

WESTCHESTER COUNTY AFFORDABLE HOUSING NEEDS ASSESSMENT

FINAL REPORT



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EXECUTIVE SUMMARY

This report presents the findings of a detailed study of Westchester County's affordable housing need for the years 2000 to 2015. Working with the Westchester County Housing Opportunities Commission (HOC), the Center for Urban Policy Research (CUPR) analyzed data from the 2000 US Census as well as other sources to identify Westchester County's existing affordable housing need and to forecast future need. CUPR used the income, housing conditions, and housing expenditures of households identified in the *U.S. Census Public Use Microdata Sample (PUMS-5%)* to determine existing affordable housing need. Future affordable housing need is a result of the projected growth in households within particular income categories.

Income-constrained Households in Westchester County in the Year 2000

This report analyzes three household income groups—50% or less of household median income, 50-80% of household median income, and 80-100% of median household income. Although information is provided for all three income groups, only the first two are included in the final need determination. The inclusion of the third group (80-100% of median household income) in the analysis is intended to demonstrate that finding affordable housing in Westchester can be problematic even for households earning close to the county median in income.

According to the *U.S. Census PUMS* data, Westchester County contained 335,244 households in 2000. Using the median household income for Westchester County (\$83,100) published by the US Department of Housing and Urban Development (HUD) in 2000, CUPR determined that 94,336 households earned less than 50 percent of the county median and 59,001 households earned between 50 and 80 percent of the county median.

- *Thus, for the purposes of this study, the total income-constrained population (i.e., the target population) from which affordable housing need is determined is 153,337 households.*

Existing Affordable Housing Demand—2000

Working with the HOC, CUPR identified three housing conditions as being indicative of existing affordable housing demand—households living in deficient conditions, households living in overcrowded conditions, and households paying too large a percentage of their income for housing. The first condition refers to housing units that have insufficiencies relating to suitability for habitation, such as: age, fuel source, lack of complete plumbing, or kitchen facilities. Using the *U.S. Census PUMS* data, CUPR determined that:

- *2,481 low- and moderate- income households in Westchester County occupied deficient housing*

The second housing condition refers to households in which the ratio of persons to rooms exceeds 1.01, a number used by HUD as an indication of crowding. Recognizing that some deficient housing units might also be crowded, CUPR only included overcrowded households that were not deficient in its analysis. In addressing overcrowding as a housing issue, it should be noted that the creation of one new affordable unit has the potential to create more than one satisfied affordable household. That is, as an overcrowded household moves into a unit of appropriate size, the original unit is left to address another household's needs. Thus, in determining final need, about fifty percent of the crowded households will require the creation of new housing units.

- *14,274 low- and moderate-income households not living in deficient conditions occupied overcrowded housing in Westchester County; CUPR estimates that the number of additional housing units required to meet this demand is 7,273*

The third condition of affordable housing demand, cost burden, was identified as those rental households paying over 30% of income for rent and those owner households paying over 50% for housing costs. Again, CUPR considered only those income-constrained households that were neither in deficient nor crowded conditions to avoid double counting.

- *72,259 low- and moderate-income households not living in deficient or overcrowded conditions were found to be cost-burdened in Westchester County*

While cost burden is an important issue for many Westchester households, it can be alleviated through policy interventions other than housing unit creation (financial assistance) and, thus, is not included in the final determination of housing need.

In addition, the number of homeless households, supplied by Westchester County, is included in the existing demand for affordable housing. In 2000, there were 677 homeless households.

- *Total existing demand is 10,431 units, consisting of 2,481 deficient units, 7,273 overcrowded units, and 677 homeless households.*

Projected Affordable Housing Demand—2000-2015

Projected affordable housing demand is defined as the net increase in low- and moderate-income households between the year 2000 and the year 2015. CUPR forecast the growth in these households using population projections from New York State and household formation (or headship) rates and income projections computed by CUPR.

- *Projected affordable housing demand between 2000 and 2015 is 8,652 units*

Projected Affordable Housing Supply—2000-2015

CUPR projected an increase in the supply of housing available to the income-constrained population to meet existing and future need. For existing need, this comes primarily from secondary sources (filtering, conversions, etc.) and amounts to 3,502 units. For future need, this is public and private housing supply netting out what was delivered in response to the prior need projection. This amounts to 4,813 units.

- *Through 2015, of a total affordable housing demand of 19,083 units, primary and secondary sources of affordable housing supply are projected to provide for 8,315 target population households*
- *Through 2015, 10,768 existing and projected target population households will constitute housing need that is projected not to be met through primary or secondary sources of housing supply. Our projections indicate that this unmet need is represented by 6,252 existing and 3,839 future low- and moderate-income households, plus 677 existing homeless households.*

Westchester County Affordable Housing Need

The total affordable housing need for Westchester County to the year 2015 is summarized in the table below.

Existing Demand (2000)

Deficient Units	2,481
Crowded Units	7,273
Homeless	677
Total Current Demand.....	10,431

Future Demand (2000-2015)

New Low-, and Moderate-Income Households.....	8,652
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Total Affordable Housing Demand.....19,083

Future Supply (2000-2015)

Primary Sources	3,483
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Secondary Sources	4,832
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Total Affordable Housing Supply..... 8,315

Total Affordable Housing Need

Total Demand – Total Supply10,768

CHAPTER 1: INTRODUCTION

The Center for Urban Policy Research (CUPR) has conducted a study of the affordable housing need in Westchester County and produced the following report. The assessment was conducted based upon a methodology agreed to by the Westchester County Housing Opportunities Commission (HOC) and CUPR, and laid out in the report. The goal of the study was to determine the existing and projected affordable housing need for the period of 2000-2015. CUPR completed a similar study for Westchester County in 1993, the results of which helped the county design and implement an affordable housing development plan. It is our hope that the present report will be as useful to Westchester County.

OUTLINE OF THE REPORT

In the following chapter, CUPR sets out the methodology for determining existing and future affordable housing demand. We first discuss the characteristics of the target population, the county's low- (<50% of median), moderate- (50-80% of median), and middle-income households (80-100% of median). These households together represent what we have called the "income-constrained" population of Westchester County. Although we analyze all three income groups, the middle-income group is reported for informational purposes only and is not included in the final need determination. Thus, the low- and moderate-income groups represent the target population of households for purposes of this study.

Through our discussions with the HOC, we defined existing demand to include four groups of income-constrained households in the year 2000:

- 1) Those households in physically deficient housing units,
- 2) Those households in overcrowded housing units, and
- 3) Those households paying too great a share of their income in housing costs.
- 4) Homeless households

The third category of affordable housing need, cost burden, can be addressed through policy interventions that do not necessitate the creation of new affordable housing units and therefore is not considered in the final need determination, but presented for informational purposes only.

Projected demand is defined as the net increase in income-constrained households between the years 2000 and 2015. The number and selected characteristics of each of these groups is detailed in Chapter 2. More detail on the households that comprise current demand is

presented in Chapter 3. In particular, we examine the socioeconomic and locational characteristics of these households and make some observations about the extent of affordable housing demand in particular demographic and regional groupings.

Chapter 4 presents CUPR's estimate for projected housing supply for the period between the years 2000 and 2015. The projected supply consists of both units provided through primary sources (e.g., new construction) and those derived from so-called secondary sources—conversions, filtering, and spontaneous rehabilitation. We then set out to determine the number of units in each of these categories that might accommodate income-constrained households.

Chapter 5 brings together our demand population and our projected affordable housing supply. Through a series of matching exercises, we determine to what extent projected housing supply will be able to meet the demand identified in Chapter 2. That demand which is not satisfied through the matching process is considered unmet need.

Chapter 6 summarizes the affordable housing need for Westchester County for the period 2000-2015. An analysis detailing characteristics of the commuting population of Westchester County is provided in Appendix A. This data has no impact on the determination of affordable housing need, but is provided at the request of the HOC for purposes of policy formation and implementation.

CHAPTER 2: EXISTING AND PROJECTED DEMAND FOR AFFORDABLE HOUSING

INTRODUCTION

This chapter sets forth a methodology for measuring existing demand for affordable housing in the Westchester County, placing that methodology squarely within the context of more than fifty years of work by the U.S. Bureau of the Census and federal housing programs to arrive at definitions of housing need. We ask what proportion of the total number of households in the Westchester County can be classified as low, moderate, or middle income; and we ask what proportion of these income-constrained households are living in deficient or overcrowded housing, or bearing an excessive housing cost burden. To answer these questions requires rigorous specification of the definition of “low income,” “moderate income,” and “middle income” and of “deficient housing,” “overcrowded housing,” and “housing cost burden”—terms that at first glance may seem self-explanatory but upon deeper reflection are quite complex.

We first measure the magnitude of housing need generated by *existing* (2000) low-, moderate-, and middle-income households in deficient or overcrowded housing or experiencing housing cost burden. We then estimate the *growth* in demand in the region through the year 2015. We use the *U.S. Census Public Use Microdata Sample (PUMS)* to determine existing demand for the year 2000. The methodology used to measure projected demand begins with projections of county population growth for 2000 to 2015, translates these population projections into estimates of *household* growth rates (since it is households that consume housing units), and then determines the proportion of projected household growth that will be of low, moderate, or middle income.

In sum, this chapter sets forth the magnitude of existing (2000) and projected (2000 to 2015) demand for affordable housing in the Westchester County. This specification of demand sets the stage for any subsequent attempt at amelioration: it is the critical initial building block that documents the scale of the issue. Only when the magnitude of demand has been rigorously and systematically defined can the effort required to meet that demand be assessed and a workable plan formulated. We now turn to the identification of existing housing demand in 2000.

EXISTING (2000) DEMAND FOR AFFORDABLE HOUSING

The *U.S. Census Public Use Microdata Sample (PUMS)* provides estimates of household and housing characteristics based on a detailed survey of 5 percent of the total population. We use

this data to identify the total population of households in Westchester in the year 2000, to determine what proportion of households that are low-, moderate- or middle-income, and to identify among those which households are cost-burdened, overcrowded, or otherwise deficient and thus in need of affordable housing. We start by identifying the total population of households within Westchester County for the year 2000.

Exhibit 2-1 presents data from the Census on household growth from 1990 to 2000. In the ten-year period, the total number of households in Westchester County grew from 319,657 to 337,486, a total of 17,829 net new households created between the census years—an overall growth rate of 5.6 percent. As Exhibit 2-1 illustrates, the majority of household growth occurred in households headed by individuals between the ages of 35-54, with a sizeable increase in households headed by those over 75 as well.

Exhibit 2-1
Change in Total Households, by Age of Householder,
Westchester County 1990 and 2000

	<u>1990</u>	<u>2000</u>	Change	
			<u>Number</u>	<u>Percent</u>
15-24	6,794	6,860	66	1.0%
25-34	56,562	49,475	(7,087)	-12.5%
35-44	69,341	80,955	11,614	16.7%
45-54	57,308	71,437	14,129	24.7%
55-64	52,250	49,448	(2,802)	-5.4%
65-74	43,502	40,973	(2,529)	-5.8%
75+	33,900	38,338	4,438	13.1%
Total	319,657	337,486	17,829	5.6%

Identifying Income-Constrained Households

In order to identify existing demand for affordable housing in Westchester, we first need to identify that population of households that we consider income constrained, and thus might require assistance in obtaining affordable housing. All income-constrained household groups are defined in relation to the median household income for the county. In discussions between Westchester County and CUPR, it was agreed that we would consider three groups of households as income constrained—low-, moderate-, and middle-income households.

Numerous state and federal housing programs exist across the country to help provide housing for low-income groups. A basic consideration in defining low-, moderate-, and middle-income households is to ensure that our definition is compatible with the definitions used in established and ongoing housing programs in the region. This is important to prevent the

inevitable confusion that would be caused by the simultaneous existence of widely disparate estimates of need based on inconsistent definitions of income eligibility.

To prevent such confusion and to ensure consistency, we have adopted the definitions for low and moderate income used in federal regulations governing the Section 8 Rent Supplement program administered by the U.S. Department of Housing and Urban Development (HUD).¹ According to these regulations, low-income households are those with incomes below 50 percent of the area's median family income.² Moderate-income households are those with incomes below 80 percent of the area's median family income but above the 50 percent median income cutoff for low-income households. Income eligibility in both cases is adjusted by household size. For middle-income households, we have used Westchester County's definition: these are households having incomes between 80 percent and 100 percent of the area's median family income. We have also adjusted income eligibility for middle-income households by household size. In order to operationalize these definitions, it is necessary to specify (1) the household size adjustments; and (2) the definition of what constitutes a household.

Adjustment for Household Size

Following federal regulations implementing the Section 8 program, income eligibility levels used to qualify households as either low or moderate income are adjusted by household size. That is, it is assumed that larger households must spend more and therefore can have higher absolute incomes than smaller households and still qualify as income-constrained.

The household size adjustment specified in HUD regulations assumes that the median income corresponds to a family of four. A low-income, four-person household is thus one that is at or below 50 percent of the areawide median family income level; a moderate-income, four-person household is one that is between 50 percent and 80 percent of the areawide median family income level. Adjustment for household size larger or smaller than this four-person standard is

¹See 42 U.S. Code, 1437a (b) (2) Supplement. References in Section 8 regulations to "very low income" correspond to the term "low income" as used in this study; the term "low income" in Section 8 regulations corresponds to "moderate income" herein.

²An explanation of the terms "family" and "household" is in order. The term "family" refers to two or more related individuals residing within the same housing unit and the term "household" refers to the occupants of a housing unit regardless of their number or relationship. In defining income limits, we have followed federal regulations for the Section 8 housing program. The U.S. Department of Housing and Urban Development has always used family income to determine eligibility for households that qualify for the Section 8 program. It has done so even though single persons and households consisting of unrelated individuals are eligible for the program. In following these federal standards, we also have used *family* income to establish income limits for low-, moderate-, and middle-income *households*, including single persons and unrelated individuals.

accomplished by adding or subtracting a fixed percentage to the four-person income cutoff. The four-person income criterion is adjusted downward for smaller households, to a minimum of 70 percent of the four-person standard for a single-person household, and is adjusted upward for larger households, to a maximum of 132 percent of the four-person standard.

