key Officials: Where public buildings are involved, cooperative public officials are invaluable. Cooperation includes expediting the property transfer and supporting the rehabilitation process with loans, grants, and rent subsidies where needed.
- Use Available Resources: Historical tax credits and programs and organizations supportive of preservation will provide additional clout and resources for adaptive reuse.

Identifying Sites for Development/Redevelopment of Affordable Housing Stock

In addition to addressing opportunities for adaptive reuse of existing non-residential buildings into affordable housing for low and very low income households, Charlotte-Mecklenburg should also investigate opportunities for the development of infill projects of affordable housing. This effort could be accomplished using a methodology similar to the one outlined below. This framework was adapted from a study undertaken by the University of California at Berkeley's Institute of Urban and Regional Development in 2000 for the California Bay Area.

Phase I involves obtaining a comprehensive list of all land parcels in the target neighborhoods and then sequentially eliminating parcels which are either:

- too small to be feasibly developed as housing;
- not economically under-utilized;
- environmentally inappropriate for development; and
- publicly-owned or currently developed in a heavy industrial use.

Targeted neighborhoods are probably to be defined as those that are, or are planned to be, transit-rich or jobs-rich. Transit-rich neighborhoods might be defined as lands within a quarter-mile radius of transit (bus or light rail) stops/stations. Jobs-rich neighborhoods might be defined as lands those that are within walking distance of employment centers.

Economically under-utilized parcels are defined as follows:

- Compare assessed land and improvement (i.e., structure) values.
- Identify parcels with an improvement-to-land ratio of .9.
- Parcels with ratios less than this amount, meaning that the assessed value of the improvements is 90 percent or less of the assessed value of the land, are deemed to be

economically-underutilized, and therefore potential candidates for redevelopment or refill.

- Parcels with improvement-to-land ratios in excess of .9 are deemed not to be under-utilized, and therefore not candidates for redevelopment. Note that locally derived analyses should determine if this ".9" factor is the appropriate break point for defining "economically-underutilized".

Phase II: For apartment construction to be economically feasible, collectible rents must be able to cover operating expenses and debt service as well as generate some minimum return on equity. For single-family construction to be feasible, sales prices must be sufficient to cover land costs, subdivision improvement costs, fees, and construction costs.

To determine which types of infill or redevelopment residential projects might be feasible where, run all the parcels resulting from the Phase I analysis through two simple financial feasibility models, one for multi-family rental projects, the other for single-family homes. The multi-family model will compare recent average rents with the rents required by developers to achieve minimal profitability. Necessary rent levels are defined as the rent that a developer would have to charge for a new two-bedroom unit to cover land costs, hard and soft construction costs, financing, as well as to achieve a minimum yearly cash-on-cash return.

Break-even rents and construction costs will be computed on a parcel by parcel basis based on the following assumptions:

- Minimum Profitability: New multi-family projects will have to generate a minimum annual cash-on-cash return of 10 percent to attract financing. Cash-on-cash return is defined as annual before tax cash flow (net of debt service but before taxes) divided by the initial cash investment. Many residential developers are currently looking for deals that generate a 12-15 percent (or greater) annual cash-on-cash return, but some will undertake projects that produce consistent, but lower, returns.
- Land Costs: Land costs are allowed to vary by location, current land use, and year of prior sale. For single-family sites, multi-family sites and non-residential structures, tone option is to use the averaged assessed land values by target neighborhood or census tract. All calculations were undertaken on a per square foot basis.
- "Hard" construction costs: Hard costs include labor and materials costs. Multi-family hard costs are assumed to average $95.41 per square foot (ranging from $92.93 to $97.88 per square foot according to R.S. Means, 2010 1Q cost estimates).
- Parking Requirements: Assume developers will provide two parking spaces per two bedroom rental unit. Parking costs varied from $20,000 per structured parking space to $5,000 per enclosed-garage space.
- Soft Costs: Soft costs cover all fees and professional services and associated with new construction. Soft costs were estimated at 30 percent of hard costs.
- Financing Costs and Provisions: Assumed project developers will be able to access permanent financing at a rate of eight percent per year, with an amortization period of 30 years, and underwriting based on a 75 percent loan-to-value ratio. These financing terms should mirror those presently in effect.

- Operating expenses and Vacancy Rates: Operating expenses are assumed to be a flat 30 percent of rental income. Long-term vacancy rates were assumed to be 5 percent. These estimates are consistent with most lenders underwriting practices.
- Rents: Market rent data were obtained from the Charlotte Apartment Association.