Since the Section 8 regulations do not contain a middle-income category, we must examine other sources to determine if a household size adjustment is appropriate for this group, and if so, how much is appropriate. The State of New York Mortgage Agency's (SONYMA) Affordable Housing Program provides low-cost financing for families whose incomes are comparable to the income range we have specified for the middle-income group. Income eligibility varies by location, according to a formula based on a percentage of local or statewide median income, whichever is higher, with adjustments for certain neighborhoods designated as "target areas" and for high-cost areas. Income eligibility also includes an adjustment for family size, although it is calculated somewhat differently from HUD's Section 8 regulations. The Affordable Housing Program uses the one- to two-person family as the base, with one upward adjustment for the three- or more-person family. The upward adjustment ranges from 15 percent in the nontarget communities to 20 percent in the target communities.³ Although it is calculated differently, the underlying assumption is the same for the income groups covered by both the HUD Section 8 program and SONYMA's Affordable Housing Program: larger households have higher expenditure needs and therefore can have higher absolute incomes than smaller households and still qualify as income-constrained.

Exhibit 2-2
Income Limits for Low-, Moderate-, and Middle-Income
Households by Household Size
Westchester County, 2000

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u> <u>or more</u>
Low Income	29,085	33,240	37,395	41,550	44,874	48,198	51,522	54,846
Moderate Income	46,536	53,184	59,832	66,480	71,798	77,117	82,435	87,754
Middle Income	58,170	66,480	74,790	83,100	89,748	96,396	103,044	109,692
	<i>Adjustment Factor</i>							
Low Income	0.7	0.8	0.9	1	1.08	1.16	1.24	1.32
Moderate Income	0.7	0.8	0.9	1	1.08	1.16	1.24	1.32
Middle Income	0.7	0.8	0.9	1	1.08	1.16	1.24	1.32

In order to provide a consistent methodology for assigning household size adjustments, our calculations for middle-income households vary by the sizes specified in the Section 8

³James O'Hare, the State of New York Mortgage Agency, telephone interview, June 25, 1990.

regulations. Adjustments increase or decrease in increments of about 10 percent to a total difference increase of about 30 percent, which is comparable to the adjustments specified in the SONYMA Affordable Housing Program. The household adjustment factors for households ranging from one to eight or more persons in Westchester County are summarized in Exhibit 2-2.

Household Designation

The final element in determining the number of low-, moderate-, and middle-income households in the region is specification of what constitutes a household. For this purpose, several categories of individuals have been excluded from further analysis. They are as follows:

1. Individuals living in group quarters;
2. Individuals living in institutions; and
3. Individuals living as roomers and boarders.

This eliminates college students living in dormitories, prisoners, nursing home occupants, inmates of institutions, paid employees, roomers and boarders, and the homeless from being counted as part of the low-, moderate-, and middle-income population in households.

Income-Constrained Households in 2000

As Exhibit 2-3 presents, in 2000 there were a total of 185,119 households with income equal to or less than the median in Westchester County. This represents 55.2% of the total households in the county. The reason this is greater than 50% is that we are using census data, but applying the median determined by HUD. Of these income-constrained households, 94,336 (51.0%) are considered low-income, 59,001 (31.9%) are considered moderate-income, and 31,782 (17.1%) are considered middle-income.

As stated earlier, we will only be considering households from the first two income groups in the final determination of affordable housing need, thus our target population consists of 153,337 households, 61.5% of which are low income and 38.5% of which are moderate income. We now turn to identifying the proportion of these households that are in need of affordable housing either due to excessive housing costs, deficient housing, or overcrowded conditions.

**Exhibit 2-3
Household Income Related to Westchester County Median (\$83,100), 2000**

Income Range	Number	Percent	Cumulative Percent
Low <50%	94,336	28.1	28.1
Moderate 50-80%	59,001	17.6	45.7
Target Population	153,337		
Middle 80-100%	31,782	9.5	55.2
Income Constrained Total	185,119		
Above Median	150,126	44.8	100.0
Total	335,244	100.0	

Exhibit 2-4 details the income-constrained population of Westchester County by age group. Each age cohort within the three income groups is also expressed as a percentage of total households within that age cohort in the County. Particularly striking is the representation of both very young and senior headed households within the low-income category—61.5% of county households headed by a person under 24 are considered low income. Similarly, 52.4% of county households headed by a person over 75 are considered low income.

**Exhibit 2-4
Income-Constrained Households as a Percent of Total County Households,
by Age of Household Head
Westchester County, 2000**

Age of Head	Household Income Related to County Median 2000 - \$83,100					
	Low <50%		Moderate 50-80%		Middle 80-100%	
	Number	Percent of County Total	Number	Percent of County Total	Number	Percent of County Total
15 to 24	4,212	61.5%	1,291	18.8%	490	7.1%
25 to 34	14,556	29.3%	10,560	21.2%	5,567	11.2%
35 to 44	17,570	22.4%	13,964	17.8%	8,459	10.8%
45 to 54	11,953	17.1%	10,909	15.6%	6,103	8.7%
55 to 64	11,174	21.5%	7,661	14.7%	5,044	9.7%
65 to 74	15,008	37.2%	7,872	19.5%	3,667	9.1%
75 and up	19,862	52.4%	6,742	17.8%	2,453	6.5%
Total	94,336	28.1%	59,001	17.6%	31,782	9.5%

Defining Housing Need: Overview

In the *Housing Act of 1949*, Congress established a goal of “a decent home and a suitable living environment” for every American family. “Various interpretations of what constitutes a ‘decent’ home have been developed in an attempt to measure the progress made toward attaining

this goal.”⁴ Housing quality indicators available from the decennial census and the *American Housing Survey* make it possible to describe the physical condition of housing in the United States. In addition to the physical adequacy of housing units, HUD also uses crowding and cost-burden indicators to determine the progress made toward the goals of the *Housing Act of 1949*.⁵

All three conditions—physical inadequacy, crowding, and affordability—are recognized as problems that deny Americans decent housing, and all three are included in CUPR's definition of housing need. In considering each of these conditions, we prioritize demand due to deficient housing over that due to overcrowding, and we prioritize need due to overcrowding over that due to cost burden. As a result, households in deficient housing may or may not be crowded or cost burdened, yet they are only included in the deficient housing category. Similarly, the overcrowded category will include all non-deficient households that are crowded, regardless of whether they may or may not also be cost burdened. The cost burdened demand represents those households that are neither deficient, nor crowded, but pay too large a share of their income for housing costs. Our purpose in this prioritization is to avoid double counting and to highlight as most important those components of need—deficiency and crowding—that are most likely to lead to the need for new housing construction. Finally, Westchester County has provided CUPR with 2000 figures for the homeless. The number of homeless households in single or family facilities in 2000 will be added directly to the number for existing demand.

Defining Housing Need: Measuring Physical Inadequacy

The attempt to develop a sound methodology for measuring the physical adequacy of housing predates the 1949 Housing Act.⁶ Reflecting concerns of the Depression years, the 1940 census was the first to include a census of housing, and it obtained a variety of facts on the nation's housing. It asked for the number of rooms and occupants per dwelling unit, enabling calculations to be made regarding crowding. It also required trained enumerators to judge the condition of each dwelling unit and to distinguish between (1) units needing major repairs and (2) those not needing major repairs. The criterion for classification was the presence or absence of a

⁴Iredia Irby, "Attaining the Housing Goal?" paper prepared for the Housing and Demographic Analysis Division, Office of Economic Affairs, U.S. Department of Housing and Urban Development, Washington, D.C., July 1986, p. 1.

⁵Ibid.

⁶U.S. Bureau of the Census, *Measuring the Quality of Housing: An Appraisal of Census Statistics and Methods* (Washington, D.C.: Bureau of the Census, 1967).

condition that, if left unattended, would undermine the soundness of the structure and create a hazard as a place of residence.

The conjectural nature of this evaluation was compounded by the introduction of an additional level of judgment for the 1950 census. For this census, the enumerator was required not only to evaluate the dwelling unit's state of repair but also to judge the unit as “dilapidated” or “not dilapidated.” The enumerator's task was expanded yet again for the 1960 census; housing units were classified into one of three categories: sound (in good repair), deteriorating (in need of repair), or dilapidated.⁷ Unfortunately, evaluations and retests of the 1960 housing census revealed significant inaccuracies in the enumeration of housing quality. Enumerators' judgments were found to be subjective and inconsistent. There was no uniform method for making evaluations, and, in addition, the enumerator was given only about a minute to rate the structural condition of a dwelling unit.

Questions regarding the structural soundness of housing units were removed from the census after 1960. With the 1970 census, the Census Bureau initiated a new approach. Instead of subjective appraisals of building condition, the bureau collected data on the presence or absence of specific, objective attributes of housing units, such as the presence and completeness of plumbing and kitchen facilities, availability of direct access to the unit, type of heating facility, and so forth.⁸ The 1980 census continued this approach, including virtually all the questions asked in the 1970 census. These objective measures of structural characteristics and facilities are used in the CUPR methodology to identify the extent of housing deficiency among income-constrained households. We have brought the methodology up-to-date based on the indicators of housing quality included in the 2000 census.

CUPR Methodology for Identifying Physically Deficient Housing

The CUPR methodology uses four census variables to identify physically deficient housing units in a region. These represent the full array of variables in the 2000 *Census of*

⁷U.S. Bureau of the Census, *200 Years of U.S. Census Taking: Population and Housing Questions, 1790–1990* (Washington, D.C.: Bureau of the Census, November 1989), p. 80.

⁸For evaluations of using these measures as indicators of housing condition, see Jeanne E. Goedert and John L. Goodman, Jr., *Indicators of Housing Quality: An Exploration of the Annual Housing Survey* (Washington, D.C.: Urban Institute, 1976); U.S. Bureau of the Census, *A Preliminary Look at the Results of the Five City Survey* (Washington, D.C.: Bureau of the Census, 1975); and Grace Horowitz, *Housing Quality Data Needs of Users: Needs for Data on Housing Quality* (Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1977).

Population and Housing that describe housing quality.⁹ In addition, these are the variables used by HUD and cited in the literature as significant indicators of housing quality.¹⁰ The four variables are as follows:

1. year structure built: built pre- or post-1940;
2. plumbing facilities: lack of complete or exclusive plumbing;
3. kitchen facilities: lack of complete or exclusive kitchen facilities;
4. heating fuel: no fuel; or coal, coke, or wood for heat;

Year Built. The age of a residential structure is indicative of many housing quality factors. Most immediately, the age of a structure shows how long it has been in the inventory and the duration of time during which deterioration can potentially take place. Age is also a factor in the filtering process. In general, it is older structures that are passed on to lower-income households. As this process continues over time, the income capacity of the receiving group can be insufficient to retain or maintain the structure; at this point, it can fall into the deficient category. In the CUPR methodology, the age threshold selected is 1940: if a housing unit was built before 1940, it signals a potential deficiency. Old housing (units built before 1940) is also one of the criteria used in the Community Development Block Grant Program to allocate funds.

Plumbing Facilities. Incomplete plumbing facilities is considered a surrogate of plumbing adequacy.¹¹ The family health is endangered when the essential facilities—hot and cold running water, flush toilet, and bathtub or shower—are not available. The lack of such facilities is therefore used as an index of deficient housing conditions.

Kitchen Facilities. Adequate and unshared kitchen facilities are considered essential for food preparation functions. The ingestion of foods prepared under unsanitary conditions or under such conditions that encourage spoilage is clearly a threat to good health.¹² The basic components considered essential for a complete kitchen are: a sink with piped water, a range or cookstove, and a refrigerator. The absence of any of these facilities or sharing them with another household is a signal of deficient housing conditions.

⁹Several housing questions related to building condition that had been in the 1990 census were dropped from the 2000 census, such as water and sewer source.

¹⁰For metroarea comparisons of housing quality, HUD sponsors the American Housing Survey (AHS) for classifying deficient housing units. The AHS contains thirty-five indicators of housing condition and quality; it is a 1 in 2000 sample. The CUPR methodology uses the *Public Use Microdata Sample* of the decennial census to measure housing condition; it is a 1 in 6 sample. This permits us to generate custom cross-tabulations of any data required in the analysis.

¹¹American Public Health Association, *Basic Principles of Healthful Housing* (New York: APHA, 1961).

¹²*Ibid.*

Heating Fuel. A reliable and safe heating source is essential for year-round occupancy of housing in many areas of the United States, including New York State. The absence of heating fuel or reliance on such potentially hazardous heating sources as coal, coke, and wood is an indication of housing deficiency.

Using these four indicators of housing quality, the CUPR methodology classifies housing units as deficient *if any two quality measures indicate a substandard condition*. Following this definition, *we identify as deficient a total of 2,481 housing units occupied by low- and moderate-income households in the Westchester County housing region in 2000* (Exhibits 2-5, 2-6 and 2-7). The vast majority of these housing units (2,107 or 85%) are deficient only in two areas—most likely age and one of the other three (Exhibit 2-5).