Where complete redevelopment is economically unfeasible, a similar analysis will be undertaken for a rehabilitation scenario of existing structures.

Employer Assisted Housing

Employer-assisted housing (EAH) is a cost effective and easy strategy to administer for employers to help their employees buy or rent homes. It is also a way to involve the private sector in solutions that are often viewed as problems of "public goods," but which, in reality, are caused by and are the responsibility of the wider community. In Mecklenburg County, Davidson College provides housing assistance to staff.

Employer-assisted housing has proven an effective strategy in cities, suburbs, and rural areas to help stabilize neighborhoods and overcome expensive housing markets. In recent years, employers and employees have experienced tremendous advantages through EAH, including:

- improved employee retention, loyalty, and productivity.
- reduced employee commutes, stress, absenteeism, recruitment, and training costs.
- a benefits package with a competitive edge.
- strengthened financial stability for workers, including foreclosure prevention, when employers provide housing counseling and financial assistance to buy or rent a home.
- increased political, business, and community support for housing options.
- state and federal tax benefits.
- leveraged state assistance for employees.

Some successful EAH Programs for rental housing with ties to a homeownership program include the following:

Employer Solution

- Village of Riverdale Illinois, Robinson Engineering, and St. James Health Systems will expand their existing programs to offer $50 per month per employee for rental assistance up to 24 months when homes are completed.
- employers will also match employee savings for home ownership.

Results

- federal tax credits (LIHTC) secured to assist in mixed-income development by the Developer - 4 companies benefit (including Developer).
- employers obtain EAH tax credits for investment.

The Connection

- EAH renters will also have first opportunity to buy in Phase II.
- these three employers also offer down payment assistance through the traditional REACH model.

University of Chicago and University of Chicago Hospitals

Employer Objectives

- preserve existing housing stock for households under 60 percent AMI who rent in the community.
- stabilize surrounding community.
- offer alternative resources to sub-prime lending market.

Employer Solution

- in 2006, made $1 million investment in Community Investment Corporation's loan pool for rental housing preservation and rehabilitation.
- target to preserve affordable housing in the five community areas surrounding the University's Campus.

How it All Started

- employer launched traditional support program in 2003 with $7,500 down payment assistance for University employees (with help of local housing expert) and has assisted nearly 150 new homebuyers within targeted areas around the campus.

Participants in Illinois EAH Programs

- Advocate Bethany Hospital
- Allstate Corporation
- Chase Bank
- Charter One Bank
- Chicago Public Schools
- Chicago Police and Fire Departments
- City of Evanston
- City of North Chicago
- City of Peoria
- City of Rock Island
- City of St. Charles
- DeLaSalle Institute
- Honeywell's System Sensor
- Illinois College of Optometry
- Illinois Institute of Technology
- Lake Forest College
- Loyola University
- MB Real Estate Services
- Medela Corporation
- Mercy Hospital and Medical Center
- Metropolitan Planning Council
- Robinson Engineering
- Rock Island School District
- Rosenthal Brothers
- Rush University Medical Center

- Seaquist Perfect
- St. James Hospital
- Swedish Covenant Hospital
- The John Buck Company
- The Walsh Group
- University of Chicago/Hospitals
- Village of Riverdale

Managing/Reducing the Cost of Building and Rehabilitation of Affordable Housing

A fundamental challenge to producing and sustaining housing for the low and very low income segments of the housing market is that the private sector cannot make an adequate profit to justify the risks involved. Therefore, non-profit providers with the expertise to efficiently produce and manage such housing should be encouraged to become involved in the affordable housing market in Mecklenburg County. As noted in the spreadsheets below, it is often extremely difficult but more usually impossible to produce and sell or manage affordable housing to these market segments with any profit margin.

Table 36 illustrates scenarios under which a 50 unit complex of 600 square foot apartments is developed for very low and low income households. The rents charged represent no more than 30 percent of their household income, thus these households would not be "housing cost burdened" paying $499 and $999, respectively. Under the market conditions scenario where it is assumed that for profit, private owners, and property managers would be involved, significant subsidies would be required just to meet normal operating expenses and debt service assumptions. For the very low income apartments, a subsidy of more than $2.2 million ($44,863/unit) would be required. For the low income apartments, a subsidy of nearly $2.8 million ($33,944) would be required. Even a not for profit that could avoid property taxes through the proper application for tax relief, would still require subsidies of $40,893 and $23,997 per unit for very low income and low income apartments, respectively.

Going to the most extreme assumptions that the exact same unit construction costs and operating expenses could be achieved regardless of the income of the tenant (noted in the furthermost right columns), the subsidies would remain. For a 50 unit, very low income project, nearly $1 million in subsidies would be needed ($19,998/unit) and for a 50 unit, low income project nearly $632,000 in subsidies would be needed ($12,638/unit). Construction costs and operating expenses are drawn from R.S. Means estimating website and the Institute of Real Estate Management's "Income/Expense Analysis for Conventional Apartments – 2009".

Table 36. Annual Calculations for a 50 Unit Complex

		Market Conditions				With Max Cost Control	
		Private		NFP		Private	NFP
		Very Low Income	Low Income	Very Low Income	Low Income	Low Income	Low Income
Affordable FMR (2 Bdrm)		499	999	499	999	999	999
Gross Possible Revenue		299,400	599,400	299,400	599,400	599400	599400
Gross Rents	93.4%	279,640	559,840	279,640	559,840	559,840	559,840
Vacancies	16.9%	50,599	101,299	50,599	101,299	101,299	101,299
Net Rents	75.8%	226,945	454,345	226,945	454,345	458,541	458,541
Expenses							
Management Fee	3.1%	9,281	18,581	9,281	18,581	9,281	9,281
Adminstrative Fee	7.1%	21,257	42,557	21,257	42,557	21,257	21,257
Heating Fuel	1.4%	4,192	8,392	4,192	8,392	4,192	4,192
Electricity	2.3%	6,886	13,786	6,886	13,786	6,886	6,886
Water & Sewer	4.4%	13,174	26,374	13,174	26,374	13,174	13,174
Building Services	0.9%	2,695	5,395	2,695	5,395	2,695	2,695
Other Operating	0.1%	299	599	299	599	299	299
Security	0.3%	898	1,798	898	1,798	898	898
Grounds Maintenance	2.0%	5,988	11,988	5,988	11,988	5,988	5,988
Maintenance-Reairs	2.0%	5,988	11,988	5,988	11,988	5,988	5,988
Painting/Decorating	2.1%	6,287	12,587	6,287	12,587	6,287	6,287
Real Estate Taxes	6.8%	20,359	40,759	0	0	20,359	0
Insurance	2.3%	6,886	13,786	6,886	13,786	6,886	6,886
Recreation/Amenities	0.2%	599	1,199	599	1,199	599	599
Other Payroll	6.9%	20,659	41,359	20,659	41,359	20,659	20,659
Total Expenses	41.9%	125,449	251,149	105,089	210,389	125,449	105,089
Net Operating Income		101,497	203,197	121,856	243,956	333,092	353,452
Debt Service Ratio		1.25	1.25	1.1	1.1	1.25	1.1
Income for Debt Svc		81,197	162,557	110,778	221,778	266,474	321,320
Loan Terms							
Annual Interest Rate		8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Period (Yrs.)		10	10	10	10	10	10
Maximum Loan Amt.		(544,840)	(1,090,773)	(743,329)	(1,488,148)	(1,788,062)	(2,156,081)
RS Means Estimate Apartments		2,788,000	2,788,000	2,788,000	2,788,000	2,788,000	2,788,001
50 DU @ 600 SF							
Subsidy Required		2,243,160	1,697,227	2,044,671	1,299,852	999,938	631,920
Residual Revenue		20,299	40,639	11,078	22,178	66,618	32,132
Profit							
Reserves							

Assumptions:
1. Land is owned free and clear, so financing is for apartment construction only, no appliances
2. Not for profit groups can successfully apply for tax relief from local property taxes
3. Rents charged are never more than 30% of household income
4. Expense and revenue projections are based on 2009 median income and operating costs (IREM Conventional Apts.-2009)
5. Not for profit groups can get a lower DSR requirement than for profit groups
6. Maximum cost control assumes same cost for the same building(s) regardless of rent charged
7. Regardless of rent charged, the apartments for both income groups are the same in construction costs and size (600 SF).

Table 37 illustrates the scenario under which an existing 1,400 square foot, built after 1990, thus avoiding issues of lead paint removal, would be rehabilitated using the most recent costs realized by the Charlotte-Mecklenburg Housing Partnership. At $60/square foot for rehabilitation and an initial purchase price of $35,000 (which may be a low end estimate), a very low income household would require a nearly $10,000 subsidy in addition to the application of a $7,500 HouseCharlotte forgivable loan and a $5,950 down payment to be able to afford the $119,000 rehabilitated housed. With the increased income of a low income household, that subsidy would not be required, but the HouseCharlotte forgivable loan would be.