**Exhibit 2-5
Income Constrained Households by Incidence of Housing Deficiency,
Westchester County, 2000**

Indicators of Housing Deficiency	Low Income		Moderate Income		Total Target Population		Middle Income		
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Complete Plumbing	Yes	768	51.2	384	39.1	1,152	46.4	111	36.9
	No	731	48.8	598	60.9	1,329	53.6	190	63.1
	Total	1,499	100.0	982	100.0	2,481	100.0	301	100.0
Complete Kitchen	Yes	855	57.1	434	44.2	1,289	52.0	160	53.2
	No	644	42.9	548	55.8	1,192	48.0	141	46.8
	Total	1,499	100.0	982	100.0	2,481	100.0	301	100.0
Heating Fuel	OK	783	52.2	663	67.5	1,446	58.3	229	76.1
	Deficient	716	47.8	319	32.5	1,035	41.7	72	23.9
	Total	1,499	100.0	982	100.0	2,481	100.0	301	100.0
New or Old Building	Newer	396	26.4	260	26.4	656	26.4	26	8.6
	Older	1,103	73.6	722	73.6	1,825	73.6	275	91.4
	Total	1,499	100.0	982	100.0	2,481	100.0	301	100.0
Number of Problems	2	1,320	88.1	787	80.2	2,107	84.9	225	74.8
	3	162	10.8	166	16.9	328	13.2	76	25.2
	4	17	1.1	29	3.0	46	1.9	-	-
	Total	1,499	100.0	982	100.0	2,481	100.0	301	100.0

Using these results, it is evident that a relatively small proportion of low-, moderate-, and middle-income households in Westchester occupy deficient housing (see Exhibit 2-6). Across the County, 1.5 percent of total income-constrained households in 2000 reside in deficient units while the remaining 98.5 percent occupy standard housing units. In terms of household size, housing-deficient households tend to be small, with one- to two-person households comprising 60.8 percent of the total (Exhibit 2-7). This is particularly true of the low-income households. As income increases, the housing-deficient tend to be larger households.

**Exhibit 2-6
Income-Constrained Households by Incidence of Housing Deficiency,
Westchester County, 2000**

Housing Deficiency	Household Income Related to County Median 2000 - \$83,100									
	Low <50%		Moderate 50-80%		Middle 80-100%		Total Target Population		Total Income-Constrained	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Not Deficient	92,837	98.4%	58,019	98.3%	31,481	99.1%	150,856	98.4%	182,336	98.5%
Deficient	1,499	1.6%	982	1.7%	301	.9%	2,481	1.6%	2,782	1.5%
Total	94,336	100.0%	59,001	100.0%	31,782	100.0%	153,337	100.0%	185,118	100.0%

**Exhibit 2-7
Existing Housing Demand: Income-Constrained Housing Deficient Households by
Household Size, Westchester County, 2000**

Number of Persons in Household	Household Income Related to County Median 2000 - \$83,100			
	Low <50%	Moderate 50-80%	Middle 80-100%	Total
1 or 2	964	627	102	1,692
3 or 4	426	245	90	761
5 or more	110	110	109	329
Total	1,499	982	301	2,782

Since we are only including the low- and moderate-income groups in our final need determination, we conclude that *2,481 households contribute to existing affordable housing demand due to deficient housing, consisting of 1,499 low-income households and 982 moderate-income households.*

Defining Housing Need: Measuring Overcrowding

The degree of crowding within a dwelling unit is directly related to the potential quality of life of the householders as well as the wear and tear sustained by the structure. The American Public Health Association standards support the notion that a degree of privacy is essential for safety and well-being. The actual point at which the number of persons in a dwelling unit becomes a threat to health and safety is uncertain. However, the value of more than one person per room (1.01) is commonly used by HUD in housing programs as the threshold for defining living conditions as overcrowded.

In previous studies, CUPR used overcrowding as just one of the measures of housing deficiency. Westchester County has asked CUPR to identify separately those units that are considered overcrowded and we have done so in Exhibit 2-8. CUPR has identified 16,005

overcrowded, not deficient units among income-constrained households in Westchester. Among the target population of low- and moderate-income households, the number of crowded units is 14,274. More than two-thirds of the overcrowded households in the target population are in the low-income group (Exhibit 2-8).

In addressing overcrowding as a housing issue, it should be noted that the creation of one new, large, affordable unit has the potential to create more than one satisfied affordable household. That is, as an overcrowded household moves into a unit of larger size, the original unit is left to address another household's needs. Thus, in determining final need, only a portion of the crowded households will require the creation of new housing units, which CUPR estimates to be about 50%. This factor is taken into account in Exhibit 2-9, which details the housing demand engendered by overcrowding among income-constrained households.

**Exhibit 2-8
Income Constrained Households by Incidence of Crowding (Not Deficient),
Westchester County, 2000**

Crowding Status	Household Income Related to County Median 2000 - \$83,100									
	Low <50%		Moderate 50-80%		Middle 80-100%		Total Target Population		Total Income-Constrained	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Not crowded	83,098	89.5%	53,484	92.2%	29,749	83,097	136,581	90.5%	166,331	91.2%
Crowded	9,739	10.5%	4,535	7.8%	1,731	9,739	14,274	9.5%	16,005	8.8%
Total	92,837	100.0%	58,019	100.0%	31,480	92,836	150,855	100.0%	182,336	100.0%

**Exhibit 2-9
Existing Housing Demand: Income Constrained Crowded
Households (Not Deficient) by Household Size,
Westchester County, 2000**

Number of Persons in Household	Household Income Related to County Median 2000 - \$83,100				
	Low <50%	Moderate 50-80%	Middle 80-100%	Total Target Population	Total Income-Constrained
1 or 2	441	217	123	658	781
3 or 4	1,858	854	197	2,712	2,909
5 or more	2,648	1,253	523	3,901	4,425
Total	4,948	2,325	843	7,273	8,116

In 2000, the total number of overcrowded, not deficient units in these three income groups was 8,116. *Affordable housing need as a result of overcrowding is represented by those units that are occupied by low- or moderate-income households, or 7,273 units.* Not surprisingly,

the majority of these units are represented by larger households—those with 5 or more people (Exhibit 2-9).

The discussion in the above two sections has focused on housing need in terms of the physical characteristics of dwelling units. It has described the measurement of physical inadequacy and crowding by the use of housing quality indicators found in the *2000 U.S. Census of Population and Housing*. Another housing problem, and one of growing concern to policymakers, is housing affordability. We turn now to a discussion of this issue.

Defining Housing Need: Measuring Cost Burden

Beginning in the late 1970s, housing costs began to rise rapidly with incomes failing to keep up with costs.¹³ In the last few decades, cost burden has become an increasing problem for American households in general, but the data show that the burden has fallen particularly heavily on the nation's poorest families. For example, 56 percent of the nation's low or lower-middle income households were moderately or severely cost burdened in 2001. At the same time, the number of substandard units has been decreasing. In 2001, only about 3% of the nation's low or lower-middle income housing units were classified as severely inadequate.¹⁴ To summarize, the data for both all households and for the neediest households show that the problem of excessive housing cost burden has been increasing while physically inadequate housing is decreasing.

CUPR Methodology for Identifying Cost Burden

The CUPR methodology for identifying cost burden is based on federal household eligibility standards for rental assistance programs. Since 1983, Congress has given preference for admission to HUD's rental assistance programs to income-constrained households that pay more than 50 percent of income for rent.¹⁵ These are the "worst case" families, with priority needs as contrasted to those that have "lesser problems" defined as rent burdens between 30 percent and 50 percent of income.¹⁶ Thus, the CUPR methodology defines two categories of cost

¹³William C. Apgar, Jr., "The Leaky Boat: A Housing Problem Remains," in *Housing America's Poor*, edited by Peter D. Salins (Chapel Hill: University of North Carolina Press, 1987), p. 67.

¹⁴Joint Center for Housing Studies of Harvard University. 2003. *The State of the Nation's Housing*. Cambridge, MA, p. 40.

¹⁵William C. Apgar, Jr., "The Leaky Boat: A Housing Problem Remains," in *Housing America's Poor*, edited by Peter D. Salins (Chapel Hill: University of North Carolina Press, 1987). Preference is also given to income-constrained households that live in substandard housing or that have been involuntarily displaced.

¹⁶ *Ibid*

burden—those households that pay over 30 percent, but less than 50 percent of their income for rent are moderately cost burdened, while those that pay more than 50 percent of their income for rent are severely cost burdened. Owner households are included if they are paying above 50 percent of their income for housing costs, but are not included in the 30-50 percent category because homeownership represents an investment for which families are often willing to pay a disproportionate share of their income for a variety of reasons. It is assumed that the taking on of a high housing burden includes an element of choice, involving either a preference for extensive housing consumption, the expectation of future income increases, the desire for tax benefits associated with homeownership, building equity, or an attempt to benefit from the investment leveraging possible in an era of rising housing prices.

Following the above methodology, we identify as cost burdened (not deficient, not crowded) a total of 75,136 income-constrained households in Westchester County (Exhibit 2-10) in 2000, 72,259 of which consist of low- or moderate-income households. As would be expected, the vast majority of all cost-burdened households are found among those with the lowest incomes.

Exhibit 2-10
Income Constrained Households by Incidence of Excessive Cost Burden
(Not Deficient, Not Crowded)
Westchester County, 2000

Cost Burden	Household Income Related to County Median 2000 - \$83,100							
	Low <50%		Moderate 50-80%		Middle 80-100%		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Not Cost Burdened	27,866	31.7%	43,457	78.0%	27,761	90.6%	99,084	56.9%
Moderate Cost Burdened	16,262	18.5%	6,254	11.2%	825	2.7%	23,341	13.4%
Severe Cost Burdened	43,760	49.8%	5,983	10.7%	2,052	6.7%	51,795	29.7%
Total Cost Burdened	60,022	68.3%	12,237	22.0%	2,877	9.4%	75,136	43.1%
Total	87,888	100.0%	55,694	100.0%	30,638	100.0%	174,220	100.0%

Two-thirds of all low-income households are cost-burdened, and half are severely cost burdened. In contrast, less than 10% of middle-income households are cost burdened. Out of a total of 75,136 cost-burdened (not deficient, not crowded) households, 49,537, or almost two-thirds, are one- to two-person households. Less than 10 percent of the excessively cost-burdened families consist of five or more persons (Exhibit 2-11). While cost burden is an important issue for many Westchester households, it can be alleviated through policy interventions other than housing unit creation and, thus, is not included in the final determination of housing need.

Exhibit 2-11
Existing Housing Demand: Income Constrained Cost Burdened Households
(Not Deficient, Not Crowded) by Household Size,
Westchester County, 2000

Number of Persons in Household	Household Income Related to County Median 2000 - \$83,100			
	Low <50%	Moderate 50-80%	Middle 80-100%	Total
1 or 2	40,594	7,246	1,697	49,537
3 or 4	14,539	3,775	899	19,212
5 or more	4,889	1,217	282	6,387
Total	60,022	12,237	2,877	75,136

Summary: Existing Demand, 2000

Existing 2000 housing demand consists of three groups of low- and moderate-income households: (1) those occupying deficient units; (2) a proportion of those in overcrowded units; and (3) the number of homeless households reported in 2000.¹⁷ The numbers of households in these three groups are summarized in Exhibit 2-12.

Exhibit 2-12
Total Housing Demand, Target Population Households by Income Level,
Westchester County, 2000

Source of Housing Demand	Household Income Related to County Median 2000 - \$83,100					
	Low <50%		Moderate 50-80%		Total	
	Number	Percent	Number	Percent	Number	Percent
Deficient	1,499	23.3%	982	29.7%	2,481	22.5%
Crowded	4,948	76.7%	2,325	70.3%	7,273	65.9%
Homeless	677	-	-	-	677	11.6%
Total Existing Demand	7,124	100%	3,307	100%	10,431	100.0%

In total, existing demand for affordable housing in Westchester was 10,431 households in 2000. Of this the vast majority is due to overcrowding, with 7,273 households considered living in overcrowded conditions. This represents 69.7 percent of total existing demand (Exhibit 2-12). Not surprisingly, the demand for affordable housing is greatest in the lowest income group—low-income households account for over two-thirds of existing affordable housing demand.

¹⁷ The figure for homeless households (677) was provided by the Westchester County Department of Social Services. It should be noted that we have only included those homeless households that could not have been counted in the 2000 census, in order to avoid of double counting. Homeless families and individuals in emergency housing apartments, for example, were not included as they might have been given and completed a census form.

PROJECTED DEMAND FOR AFFORDABLE HOUSING, 2000–2015

The method used to measure projected (2015) affordable housing need by low-, moderate-, and middle-income households requires several consecutive steps. Population and household projections are used to determine households in 2015. The proportion of total household distribution by age cohort is determined by using weights derived from 2000 census data to obtain the number of income-constrained households in 2015. This figure represents the total affordable housing demand in 2015.

The measurement of total population and total household growth between 2000 and 2015 rests on two separate demographic components. These are (1) the 2000 and 2015 population figures by age cohort; and (2) headship rates by age cohort. The county population figures used in this study are the official New York State projections for Westchester and predict only modest population growth (Exhibit 2-13).

Household Formation Rate

Given the population figures by age group reported above, the next step in the analysis is to transform these measures of growth in total *population* into growth in the number of *households*. The critical element for this purpose is the rate of household formation, or headship rate.

Exhibit 2-13
Westchester County Population 2000
and Population Projections for 2005, 2010, and 2015

<u>Age Group</u>	<u>2000</u>	<u>2005</u>	<u>2010</u>	<u>2015</u>
0 to 4	64,242	56,069	54,148	54,923
5 to 9	67,993	61,005	54,774	53,519
10 to 14	63,757	66,863	60,940	55,881
15 to 19	54,363	62,165	63,937	59,400
20 to 24	46,962	53,935	58,988	59,335
25 to 29	54,734	52,034	56,969	60,268
30 to 34	68,733	58,655	57,786	61,524
35 to 39	79,809	67,849	60,252	60,305
40 to 44	77,224	77,632	67,212	61,091
45 to 49	68,166	76,309	75,621	66,170
50 to 54	61,832	66,340	73,274	71,917
55 to 59	48,310	57,540	61,763	67,521
60 to 64	38,370	42,762	50,562	54,245
65 to 69	34,039	32,919	36,826	43,241
70 to 74	32,746	28,689	28,119	31,668
75 to 79	26,529	26,328	23,350	23,214
80 to 84	17,991	19,654	19,418	17,550
85 and up	17,659	20,515	22,859	23,942
	923,459	927,263	926,798	925,714

The headship rate measures the propensity of the population within a given age cohort to form a household. Calculated separately for each age group, the headship rate is a function of the sex, marital status, education, income, and other attributes of the population within that age group and reflects the influence of these various characteristics on the propensity to form a new household.¹⁸ In this analysis, county-specific headship rates are calculated as the ratio of household heads within a given age cohort to the total number of persons within that age cohort.

The resulting headship rates vary directly by age cohort (Exhibit 2-14). The lowest rate of household formation is evident in the youngest age cohorts; the population in the under 25 and 25 to 29 age groups has a higher propensity to remain part of an existing household, in part reflecting the long-standing trend toward delayed marriage. Headship rates increase among the middle age groups and are highest in the oldest age category, indicating the increasing presence of the elderly in Westchester County.

Exhibit 2-14
Headship Rates by age Cohort
Westchester County, 2000

Age Cohort	<i>Headship Rate</i>
15-24	0.0694
25-34	0.4027
35-44	0.5046
45-54	0.5497
55-64	0.5724
65-74	0.6116
75+	0.6153

Application of age-specific headship rates (see Exhibit 2-14) to population figures for the county (see Exhibit 2-13) yields household estimates by age group and county for 2015 (Exhibit 2-15). Westchester County household calculations for the period 2000 to 2015 show a substantial increase in households in the youngest age group (under 25) and in the senior age groups (55 to 74), with the former group increasing by 20 percent and the 55 to 64 age group increasing by 34 percent. At the same time, the data show a general decline in households in the prime family-

¹⁸George Sternlieb, James Hughes, and Connie O. Hughes, *Demographic Trends and Economic Reality* (New Brunswick, N.J.: Rutgers University Center for Urban Policy Research, 1982). See also Kenneth T. Rosen, *California Housing Markets in the 1980s: Demand, Affordability, and Policies* (Cambridge, Mass.: Oelgeschlager, Gunn & Hain, 1984), pp. 15–16, for an excellent discussion of headship rates and the household formation process. He argues that headship rates are a function of real income, the relative cost of operating a housing unit, and sociological factors, such as the postponement of marriage and the divorce rate.

forming years (25 to 44). The largest increase in terms of absolute numbers is in the 55 to 64 age group, with an increase of 17,734 new households. Overall, the number of Westchester County households is projected to increase by 4 percent between 2000 and 2015.

Exhibit 2-15
Change in Households
Westchester County, 2000 to 2105

	<u>2000</u>	<u>2015</u>	Change	
			<u>Number</u>	<u>Percent</u>
15 to 24	6,854	8,243	1,389	20%
25 to 34	49,699	49,041	(658)	-1%
35 to 44	78,404	61,255	(17,149)	-22%
45 to 54	70,061	75,911	5,850	8%
55 to 64	51,967	69,701	17,734	34%
65 to 74	40,329	45,815	5,486	14%
75 and up	37,930	39,813	1,883	5%
Total	335,244	349,779	14,535	4%

Given these calculations of total household growth for 2000 to 2015, next it is necessary to determine the proportion of these total households that can be classified as income constrained, and thus the number of households in the target population.

Projected Demand for Affordable Housing

The preceding household projections by age cohort provide the necessary building blocks to project future demand for affordable housing by low-, moderate-, and middle-income households. Future growth in affordable housing need is a function of the contribution of each age cohort to total household growth and the percentage of each age cohort classified as low, moderate, and middle income. Once again, it is important to note that application of a single low-, moderate-, and middle-income fraction to total household growth obscures the complexity of the income characteristics of those households comprising total household growth over a given period. Instead, the percentage share of low-, moderate-, and middle-income households within each age cohort in 2000 is applied to the age-adjusted total household projections for 2015.

As stated earlier, the income characteristics of household growth require an adjustment of median income levels used to define low-, moderate-, and middle-income households in subsequent periods. That is, if household growth is substantially comprised of age groups falling into the lower-income age cohorts, the likely result of that growth is to depress the median income of households in place at the end of the growth period. Since low-, moderate-, and

middle-income households are defined as those with incomes at 100 percent or less of the area median family income, this calculation is based on median income figures revised to reflect the income composition of household growth in each period. The income limits for income-constrained households in 2015 are shown in Exhibit 2-16. In 2015, CUPR projects that median household income in Westchester County will be \$118,224 (2000 \$).

**Exhibit 2-16
Projected Income Limits for Low-, Moderate, and Middle-Income
Households by Household Size
Westchester County, 2015**

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8 or more</u>
Low Income	\$ 41,378	\$ 47,290	\$ 53,201	\$ 59,112	\$ 63,841	\$ 62,659	\$ 73,299	\$ 78,028
Moderate Income	\$ 66,205	\$ 75,663	\$ 85,121	\$ 94,579	\$ 102,146	\$ 100,254	\$ 117,278	\$ 124,845
Middle Income	\$ 82,757	\$ 94,579	\$ 106,402	\$ 118,224	\$ 127,682	\$ 125,317	\$ 146,598	\$ 156,056
	<i>Adjustment Factor</i>							
Low Income	0.7	0.8	0.9	1	1.08	1.16	1.24	1.32
Moderate Income	0.7	0.8	0.9	1	1.08	1.16	1.24	1.32
Middle Income	0.7	0.8	0.9	1	1.08	1.16	1.24	1.32

Total household growth by age cohort for 2000 to 2015 is calculated together with the percentage of growth in each age group classified as low, moderate, or middle income. The resulting increase or decrease in these classified households by age cohort, when summed, yields total growth in affordable housing demand for the year 2000 to the year 2015 (Exhibit 2-17). These data are summarized by household size category in Exhibit 2-18.

**Exhibit 2-17
Projected Housing Demand:
Change in Income-Constrained Households,
Westchester County, 2000-2105**

	<u>2000</u>	<u>2015</u>	<u>Change</u>	
			<u>Number</u>	<u>Percent</u>
Low Income	94,336	101,253	6,917	7.3%
Moderate Income	59,001	60,736	1,735	2.9%
Total Target Population	153,337	161,989	8,652	5.6%
Middle Income	31,782	32,482	700	2.2%
Total Income-Constrained	185,118	194,471	9,352	5.1%
Total Households	335,244	349,779	14,535	4.3%

Exhibit 2-18
Projected Housing Demand
Change in Income-Constrained Groups by Household Size
Westchester County, 2000 to 2015

		Low <50%		Moderate 50-80%		Middle 80-100%		Total	
		Change		Change		Change		Change	
Number of Persons in Household		Number	Percent	Number	Percent	Number	Percent	Number	Percent
	1 or 2	7,237	105%	1,959	113%	1,005	144%	10,201	109%
	3 or 4	154	2%	(227)	-13%	43	6%	(29)	0%
	5 or more	(474)	-7%	3	0%	(348)	-50%	(819)	-9%
	Total	6,917	100%	1,735	100%	700	100%	9,352	100%

The projected growth in low-, moderate-, and middle-income housing need for 2000 to 2015 is 9,352 households in Westchester County (see Exhibit 2-18). Thus, the growth in low-, moderate-, and middle-income housing need is a function of county trends in total household growth and in the age-specific composition of that growth. In terms of household size, projected demand by low-income households is concentrated in the smaller, one- to two-person households. Since we are only considering low- and moderate-income groups as components of affordable housing need, *the total projected affordable housing demand is 8,652 units, 6,917 (79.9%) of which are the result of projected growth in low-income households, and 1,735 (20.1%) of which are the result of projected growth in moderate-income households.*

SUMMARY OF EXISTING AND PROJECTED AFFORDABLE HOUSING DEMAND

The preceding data on existing and projected demand for affordable housing are summarized in Exhibit 2-19. To recapitulate, *existing demand* is defined as comprising three groups: (1) the number of low- and moderate-income households living in deficient housing in 2000; (2) the number of low- and moderate-income households with overcrowded (not deficient) conditions in 2000; and (3) homeless households in 2000. *Projected demand* comprises the increase in the number of low-, and moderate-income households (regardless of housing condition) during the period 2000 to 2015.

**Exhibit 2-19
Total Housing Demand, by Income Level,
Westchester County, 2000-2015**

Source of Housing Demand	Household Income Related to County Median					
	Low <50%		Moderate 50-80%		Total	
	Number	Percent	Number	Percent	Number	Percent
Deficient	1,499	23.3%	982	29.7%	2,481	22.5%
Crowded	4,948	76.7%	2,325	70.3%	7,273	65.9%
Homeless	677	-	-	-	677	11.6%
Total Existing Demand	7,124	100%	3,307	100%	10,431	100.0%
Total Projected Demand	6,917		1,735		8,652	
Total Demand	14,041		5,042		19,083	

Existing 2000 low- and moderate-income demand in Westchester County consists of 10,431 households. Demand for affordable housing in Westchester County is projected to increase by 8,652 low- and moderate-income households between the year 2000 and the year 2015. *Thus, total affordable housing demand for Westchester County from the year 2000 to the year 2015 is 19,083 units.*

CHAPTER 3: CHARACTERISTICS OF INCOME-CONSTRAINED HOUSEHOLDS

As indicated in Chapter 2, the designation of income-constrained households with housing need is based on three criteria: *income*, set at less than 50 percent (low income), between 50 percent and 80 percent (moderate income), or between 80 percent and 100 percent (middle income) of the area's median income modified for household size; *housing condition*, defined as either standard or deficient according to a composite of several factors; *crowding*, defined as 1.01 or greater persons per room; and *cost burden*, defined as payment of more than 30 percent of income on housing costs for renters and 50 percent of income on housing costs for homeowners. Although the middle-income group and cost-burdened households are not included in the final affordable housing need determination, they are included in this chapter for informational purposes only.

Households are described in this chapter using (1) population and household characteristics, including racial/ethnic origin, age, sex, and occupation of the chief income earner, as well as household income and availability of an automobile, and (2) location within the county. The discussion is prefaced by a composite picture of the county in terms of total households as of 2000, to serve as a backdrop and to suggest the extent to which the housing-need groups diverge from total averages. The subsequent material describes the socioeconomic characteristics of *existing* income-constrained, housing-deficient, crowded and cost-burdened households in Westchester as of the year 2000. Next, we discuss the location of households in need within the county. The final section concerns the socioeconomic characteristics of the *projected* income-constrained households that will form in the county between the years 2000 and 2015.

SOCIOECONOMIC CHARACTERISTICS OF WESTCHESTER HOUSEHOLDS All Westchester County Households, 2000

Socioeconomic characteristics for all Westchester County households are presented in Exhibit 3-1. Household size in Westchester County in 2000 tended to be small: 55.2 percent consisted of one to two persons and 33.1 percent consisted of three to four persons. Only 11.7 percent had five or more persons in the household. They were also predominantly white (75.3 percent) and non-Hispanic (88.7 percent). The chief income earners were principally male (60.6 percent) and were concentrated in the age groups of 25 to 64, which accounted for almost 75 percent of the population. Only 2 percent of household heads were 24 or younger. The annual

income in 2000 dollars of a majority of households (60 percent) was more than \$49,100, but 20.1 percent of all households reported an income of less than \$25,000 a year. Labor force participation was reported at 66.5 percent, but 31.4 percent of heads of households were not in the labor force. Managerial and professional occupations were the most common (47.6 percent combined), followed by service and sales jobs (36.7 percent combined). Workplaces were located relatively close to the residence, so that the journey-to-work took less than 30 minutes for a plurality of principal income producers (47.2 percent). Most work-related journeys (70.9 percent) depended on the automobile, and access to an automobile stood at 84.8 percent for households in the county. Nevertheless, 21.7 percent depended on public transport, a figure that underscores the importance of this service to residents. Finally, the largest industry employer for heads of households was educational, health, and social services (22.5 percent), followed by professional, scientific and management (14.4 percent), and finance, insurance, and real estate (12 percent).

Housing-Deficient Households, 2000

Income-constrained households suffering from deficient housing, overcrowding and those bearing an excessive housing cost burden present distinct socioeconomic profiles. There are some differences between these groups, especially in terms of household income and the gender, age, and labor force status of the household's chief income producer. These and other socioeconomic characteristics are shown in the following tables for housing-deficient, overcrowded and cost-burdened households as of the year 2000. We begin our discussion with a profile of the housing-deficient group (Exhibit 3-2).

In terms of *household size*, households living in deficient housing tend to be somewhat smaller than in the county as a whole. About 60.8 percent consist of one to two persons, (compared to about 55.2 percent of total households). Smaller household size is more prevalent in low-income housing-deficient households. As income rises, so does the size of the household.

Housing-deficient households also differ from total Westchester County housing region households in terms of *racial composition*. While county households are predominantly white, with a nonwhite population of 24.7 percent (13.5 percent black and 11.2 percent other), housing-deficient households show a nonwhite component that is more than twice that: 51 percent are nonwhite (28.4 percent black and 22.6 percent other). A similar trend is apparent with respect to the representation of Hispanic households. Whereas in the aggregate, Westchester County households are only 11.3 percent Hispanic, the housing-deficient households are 23.9 percent Hispanic.