Table 37. Annual Calculations for a Three Bedroom 1,400 Square Foot Ownership Rehab

		Very Low Income	Low Income
Affordable FMR for 3 Bdrm House		$ 6,948.00	$ 13,920.00
Cost of Existing Structure		35,000.00	35,000.00
Rehab Costs @ $60/SF		84,000.00	84,000.00
Total Project Cost		119,000.00	119,000.00
Downpayment	5.0%	(5,950.00)	(5,950.00)
HouseCharlotte	7,500.00	(7,500.00)	(7,500.00)
Amount to be financed		105,550.00	105,550.00
Max Affordable Mortgage		95,638.05	191,606.45
Interest Rate	6.0%		
Period (Yrs.)	30		
Subsidy Required		9,911.95	N/A

Notes: Assumes house was built post-1990 per CMHP

When the same approach is applied to the rehabilitation of a typical 750 square foot rental unit, probably experiencing lead paint abatement issues, the cost of producing the finished unit is $95,000 (Table 38). Using the Housing Partnership's actual operating expense data for 1993-2007, and again assuming that regardless of the income of the tenant these costs could be maintained, the spreadsheet illustrates that subsidies of more than $78,000 and $35,000 per unit will be required for the very low and low income units, respectively.

Table 38. Annual Calculations for a Two Bedroom 750 Square Foot Rental Rehab

	Very Low Income	Low Income
Affordable FMR for 2 Bdrm Apt.	6,948.00	13,920.00
Cost of Existing Structure	35,000.00	35,000.00
Rehab Costs @ $80/SF	60,000.00	60,000.00
Total Project Cost	95,000.00	95,000.00
Administrative	1,090.77	1,090.77
Payroll	1,116.02	1,116.02
Electricity	176.94	176.94
Gas	32.99	32.99
Water & Sewer	395.36	395.36
Supplies and Maintenance	752.83	752.83
Insurance	357.46	357.46
Taxes	223.83	223.83
Supportive Services	61.99	61.99
Total Operating Expenses	4,208.20	4,208.20
Net Operating Income	2,739.80	9,711.80
Debt Service Ratio	1.1	1.1
Income for Debt Svc	2,490.72	8,828.90
Loan Terms		
Annual Interest Rate	8.0%	8.0%
Period (Yrs.)	10	10
Maximum Loan Amt.	16,712.95	59,242.67
Subsidy Required	78,287.05	35,757.33
Residual Revenue	249.07	882.89
Profit		
Reserves		

Notes

1. Per assumptions of CMHP for older homes requiring lead testing/abatement
2. Per operating expenses data from CMHP (1993-2007)

What all of these scenarios indicate is that attracting private owners and property managers to deal with housing for low and very low income households is going to continue to be extremely difficult, even if the NC Rehabilitation Code is applied to reduce some costs. Therefore, it may be appropriate to revisit a proposal that was introduced in May 1998 by the then Charlotte-Mecklenburg Housing Coalition, "From Shelter to Housing: Six Models of Congregation-Sponsored Housing Ministries".

Models for Congregation-Sponsored Housing Ministries

- Eviction Prevention
- Resettling Families
- Temporary Church Housing
- Supported Transitional Housing
- Developing Rental Property
- Developing Housing for Sale

The basic idea in each instance is to find ways in which the resources–financial, expertise of congregants, and physical space–can be used to subsidize the cost of providing housing and services for populations at risk with regard to their housing situations. Inasmuch as projects solely operated for very low income households may almost always be economically unviable for the private sector, unless integrated into a larger mixed income project, such partnered efforts with religious institutions and community-based organizations may be one of the few ways to address this market segment. Noted in Table 39 is a summary of characteristics of these various approaches.

Table 39. Models of Congregation-Sponsored Housing Ministries

Characteristics: / MODELS	Cost	Labor	Expertise	Legal & Financial Risk	Personal Ministry
Eviction Prevention	low to medium	low	minimal	minimal	low
Resettling Families	low to medium	medium to high	low	low	medium to high
Temporary Church Housing	low	low to medium	low	low to medium	medium to high
Supported Transitional Housing	medium to high	medium to high	medium	medium to high	high
Developing Rental Property	medium to high	medium to high	medium to high	high	medium to high
Developing Housing For Sale	medium to high	medium to high	medium to high	medium to high	low to medium

APPENDIX "A"

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REFERENCES

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