Exhibit 3-1
Socioeconomic Characteristics of Total Households Westchester County, 2000

Selected Characteristics of Households		Percent of Total (n=number of cases)
Number of Persons in Household	1 or 2	55.2%
	3 or 4	33.1%
	5 or more	11.7%
	Total	100.0%
		335,244
Race of Head	White	75.3%
	Black	13.5%
	Other	11.2%
	Total	100.0%
		335,244
Hispanic Origin of Head	Not Hispanic	88.7%
	Hispanic	11.3%
	Total	100.0%
		335,244
Sex of Head	Male	60.6%
	Female	39.4%
	Total	100.0%
		335,244
Age of Head	15 to 24	2.0%
	25 to 34	14.8%
	35 to 44	23.4%
	45 to 54	20.9%
	55 to 64	15.5%
	65 to 74	12.0%
	75 and up	11.3%
	Total	100.0%
		335,244
Labor Force Status of Head	Employed	66.5%
	Unemployed	2.2%
	Not in Labor Force-or Military	31.4%
	Total	100.0%
		335,226
Household Income	\$25,000 or less	20.1%
	\$25,001 thru \$49,100	19.9%
	\$49,101 thru \$81,000	20.1%
	\$81,001 thru \$140,000	20.0%
	\$140,001 thru highest	19.9%
	Total	100.0%
		335,244

**Exhibit 3-1 (Cont.)
Socioeconomic Characteristics of Total Households, Westchester County, 2000**

Selected Characteristics of Households		Percent of Total (n=number of cases)
Occupation of Head	Management, Business, & Financial	21.5%
	Professional and Related	26.1%
	Service Occupations	13.7%
	Sales and Office occupations	23.0%
	Farming, Fishing, & Forestry	.1%
	Construction, Extraction, & Maintenance	7.9%
	Production, Transportation, & Material Moving	7.6%
	Total	100.0%
		267,453
Travel Time of Head (Minutes)	Less than 30 min	47.2%
	30 to 59 min	32.5%
	60 or more min	20.3%
	Total	100.0%
		211,437
Means of Travel to Work of Head	Auto	70.9%
	Public Transit	21.7%
	Other	3.7%
	Work at Home	3.7%
	Total	100.0%
		219,636
Vehicles in Household	None	15.2%
	One	35.8%
	2 or more	49.0%
	Total	100.0%
		335,244
Industry	Agriculture, forestry, fishing, hunting & mining	.2%
	Construction	6.5%
	Manufacturing	7.8%
	Wholesale trade	3.8%
	Retail trade	8.1%
	Transportation and warehousing, and utilities	5.1%
	Information	5.4%
	Finance, insurance, real estate	12.0%
	Professional, scientific, management	14.4%
	Educational, health and social services	22.5%
	Arts, entertainment, recreation, accommodation	4.8%
	Other services	4.8%
	Public administration	4.6%
	Armed Forces	.0%
Total	100.0%	
		267,502

**Exhibit 3-2
Socioeconomic Characteristics of Housing Deficient Households
Westchester County, 2000**

Selected Characteristics of Households		Low Income Households (n=cases)	Moderate Income Households (n=cases)	Middle Income Households (n=cases)	Total Housing Deficient (n=cases)
Number of Persons in Household	1 or 2	64.3%	63.8%	33.9%	60.8%
	3 or 4	28.4%	25.0%	29.9%	27.3%
	5 or more	7.3%	11.2%	36.2%	11.8%
	Total	100.0%	100.0%	100.0%	100.0%
		1,499	982	301	2,782
Race of Head	White	44.6%	57.3%	43.5%	49.0%
	Black	34.8%	17.3%	32.2%	28.4%
	Other	20.5%	25.4%	24.3%	22.6%
	Total	100.0%	100.0%	100.0%	100.0%
		1,499	982	301	2,782
Hispanic Origin of Head	Not Hispanic	80.2%	75.1%	59.1%	76.1%
	Hispanic	19.8%	24.9%	40.9%	23.9%
	Total	100.0%	100.0%	100.0%	100.0%
		1,499	982	301	2,782
Sex of Head	Male	48.9%	69.7%	97.0%	61.4%
	Female	51.1%	30.3%	3.0%	38.6%
	Total	100.0%	100.0%	100.0%	100.0%
		1,499	982	301	2,782
Age of Head	15 to 24	6.0%	.0%	.0%	3.2%
	25 to 34	23.0%	24.7%	6.6%	21.8%
	35 to 44	21.7%	29.4%	36.9%	26.1%
	45 to 54	13.9%	15.5%	4.0%	13.4%
	55 to 64	6.3%	18.6%	46.5%	15.0%
	65 to 74	20.2%	11.8%	6.0%	15.7%
	75 and up	8.9%	.0%	.0%	4.8%
	Total	100.0%	100.0%	100.0%	100.0%
		1,499	982	301	2,782
Labor Force Status of Head	Employed	41.8%	64.5%	74.8%	53.4%
	Unemployed	4.1%	8.8%	.0%	5.3%
	Not in Labor Force-or Military	54.1%	26.8%	25.2%	41.3%
	Total	100.0%	100.0%	100.0%	100.0%
		1,499	982	301	2,782
Household Income	\$25,000 or less	82.1%	.0%	.0%	44.2%
	\$25,001 through \$49,100	17.9%	66.5%	8.6%	34.0%
	\$49,101 through \$81,000	.0%	33.5%	84.4%	21.0%
	\$81,001 through \$140,000	.0%	.0%	7.0%	.8%
	\$140,001 through highest	.0%	.0%	.0%	.0%
	Total	100.0%	100.0%	100.0%	100.0%
		1,499	982	301	2,782

**Exhibit 3-2 (Cont.)
Socioeconomic Characteristics of Housing Deficient Households
Westchester County, 2000**

Selected Characteristics of Households		Low Income Households	Moderate Income Households	Middle Income Households	Total Housing Deficient
Occupation of Head	Management, Business, & Financial	2.3%	14.8%	3.0%	7.5%
	Professional and Related	3.9%	23.8%	4.0%	12.0%
	Service Occupations	35.0%	9.3%	18.6%	22.3%
	Sales and Office occupations	25.9%	20.0%	22.3%	23.0%
	Farming, Fishing, & Forestry	.0%	.0%	.0%	.0%
	Construction, Extraction, & Maintenance	17.4%	22.6%	11.6%	18.7%
	Production, Transportation, & Material Moving	15.6%	9.5%	40.5%	16.5%
	Total	100.0%	100.0%	100.0%	100.0%
		1,033	915	301	2,249
Travel Time of Head (Minutes)	Less than 30 min	61.4%	48.4%	28.2%	51.2%
	30 to 59 min	27.4%	47.2%	61.8%	40.9%
	60 or more min	11.2%	4.4%	10.0%	7.9%
	Total	100.0%	100.0%	100.0%	100.0%
		554	633	170	1,357
Means of Travel to Work of Head	Auto	66.8%	76.3%	81.7%	73.3%
	Public Transit	33.2%	18.0%	.0%	21.4%
	Other	.0%	5.7%	.0%	2.6%
	Work at Home	.0%	.0%	18.3%	2.7%
	Total	100.0%	100.0%	100.0%	100.0%
		554	633	208	1,395
Vehicles in Household	None	53.6%	22.3%	29.2%	39.9%
	One	37.1%	49.7%	39.9%	41.8%
	2 or more	9.3%	28.1%	30.9%	18.3%
	Total	100.0%	100.0%	100.0%	100.0%
		1,499	982	301	2,782
Industry	Agriculture, forestry, fishing, hunting & mining	.0%	.0%	.0%	.0%
	Construction	12.9%	16.9%	6.0%	13.6%
	Manufacturing	6.8%	12.1%	5.6%	8.8%
	Wholesale trade	4.4%	2.0%	7.0%	3.7%
	Retail trade	13.7%	6.1%	13.6%	10.6%
	Transportation and warehousing, and utilities	2.2%	.0%	34.9%	5.7%
	Information	2.5%	6.7%	9.6%	5.2%
	Finance, insurance, real estate	2.3%	10.5%	20.3%	8.1%
	Professional, scientific, management	14.9%	13.8%	.0%	12.5%
	Educational, health and social services	22.9%	18.4%	.0%	18.0%
	Arts, entertainment, recreation, accommodation	9.6%	4.3%	.0%	6.1%
	Other services	7.6%	9.3%	.0%	7.3%
	Public administration	.0%	.0%	3.0%	.4%
	Armed Forces	.0%	.0%	.0%	.0%
	Total	100.0%	100.0%	100.0%	100.0%
		1,033	915	301	2,249

Considering the *sex of the head of household*, low-income households show a smaller percentage of males (48.9 percent) than is found in the moderate- and middle-income groups (69.7 percent and 97 percent, respectively). These latter two housing-deficient income groups, in fact, show a higher proportion of male household heads than in the county as a whole (60.6 percent). Data on the *age of the head of household* reveal differences between the county aggregate—where households are concentrated in the 35-54 range—and housing-deficient households, a little over half of which have heads below age 35.

Labor force participation is somewhat lower among housing-deficient households than for the county as a whole: 53.4 percent compared to 66.5 percent for the county. Not surprisingly, labor force participation increases dramatically with income, from 41.8 percent for low-income households to 64.5 for moderate-income and 74.8 percent for middle-income households. Unemployment is higher in moderate-income households (8.8 percent) than in the county and even than among low-income households, reflecting the tendency of the long-term unemployed to dropout of the labor market. (Note that this is expressed as a percentage of total households rather than households in the labor force, and is thus not equivalent to the commonly used definition of unemployment.) In the low-income group, 54.1 percent of chief income producers are outside the labor force whereas for the county as a whole, the corresponding number is 41.3 percent. The share of household heads that are not in the labor force is 26.8 percent for the moderate-income group and 25.2 percent for the middle-income group.

The annual income (in 2000 dollars) of housing-deficient households shows wide variations. Predictably, the annual income of low-income households is low: more than 80 percent (82.1 percent) earn less than \$25,000. The majority of the moderate-income households earn between \$25,000 and \$49,100 (66.5 percent) and 85.4 percent of the middle-income households earn between \$49,101 and \$81,000.

The data on *occupation* show patterns that are somewhat different from aggregate county totals. In the county as a whole, managerial and professional occupations were the most common (47.6 percent combined), followed by service and sales jobs (36.7 percent combined). The most commonly represented occupations of income-constrained, housing-deficient households are sales and service jobs (45.3 percent combined) and construction and production workers (35.2 percent combined). Differences between the income groups show a concentration in low-income earners in service and sales occupations (60.9 percent).

The *journey-to-work* data reveal somewhat shorter travel time for the housing-deficient household heads than for aggregate county totals. This is particularly illustrated by those

households that have commuting trips of more than an hour: 11.2 percent of low-income household heads, 4.4 percent of moderate-income household heads, and 10 percent of middle-income household heads. These figures compare to 20.3 percent for workers in the county as a whole. A related factor is occupation. Some of the higher status and better paying jobs are located in Manhattan, so that a longer commute becomes necessary.

The *means of journey-to-work* is the automobile for a large majority of the chief income earners in the county as a whole (70.9 percent), as well as for the income-constrained housing-deficient households (73.3 percent); the rest of the latter household heads are mostly dependent on public transit (21.4 percent). As would be expected, the use of the automobile is highest in the middle-income category (81.7 percent) than in the low- and moderate-income categories (66.8 percent and 76.3 percent, respectively). The low-income group is most dependent on public transportation: 33.2 percent use this means of transportation to commute to work.

The *availability of an automobile* to a household is more clearly correlated with income levels. While 53.6 percent of low-income housing-deficient households have no automobile, only 22.3 percent of the moderate-income households and 29.2 percent of the middle-income households are similarly disadvantaged. One-car households form 37.1 percent of the low-, 49.7 percent of the moderate-, and 39.9 percent of the middle-income households. The percentage of households with two or more cars also differs substantially: 9.3 percent for the low-, 28.1 percent for the moderate-, and 30.9 percent for the middle-income group.

Overcrowded (Not Deficient) Households, 2000

As might be predicted, in terms of *household size*, income-constrained households living in overcrowded conditions tend to be larger than in the county as a whole (Exhibit 3-3). About 54.4 percent consist of 5 or more persons, (compared to about 11.7 percent of total households). Smaller household size is relatively more prevalent in low-income housing-deficient households. As income rises, so too does the size of the household.

Overcrowded households also differ from total Westchester County households in terms of *racial composition*. While county households are predominantly white, with a nonwhite population of 24.7 percent (13.5 percent black and 11.2 percent other), overcrowded households are 64 percent nonwhite (22.3 percent black and 41.9 percent other). 56 percent of overcrowded households are Hispanic.

Considering the *sex of the head of household*, overcrowded households more closely mirror the county average—62.8 percent of overcrowded households are headed by males. The

more affluent two overcrowded income groups, however, show a higher proportion of male household heads than in the county as a whole (76.6 percent for moderate income and 81.9 percent for middle income, compared to 60.6 percent for the county as a whole). Data on the *age of the head of household* reveal that overcrowded households are concentrated in the lower age groups, though not to the same extent as the housing deficient.

Labor force participation is not significantly different for the overcrowded households than for the county as a whole: 62.7 percent compared to 66.5 percent for the county. The data on *occupation* for overcrowded households again show that those in housing need are concentrated in sales and service jobs (48.8 percent combined) and construction and production jobs (32.3 percent combined). Differences between the income groups show a concentration in low-income earners in service occupations (38.7 percent).

The *journey-to-work* data reveal a shorter travel time for the overcrowded household heads than for either the housing-deficient households or the aggregate county totals. 58.5 percent of overcrowded household heads have less than a 30 minute commute as compared to 47.2 percent for the county as a whole. The *means of journey-to-work* and the *availability of an automobile* are similar to that in housing deficient households.

Cost-Burdened (Not Deficient, Not Overcrowded) Households, 2000

In terms of *household size* 65.9 percent of income-constrained, cost-burdened households have one or two members, compared to 55.2 percent of county households (Exhibit 3-4). The dominance of small households is especially striking among low-income cost-burdened households. 67.6 percent of these households have one or two members, while 24 percent contain three or four members.

As opposed to the deficient or overcrowded, the *racial composition* of the cost-burdened household more closely reflects the county as a whole. Households with excessive cost burdens are predominantly white—64.4 percent, a proportion that is still somewhat lower than the 75.3 percent of the county's households that are white. Although comprising only 13.5 percent of the county's total households, blacks comprise 20.8 percent of cost-burdened households. Other racial groups make up 14.8 percent of the cost-burdened. There is only a slight difference in the incidence of *Hispanic origin* in cost-burdened households as compared to the county as a whole. In the aggregate, household heads are 11.3 percent Hispanic; the cost-burdened group is 14.8 percent Hispanic. These data demonstrate that housing cost burden is a more universal problem in Westchester County.

Exhibit 3-3
Socioeconomic Characteristics of Overcrowded (Not Deficient) Households
Westchester County, 2000

Selected Characteristics of Households		Low Income Households (n=cases)	Moderate Income Households (n=cases)	Middle Income Households (n=cases)	Total Overcrowded (n=cases)
Number of Persons in Household	1 or 2	8.9%	9.4%	14.6%	9.6%
	3 or 4	37.6%	36.7%	23.4%	35.8%
	5 or more	53.5%	53.9%	62.1%	54.5%
	Total	100.0%	100.0%	100.0%	100.0%
		4,948	2,325	843	8,116
Race of Head	White	29.9%	46.8%	39.8%	35.8%
	Black	24.1%	22.7%	10.8%	22.3%
	Other	46.0%	30.5%	49.4%	41.9%
	Total	100.0%	100.0%	100.0%	100.0%
		4,948	2,325	843	8,116
Hispanic Origin of Head	Not Hispanic	38.1%	54.9%	48.5%	44.0%
	Hispanic	61.9%	45.1%	51.5%	56.0%
	Total	100.0%	100.0%	100.0%	100.0%
		4,948	2,325	843	8,116
Sex of Head	Male	53.1%	76.6%	81.9%	62.8%
	Female	46.9%	23.4%	18.1%	37.2%
	Total	100.0%	100.0%	100.0%	100.0%
		4,948	2,325	843	8,116
Age of Head	15 to 24	5.2%	7.4%	7.4%	6.0%
	25 to 34	36.5%	19.6%	25.5%	30.5%
	35 to 44	38.0%	38.5%	38.4%	38.2%
	45 to 54	13.7%	19.5%	18.2%	15.9%
	55 to 64	3.1%	10.3%	4.3%	5.3%
	65 to 74	3.2%	3.5%	1.7%	3.2%
	75 and up	.3%	1.3%	4.5%	1.0%
	Total	100.0%	100.0%	100.0%	100.0%
		4,948	2,325	843	8,116
Labor Force Status of Head	Employed	55.7%	74.1%	72.1%	62.7%
	Unemployed	8.7%	3.7%	.0%	6.3%
	Not in Labor Force-or Military	35.7%	22.2%	27.9%	31.0%
	Total	100.0%	100.0%	100.0%	100.0%
		4,948	2,325	843	8,116
Household Income	\$25,000 or less	52.3%	.0%	.0%	31.9%
	\$25,001 through \$49,100	45.8%	26.8%	.0%	35.6%
	\$49,101 through \$81,000	1.9%	72.5%	64.8%	28.7%
	\$81,001 through \$140,000	.0%	.6%	35.2%	3.8%
	\$140,001 through highest	.0%	.0%	.0%	.0%
	Total	100.0%	100.0%	100.0%	100.0%
		4,948	2,325	843	8,116

**Exhibit 3-3 (Cont.)
Socioeconomic Characteristics of Overcrowded (Not Deficient) Households
Westchester County, 2000**

Selected Characteristics of Households		Low Income Households	Moderate Income Households	Middle Income Households	Total Overcrowded
Occupation of Head	Management, Business, & Financial	2.7%	6.1%	17.4%	5.4%
	Professional and Related	9.7%	18.0%	16.4%	13.0%
	Service Occupations	38.7%	23.5%	13.8%	31.3%
	Sales and Office occupations	16.6%	19.7%	16.1%	17.5%
	Farming, Fishing, & Forestry	.7%	.0%	.0%	.4%
	Construction, Extraction, & Maintenance	11.8%	11.3%	16.7%	12.2%
	Production, Transportation, & Material Moving	19.8%	21.4%	19.6%	20.3%
	Total	100.0%	100.0%	100.0%	100.0%
		4,125	2,153	790	7,068
Travel Time of Head (Minutes)	Less than 30 min	61.7%	61.4%	36.5%	58.5%
	30 to 59 min	27.7%	33.1%	57.2%	33.2%
	60 or more min	10.6%	5.5%	6.4%	8.3%
	Total	100.0%	100.0%	100.0%	100.0%
		2,606	1,658	608	4,872
Means of Travel to Work of Head	Auto	59.8%	80.7%	82.6%	69.6%
	Public Transit	24.0%	10.6%	4.9%	17.1%
	Other	14.0%	8.7%	12.5%	12.0%
	Work at Home	2.2%	.0%	.0%	1.2%
	Total	100.0%	100.0%	100.0%	100.0%
		2,665	1,658	608	4,931
Vehicles in Household	None	42.6%	17.7%	18.4%	33.0%
	One	35.4%	44.1%	26.3%	36.9%
	2 or more	22.0%	38.2%	55.3%	30.1%
	Total	100.0%	100.0%	100.0%	100.0%
		4,948	2,325	843	8,116
Industry	Agriculture, forestry, fishing, hunting & mining	.0%	.0%	.0%	.0%
	Construction	10.7%	7.2%	11.1%	9.7%
	Manufacturing	11.7%	15.6%	17.7%	13.5%
	Wholesale trade	4.2%	4.2%	2.3%	4.0%
	Retail trade	11.7%	8.2%	8.6%	10.3%
	Transportation and warehousing, and utilities	5.2%	13.3%	1.9%	7.3%
	Information	1.7%	1.8%	6.7%	2.3%
	Finance, insurance, real estate	4.0%	3.9%	8.9%	4.5%
	Professional, scientific, management	8.3%	5.7%	9.7%	7.7%
	Educational, health and social services	21.1%	27.6%	15.8%	22.5%
	Arts, entertainment, recreation, accommodation	11.3%	5.9%	4.4%	8.9%
	Other services	9.1%	2.0%	12.9%	7.4%
	Public administration	1.0%	4.7%	.0%	2.0%
	Armed Forces	.0%	.0%	.0%	.0%
	Total	100.0%	100.0%	100.0%	100.0%
		4,125	2,153	790	7,068

One of the biggest socioeconomic differences between cost-burdened households and other household heads is the *gender of the household's chief income producer*. 55 percent of the cost-burdened households are headed by a woman. By contrast, a majority of other households are headed by a man: 60.6 percent of total county households, 61.4 percent of the housing-deficient, and 62.8 percent of the overcrowded. As income rises, so does the proportion of households headed by a man: in the low-income cost-burdened group, men are the primary breadwinners for only 41.8 percent of the households, but in the moderate-income group, they are the primary breadwinners for 56.8 percent, and 63.9% in the middle-income group.

Data on the *age of the household head* show a higher than average concentration of cost burdened households in the youngest and oldest age categories. The data show that 21.4 percent of the chief income producers for cost-burdened households are less than 35 years old. Even more striking is the representation of elderly households. Almost one-third (29.4 percent) of the cost-burdened households are headed by people 65 years or older, compared to 23.4 percent for the county as a whole.

The degree of *labor force participation* is low among excessively cost-burdened household heads. The percentage of households whose chief income producer is employed is 47.4 percent. Among all households, it is 66.5 percent. The chief income producers of almost half (48.8 percent) the cost-burdened households are out of the labor force, compared to 31.4 percent of all households. This disparity in labor force participation probably reflects the predominance of cost-burdened households headed by people over 65 years of age who are likely to be retired or by women who may be unable to join the labor force because of childcare responsibilities. Labor force participation rates are lower in the low-income group—only 40.9 percent of low-income cost-burdened households are employed. Predictably, excessively cost-burdened households tend to have much lower *incomes* than households in the county at large. More than 92.1 percent of the cost-burdened households have incomes of less than \$49,100 compared to 40 percent of the percent of households in the county.

**Exhibit 3-4
Socioeconomic Characteristics of Cost-Burdened (Not Deficient, Not Overcrowded)
Households, Westchester County, 2000**

Selected Characteristics of Households		Low Income Households (n=cases)	Moderate Income Households (n=cases)	Middle Income Households (n=cases)	Total Cost Burdened (n=cases)
Number of Persons in Household	1 or 2	67.6%	59.2%	59.0%	65.9%
	3 or 4	24.2%	30.8%	31.2%	25.6%
	5 or more	8.1%	9.9%	9.8%	8.5%
	Total	100.0%	100.0%	100.0%	100.0%
		60,022	12,237	2,877	75,136
Race of Head	White	61.6%	74.7%	79.7%	64.4%
	Black	22.7%	13.9%	10.3%	20.8%
	Other	15.7%	11.4%	10.0%	14.8%
	Total	100.0%	100.0%	100.0%	100.0%
		60,022	12,237	2,877	75,136
Hispanic Origin of Head	Not Hispanic	80.8%	89.8%	96.2%	82.9%
	Hispanic	19.2%	10.2%	3.8%	17.1%
	Total	100.0%	100.0%	100.0%	100.0%
Sex of Head	Male	41.8%	56.8%	63.9%	45.0%
	Female	58.2%	43.2%	36.1%	55.0%
	Total	100.0%	100.0%	100.0%	100.0%
		60,022	12,237	2,877	75,136
Age of Head	15 to 24	5.0%	2.8%	.0%	4.4%
	25 to 34	16.4%	20.3%	15.0%	17.0%
	35 to 44	20.0%	28.5%	28.1%	21.7%
	45 to 54	13.4%	18.6%	21.9%	14.6%
	55 to 64	12.8%	12.0%	20.4%	13.0%
	65 to 74	14.1%	11.0%	5.6%	13.2%
	75 and up	18.4%	6.7%	9.1%	16.2%
	Total	100.0%	100.0%	100.0%	100.0%
		60,022	12,237	2,877	75,136
Labor Force Status of Head	Employed	40.9%	72.3%	77.0%	47.4%
	Unemployed	4.4%	1.5%	1.5%	3.8%
	Not in Labor Force-or Military	54.7%	26.2%	21.5%	48.8%
	Total	100.0%	100.0%	100.0%	100.0%
		60,022	12,219	2,877	75,118
Household Income	\$25,000 or less	80.2%	.0%	.0%	64.0%
	\$25,001 through \$49,100	19.8%	73.0%	9.8%	28.1%
	\$49,101 through \$81,000	.0%	27.0%	85.6%	7.7%
	\$81,001 through \$140,000	.0%	.0%	4.6%	.2%
	\$140,001 through highest	.0%	.0%	.0%	.0%
	Total	100.0%	100.0%	100.0%	100.0%
		60,022	12,237	2,877	75,136

**Exhibit 3-4 (Cont.)
Socioeconomic Characteristics of Cost-Burdened (Not Deficient, Not Overcrowded)
Households, Westchester County, 2000**

Selected Characteristics of Households		Low Income Households	Moderate Income Households	Middle Income Households	Total Cost Burdened
Occupation of Head	Management, Business, & Financial	9.1%	18.2%	22.6%	11.7%
	Professional and Related	13.2%	24.0%	28.8%	16.4%
	Service Occupations	28.6%	14.5%	9.4%	24.5%
	Sales and Office occupations	28.0%	28.4%	24.2%	27.9%
	Farming, Fishing, & Forestry	.2%	.0%	.0%	.2%
	Construction, Extraction, & Maintenance	9.8%	7.5%	10.6%	9.4%
	Production, Transportation, & Material Moving	11.1%	7.4%	4.5%	10.0%
	Total	100.0%	100.0%	100.0%	100.0%
		36,139	10,679	2,537	49,355
Travel Time of Head (Minutes)	Less than 30 min	56.9%	55.0%	45.6%	55.7%
	30 to 59 min	29.1%	27.1%	33.3%	28.9%
	60 or more min	14.0%	17.9%	21.1%	15.4%
	Total	100.0%	100.0%	100.0%	100.0%
		22,842	8,343	2,118	33,302
Means of Travel to Work of Head	Auto	65.8%	73.6%	68.2%	67.9%
	Public Transit	22.8%	18.8%	26.3%	22.0%
	Other	7.7%	2.9%	2.4%	6.2%
	Work at Home	3.7%	4.7%	3.1%	3.9%
	Total	100.0%	100.0%	100.0%	100.0%
		23,723	8,750	2,186	34,658
Vehicles in Household	None	37.5%	10.0%	5.0%	31.8%
	One	42.5%	47.9%	44.2%	43.4%
	2 or more	20.0%	42.0%	50.7%	24.8%
	Total	100.0%	100.0%	100.0%	100.0%
		60,022	12,237	2,877	75,136
Industry	Agriculture, forestry, fishing, hunting & mining	.3%	.0%	.0%	.2%
	Construction	7.7%	7.5%	4.8%	7.5%
	Manufacturing	7.1%	6.7%	4.7%	6.9%
	Wholesale trade	3.5%	3.8%	1.6%	3.5%
	Retail trade	11.8%	9.1%	10.7%	11.2%
	Transportation and warehousing, and utilities	4.4%	5.5%	8.2%	4.9%
	Information	2.4%	4.7%	9.6%	3.3%
	Finance, insurance, real estate	7.1%	11.3%	12.1%	8.2%
	Professional, scientific, management	11.6%	14.2%	11.5%	12.2%
	Educational, health and social services	25.5%	21.3%	19.8%	24.3%
	Arts, entertainment, recreation, accommodation	8.7%	6.0%	7.4%	8.1%
	Other services	7.9%	6.0%	2.6%	7.2%
	Public administration	2.0%	3.8%	7.0%	2.7%
	Armed Forces	.0%	.0%	.0%	.0%
	Total	100.0%	100.0%	100.0%	100.0%
		36,139	10,679	2,537	49,355

The data on *occupation* show that the chief income producers of cost-burdened households are disproportionately employed within lower-paying sales, clerical, and service occupations. The chief income producers for almost 53 percent of the cost-burdened households belong to sales, clerical, or service occupations, compared to 36.7 percent of the households in the county. Blue-collar occupations account for 19.4 percent of the cost-burdened household heads, compared to 15.5 percent of total household heads in the county.

In terms of *journey-to-work time*, the heads of cost-burdened households are somewhat more likely to have shorter commutes than the county average. The *means of journey-to-work* are very similar to the county average. As for *automobile availability*, cost-burdened households are somewhat less likely to have access to a car, or to as many cars.

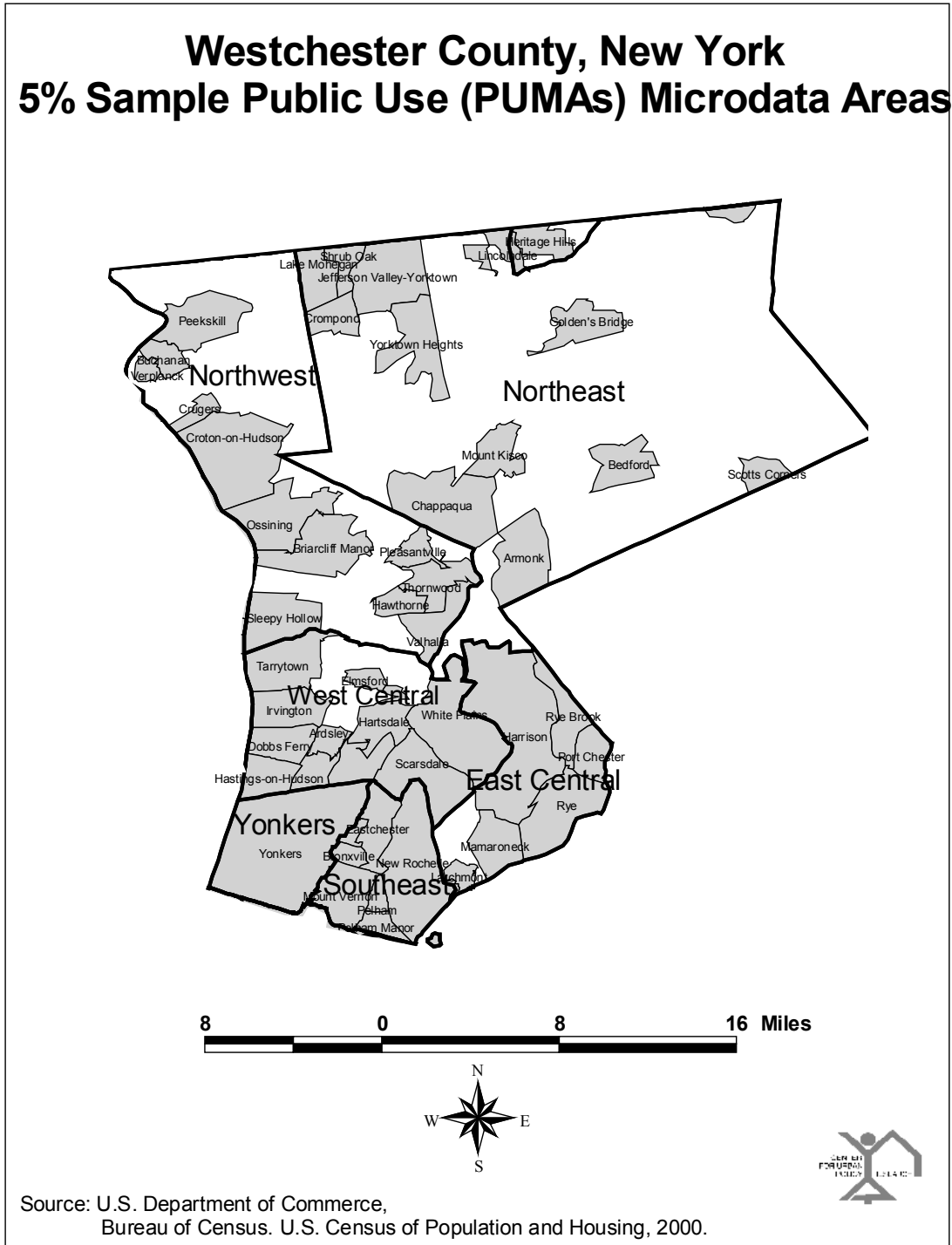
LOCATIONAL CHARACTERISTICS OF HOUSEHOLDS

In order to inform the county's decision-making process in regard to meeting affordable housing demand, CUPR has generated results for each component of existing demand among income-constrained households—housing deficient, overcrowded, cost burdened—by location within Westchester County. We use the six Public Use Microdata Areas (PUMAs) identified by the census (Yonkers, Northeast, Northwest, West Central, East Central and Southeast—See Map 3-1). Before discussing the locational characteristics of each of the components of need, we look at the characteristics of all Westchester households and those in the income-constrained category.

Total and Income-Constrained Households, 2000

Exhibit 3-5 presents the breakdown of where Westchester County households are located within the county. Census PUMAs are supposed to represent equally populated areas, yet in an effort to draw appropriate boundaries, some PUMAs are more populated than others. In the case of Westchester, Yonkers and the Southeast account for a somewhat greater proportion of total households than the other areas. Thus, we would expect for Yonkers and the Southeast to have a larger number of households in need, even if the rate of need throughout the county was constant. Nevertheless, Exhibit 3-5 shows that both Yonkers and Southeast have a greater percentage of income-constrained households than their share of total county households. Thus, income-constrained households are more concentrated in Yonkers (29.1 percent) and the Southeast (22.6 percent) than in the rest of the county's areas.

Map 3-1



**Exhibit 3-5
Income-Constrained Households by Location in
Westchester County, 2000**

Public Use Area	Percent Not Income Constrained	Percent Income Constrained	Percent of County Total
Yonkers	13.9%	29.1%	22.3%
Northeast	18.9%	8.8%	13.3%
Northwest	15.4%	14.1%	14.7%
West Central	20.9%	14.8%	17.5%
East Central	13.6%	10.5%	11.9%
Southeast	17.2%	22.6%	20.2%
Total	100.0%	100.0%	100.0%
	150,126	185,118	335,244

Housing Deficient Households, 2000

Of interest are those locations where housing deficiency is a greater proportion of all households than those income constrained. Exhibit 3-6 demonstrates that although Yonkers accounts for the most cases, the West Central and Southeast areas have a greater proportion of housing deficiency than income constrained. The West Central area represents 14.8 percent of income-constrained households (Exhibit 3-5), but contains 21.2 percent of deficient units. The figures for the Southeast are 22.6 percent and 27 percent, respectively.

**Exhibit 3-6
Housing Deficient Households by Location in
Westchester County, 2000**

Public Use Area	Number	Percent of Housing Deficient	Percent of Total Income Constrained
Yonkers	753	27.1%	29.1%
Northeast	161	5.8%	8.8%
Northwest	258	9.3%	14.1%
West Central	591	21.2%	14.8%
East Central	269	9.7%	10.5%
Southeast	750	27.0%	22.6%
Total	2,782	100.0%	100.0%

The higher percentage of deficient units in the West Central area might be explained by the age of much of the housing stock found in the Hudson River villages. In general, housing deficiency appears to be concentrated in the areas with older housing stock.

Overcrowded (Not Deficient) Households, 2000

In contrast to housing deficiency, overcrowded units are much more heavily concentrated in Yonkers (Exhibit 3-7). While Yonkers represents 29.1 percent of income-constrained units, it contains 40.7 percent of demand due to overcrowding. It is worth noting that overcrowding is particularly concentrated in Hispanic-headed households (Exhibit 3-3), and that Hispanics have a larger presence in Yonkers than in most other county areas. All other county areas tend to have a lower incidence of overcrowding than their share of income-constrained households would suggest.

**Exhibit 3-7
Overcrowded (Not Deficient) Households by Location in
Westchester County, 2000**

Public Use Area	Number	Percent of Overcrowded	Percent of Total Income Constrained
Yonkers	3,300	40.7%	29.1%
Northeast	330	4.1%	8.8%
Northwest	975	12.0%	14.1%
West Central	1,197	14.7%	14.8%
East Central	606	7.5%	10.5%
Southeast	1,708	21.0%	22.6%
Total	8,116	100.0%	100.0%

Cost-Burdened (Not Deficient, Not Overcrowded) Households, 2000

In contrast to the other components of housing need, cost-burdened households have no clearly differentiated locational characteristics (Exhibit 3-8). In fact, the distribution of cost-burdened households within the county closely mirrors the distribution of income-constrained households generally—the relative proportions in each area varying only by one or two percentage points. This indicates that cost burden is an issue that affects all income-constrained households, regardless of location within the county.

**Exhibit 3-8
Cost-Burdened (Not Deficient, Not Overcrowded) Households by Location in Westchester County, 2000**

Public Use Area	Number	Percent of Cost Burdened	Percent of Total Income Constrained
Yonkers	21,143	28.1%	29.1%
Northeast	6,688	8.9%	8.8%
Northwest	9,631	12.8%	14.1%
West Central	10,553	14.0%	14.8%
East Central	8,932	11.9%	10.5%
Southeast	18,189	24.2%	22.6%
Total	75,136	100.0%	100.0%

CHARACTERISTICS OF PROJECTED DEMAND HOUSEHOLDS, 2000-2015

As defined in Chapter 2, the projected increase in low-, moderate-, and middle-income households between 2000 and 2015 is based solely on the income criterion, without reference to housing condition or cost burden. Low-, moderate-, and middle-income household projections are fueled largely by the underlying demographic and socioeconomic trends projected for total county populations. Therefore, the projected composition of these additional households will reflect broader countywide patterns of change rather than the characteristics of existing housing-deficient and cost-burdened characteristics.

It is important to note that the changes reported in income-constrained households between 2000 and 2015 constitute *net change* for each socioeconomic category and that *each socioeconomic category is considered individually*. For example, income-constrained households whose heads are between 35 and 44 are expected to decrease, but these declines will be offset by increases of households whose heads are older, particularly between the ages of 55 and 74. Thus, Exhibit 3-9 shows minus percentages for the younger age categories and positive values for the older age categories.

In Chapter 2, we estimated that the number of low-, moderate-, and middle-income households within the Westchester County housing region will increase by 9,352 households. Almost three-quarters (74 percent) will be low-income households, 18.5 percent will be moderate-income, and about 7.5 percent will be middle-income households. In terms of *household size*, most new households are projected to consist of one or two persons. Selected socioeconomic characteristics of these additional households are presented in Exhibit 3-9.

Exhibit 3-9
Socioeconomic Characteristics of Projected Housing Demand
Change Over Time, Westchester County, 2000-2015

Selected Characteristics of Households		Low Income Households, Percent of Total Change 2000-2015 (n=cases)	Moderate Income Households, Percent of Total Change 2000-2015 (n=cases)	Middle Income Households, Percent of Total Change 2000-2015 (n=cases)	Total Projected, Percent of Total Change 2000-2015 (n=cases)
Number of Persons in Household	1 or 2	105%	113%	144%	109%
	3 or 4	2%	-13%	6%	0%
	5 or more	-7%	0%	-50%	-9%
Race of Head	Total	6,917	1,735	700	9,352
	White	77%	105%	75%	82%
	Black	19%	3%	18%	16%
	Other	4%	-8%	8%	2%
Hispanic Origin	Total	6,917	1,735	700	9,352
	Not Hispanic	95%	98%	117%	97%
	Hispanic	5%	2%	-17%	3%
Sex	Total	6,917	1,735	700	9,352
	Male	42%	62%	28%	44%
	Female	58%	38%	72%	56%
Age of Head	Total	6,917	1,735	700	9,352
	15 to 24	12%	15%	14%	13%
	25 to 34	7%	-4%	16%	6%
	35 to 44	-46%	-153%	-287%	-83%
	45 to 54	5%	19%	87%	14%
	55 to 64	53%	142%	236%	83%
	65 to 74	36%	72%	72%	45%
	75 and up	32%	9%	-39%	23%
Labor Force Status of Head	Total	6,917	1,735	700	9,352
	Employed	15%	8%	71%	18%
	Unemployed	1%	7%	-6%	2%
	Not in Labor Force-or Military	83%	85%	35%	80%
Occupation of Head	Total	6,917	1,731	700	9,349
	Management, Business, & Financial	11%	7%	41%	15%
	Professional and Related	11%	-2%	35%	12%
	Service Occupations	30%	32%	-29%	21%
	Sales and Office occupations	34%	48%	49%	39%
	Farming, Fishing, & Forestry	0%	0%	4%	0%
	Construction, Extraction, & Maintenance	4%	2%	-15%	1%
	Production, Transportation, & Moving	10%	13%	16%	12%
Total	2,589	664	627	3,880	

The projection of additional low-, moderate-, and middle-income households by *race* in the Westchester housing region shows that whites comprise 82 percent of projected growth, with black households accounting for 16 percent of growth. Overall, the share of income-constrained households of *Hispanic origin* in the Westchester County housing region will increase only slightly during the next decade. Exhibit 3-9 shows that while the share of Hispanic households is projected to increase among low- and moderate-income households, there will be a decrease of Hispanic households in the share of middle-income households.

The *sex of the household head* will be female for over half (56 percent) of projected change in low-, moderate-, and middle-income households, as female-headed households increase more than male-headed households in both the low- and middle-income categories. In terms of the *age of the household head*, the share of income-constrained households with relatively young heads, especially those between the ages of 35 to 44, will decline during the forecast period. The largest increases in households will occur among those headed by persons in the 55 to 74 age groups.

The extent of *labor force participation* continues to be a clear indication of income differences (see Exhibit 3-9). An alarming 80 percent of new income-constrained household growth will be accounted for by households where the head is not in the labor force. Clearly this is an outgrowth of the strong growth in households headed by the elderly. The *occupation* of the chief income producers for the region's additional income-constrained households will be concentrated in the sales and service occupations.

SUMMARY

Blacks and minority groups are much more likely to live in deficient or overcrowded units. In particular, 56 percent of overcrowded units are headed by a person of Hispanic origin (Exhibit 3-3). Minorities also have a higher incidence of cost burden.

In terms of location, the greatest affordable housing need is concentrated in Yonkers and the Southeast. In particular, Yonkers has a disproportionate share of overcrowded households (Exhibit 3-7), while the Southeast and West Central areas have a disproportionate share of deficient units (Exhibit 3-6). Interestingly, cost burden is a housing problem that is evenly distributed among the income-constrained in all areas of the county (Exhibit 3-8). Finally, the vast majority of future housing demand will be accounted for by households headed by persons aged 55 and up.

CHAPTER 4: EXISTING AND PROJECTED HOUSING SUPPLY

INTRODUCTION

In Chapter 2, we presented data on existing and projected demand for affordable housing in the Westchester County housing region. *Existing* demand was defined as the number of low-, and moderate-income households either living in deficient or overcrowded housing and the number of homeless households in 2000. *Projected* demand was defined as the increase in the number of low-, and moderate-income households (regardless of housing condition) during the period 2000 to 2015. Thus, total demand was shown to consist of (1) year 2000 deficiency-based demand of 2,481 units; (2) year 2000 overcrowded demand of 7,273 units; (3) year 2000 homeless household population of 677; and (4) a year 2015 projected demand of 8,652 units, for a total of 19,083 units.

A widespread assumption in public debate appears to be that meeting housing demand requires new construction in a price range and unit type not currently being provided in the region. There are two problems with this assumption. First, we have shown that housing demand is comprised of different kinds of need. New construction may be appropriate to meet prospective demand, but subsidies for households that are excessively cost-burdened or unit rehabilitation for households that are living in deficient units may also be more appropriate responses for these groups. New construction, in short, is not the only solution to meeting housing demand. A number of strategies are possible, and the causes giving rise to housing demand must be examined for the appropriate response.

Second, before determining the extent to which new construction is required to satisfy demand, we must examine how well that demand is likely to be met given existing and projected dimensions of the county's housing supply. To what extent is the current housing delivery process already providing housing for low-, moderate-, and middle-income households within normal market channels and with the housing programs now in place? The answer to this question can be obtained only by looking at the numbers on the existing housing stock and recent construction trends. Analysis of housing supply trends is a critical component in responding to the challenge of providing affordable housing. This chapter presents baseline data on the dimensions of Westchester County's housing supply. Once the parameters of existing and projected housing supply are determined, we will be able to match demand and supply and calculate unmet need. It should be noted that this discussion of supply is for informational purposes only.

Our discussion addresses the following issues:

First, what are the characteristics of the housing stock? This discussion describes the base housing supply in terms of magnitude, housing type, tenure (own versus rent), and value/rent levels.

Second, what have been recent trends in housing supply? Net change in the housing stock is a complex composite reflecting additions to the stock through new construction and conversion of units from single-family to multifamily or from nonresidential to residential. Also reflected in net change are losses from the housing inventory through demolition, condemnation, and fire or other disaster and conversion of residential units to nonresidential uses. Data on these components of change in the housing stock are presented to provide a picture of recent housing supply trends in the region and to provide a basis for future supply projections.

Third, what are projections of housing supply for 2000 to 2015? Information from the preceding two sections—on the base stock and recent trends in housing supply—together with available data on national housing supply projections, are used to develop projections of net change in housing supply in Westchester County through 2015.

Fourth, what proportion of projected growth in housing supply will be affordable by low-, moderate-, and middle-income households? It is widely assumed that the existing delivery system is unable to provide affordable housing. How accurate is this assumption? This will be discussed in detail in Chapter 5.

Within this analysis, we focus on the key components of the housing inventory.¹⁹ First, housing-unit type (e.g., single-family, multifamily, and so on) is discussed. Different housing types exhibit important variations in costs, density, and amenability to intervention. Secondly, we look at housing tenure—owner-occupied versus renter-occupied housing units—each of which represents special considerations in meeting affordable housing needs. Down payment and financing requirements may limit the ability of the owner-occupied sector to meet such needs while various limitations on market return can constrain construction within the rental sector.

In sum, this chapter provides a baseline view of existing and projected housing inventories from which housing for low-, moderate-, and middle-income households can potentially be drawn. It must be stressed that this discussion addresses housing supply and

¹⁹American Institute of Planners, *Regional Housing Planning: A Technical Guide* (Washington, D.C.: AIP, March 1972).

changes in the inventory in the absence of any new governmental intervention. This represents the status quo—the ability of current and projected inventories to house the population. C

THE BASE HOUSING STOCK

According to the 2000 U.S. census, total housing units in Westchester County numbered 349,455. With total housing units in 1990 numbering 336,727, this represents an increase of 12,728 units, for a gain of about 3.8 percent. For the purposes of this study, we are looking at the characteristics of occupied housing units. The data for these units are presented in Exhibit 4-1. In 2000, there were 335,244 occupied housing units. This represents an increase of 17,933 over 1990's figure of 317,311.

Over half (50.7 percent) of the county's inventory in 2000 consisted of single-family housing units. Multifamily units comprised almost one-third (31.6 percent) of all units in Westchester, while those that accommodate 2 to 4 families represented 17.6 percent of the total. About 60 percent of the base occupied conventional housing stock (i.e., excluding mobile homes) in the county was owner-occupied (59.9 percent), comprising 200,724 units; the remaining 134,520 units (40.1 percent) were renter-occupied (Exhibit 4-1).

The data show that over three-quarters (77.5 percent) of Westchester's housing stock was built before 1970. Successive decades have witnessed a consistent drop-off in new units. This might appear contrary to anecdotal observation, but the fact that much of the new housing consists of large, single family homes means that many fewer units of housing are created per acre of development.

Rents in Westchester are concentrated at the higher end of the spectrum, with almost one quarter (23.1 percent) of rental units costing above \$1,100 per month. Exhibit 5-1 shows that cost burden is certainly a problem for renters, with 21.2 percent of renter households moderately cost burdened and 20.6 percent severely cost burdened.

The house values of owner-occupied units indicate a somewhat bifurcated housing market, with peaks in the distribution both below \$225,000 and above \$350,000. Owners tend to fare a little better in terms of cost burden, with only 17.6 percent moderately cost burdened and 13.5 percent severely cost burdened. As explained in Chapter 2, homeowners will often voluntarily take on greater household costs in order to build equity in an appreciating asset—and house values in Westchester have greatly appreciated over time.

**Exhibit 4-1
 Housing Characteristics of All Existing Households
 Westchester County, 2000**

Characteristics		Number	Percent
Type of Structure	Single Family	169,993	50.7%
	2 to 4 Family	59,103	17.6%
	Multi-family	105,854	31.6%
	Other	293	.1%
	Total	335,244	100.0%
Tenure	Own	200,724	59.9%
	Rent	134,520	40.1%
	Total	335,244	100.0%
Year Unit Built	1990 or newer	17,933	5.3%
	1980-1989	23,730	7.1%
	1970-1979	33,537	10.0%
	1940-1969	156,976	46.8%
	1939 or earlier	103,067	30.7%
	Total	335,244	100.0%
Rent	\$1 to \$399	13,824	10.5%
	\$400-\$599	15,855	12.1%
	\$600-\$749	21,149	16.1%
	\$750-\$899	25,126	19.2%
	\$900-\$1,099	24,919	19.0%
	\$1,100 or more	30,253	23.1%
	Total	131,126	100.0%
Rent as % Income	1 to 19%	44,548	34.9%
	20 to 29%	29,646	23.2%
	30 to 49%	27,081	21.2%
	50% or more	26,270	20.6%
	Total	127,543	100.0%

**Exhibit 4-1 (Cont.)
Housing Characteristics of All Existing Households
Westchester County, 2000**

Characteristics		Number	Percent
House Value	Up to \$169,999	40,961	20.4%
	\$170,000 - \$225,000	39,523	19.7%
	\$225,001 - \$349,999	27,510	13.7%
	\$350,000 - \$450,000	54,436	27.1%
	\$450,001 or more	38,293	19.1%
	Total	200,724	100.0%
Selected Owner Costs	Less than \$800	41,003	20.4%
	\$800-1299	36,604	18.2%
	\$1300-1999	42,192	21.0%
	\$2000-2799	39,238	19.5%
	\$2800 or more	41,687	20.8%
	Total	200,724	100.0%
Selected Owner Costs as % Income	1 to 19%	92,180	46.2%
	20 to 29%	45,277	22.7%
	30 to 49%	35,104	17.6%
	50% or more	26,881	13.5%
	Total	199,443	100.0%

RECENT HOUSING TRENDS

The characteristics of the occupied units built between 1990 and 2000 are presented in Exhibit 4-2. In total, 17,933 new occupied housing units were created; 62.4 percent of these were single family homes. New units were also much more likely to be owner-occupied (65.5 percent). Thus, the additional units favored single family, owner-occupied homes to a greater degree than the existing county average.

Of those rental units created, almost half (49.9 percent) had costs above \$1,000 per month as compared to the 23.1 percent average for the county. The data reflect the county's efforts in the previous decade to provide more affordable housing units as the lowest rental category (rents below \$399) also provided more new units than the existing county average (13.3 percent of new units as opposed to 10.5 percent of total units).

For ownership units built from 1990 to 2000, 42.9 percent of housing units built were valued at over \$450,000 (Exhibit 4-2); 45 percent of these new households had monthly housing costs of \$2,800 or more.

**Exhibit 4-2
Housing Characteristics of Total Households
in units built in Westchester County, 1990-2000**

Characteristics		Number	Percent
Type of Structure	Single Family	11,192	62.4%
	2 to 4 Family	2,155	12.0%
	Multi-family	4,491	25.0%
	Other	95	.5%
	Total	17,933	100.0%
Tenure	Own	11,739	65.5%
	Rent	6,194	34.5%
	Total	17,933	100.0%
Rent	\$1 to \$399	799	13.3%
	\$400-\$599	485	8.1%
	\$600-\$749	309	5.2%
	\$750-\$899	809	13.5%
	\$900-\$1,099	600	10.0%
	\$1,100 or more	2,994	49.9%
	Total	5,997	100.0%
Rent as % Income	1 to 19%	2,012	34.6%
	20 to 29%	1,306	22.4%
	30 to 49%	1,264	21.7%
	50% or more	1,237	21.3%
	Total	5,818	100.0%
House Value	Up to \$169,999	1,283	10.9%
	\$170,000 - \$225,000	1,197	10.2%
	\$225,001 - \$349,999	829	7.1%
	\$350,000 - \$450,000	3,390	28.9%
	\$450,001 or more	5,040	42.9%
	Total	11,739	100.0%
Selected Owner Costs	Less than \$800	557	4.7%
	\$800-1299	1,053	9.0%
	\$1300-1999	1,790	15.2%
	\$2000-2799	3,055	26.0%
	\$2800 or more	5,284	45.0%
	Total	11,739	100.0%
Selected Owner Costs as % Income	1 to 19%	4,680	40.0%
	20 to 29%	2,832	24.2%
	30 to 49%	2,605	22.3%
	50% or more	1,575	13.5%
	Total	11,692	100.0%

PROJECTED HOUSING GROWTH, 2000-2015

In predicting future growth in housing supply, CUPR assumed that the number and characteristics of new housing units would grow basically in proportion to trends observed for the 1990-2000 period. Clearly, part of the increase in lower rent units in the previous decade was the result of the provision of affordable housing through the efforts of Westchester County. We have modified the projection to reflect what would happen if the county took no action on affordable unit construction in order to avoid assumptions that the previous initiative would be duplicated.

The characteristics of this projected supply are presented in Exhibit 4-3. In total, CUPR projects that private market productions in Westchester County will provide for 14,535 additional household-occupied units between 2000 and 2015. 9,842 of these new units will be single family housing; an additional 3,024 will be multifamily housing; and 1,606 will be 2 to 4 family housing. 10,325 of these new units will be owner occupied, while 4,210 will be renter occupied. Note that, all else being equal, the projected housing supply will still favor higher income households and owners over lower income households and renters.

It is assumed that some of the households comprising current and future demand for affordable housing will be able to satisfy that demand through this “natural” projected growth in supply. That is, some households in need will have access to these new units, thus alleviating deficiency, overcrowding, or cost burden. The affordability and size of projected new construction units is detailed in Exhibit 4-4. Of these 14,535 additional units, 9,198 (or two-thirds) will be too expensive for income-constrained households. The remainder, 5,337 are available to income-constrained households, however only 4,474 of them will be available to the target population of low- and moderate-income households. These will be matched against existing and future demand in Chapter 5.

**Exhibit 4-3
Projected Housing Characteristics of Total Households
in units built in Westchester County, 2000-2015**

Characteristics		Number	Percent
Type of Structure	Single Family	9,842	67.7%
	2 to 4 Family	1,606	11.1%
	Multi-family	3,024	20.8%
	Other	63	.4%
	Total	14,535	100.0%
Tenure	Own	10,325	71.0%
	Rent	4,210	29.0%
	Total	14,535	100.0%
Rent	\$1 to \$399	0	.0%
	\$400-\$599	149	3.7%
	\$600-\$749	341	8.5%
	\$750-\$899	366	9.1%
	\$900-\$1,099	468	11.6%
	\$1,100 or more	2,708	67.2%
	Total	4,032	100.0%
House Value	Up to \$169,999	0	.0%
	\$170,000 - \$225,000	1,083	10.5%
	\$225,001 - \$349,999	1,620	15.7%
	\$350,000 - \$450,000	3,065	29.7%
	\$450,001 or more	4,557	44.1%
	Total	10,325	100.0%
Selected Owner Costs	Less than \$800	340	3.3%
	\$800-1299	581	5.6%
	\$1300-1999	1,337	12.9%
	\$2000-2799	2,921	28.3%
	\$2800 or more	5,146	49.8%
	Total	10,325	100.0%

**Exhibit 4-4
Affordability Characteristics of Projected New Construction Housing Units
Westchester County, 2000-2015**

Affordability Range	Number of Units
Not Affordable	9,198
80-100% of County Median	863
50-80% of County Median	2,726
0-50% of County Median	1,748
Total Available for Income Constrained	5,337
Total	14,535
Total Available for Target Households	4,474

In addition to new, private market housing construction, there are other sources of additions to the housing inventory. These include conversion of single units into two or more units and conversion of nonresidential structures into residential units. Offsetting these additions are losses from the housing stock due to a number of causes. Included in this category are demolitions, condemnations, units lost through fire, structural damage, or other disaster and conversions from residential to nonresidential use.²⁰ The importance of these additions and losses relative to new construction is likely to vary over time in response to fluctuating interest rates, changing household size, and similar factors affecting the pattern of housing demand. Indications are that the rate of additions to the housing supply due to sources other than new construction has increased in recent years while demolitions have slowed, both in response to rising construction costs and shrinking household size. This reduces the demand for larger units.

Exhibit 4-5
Affordability and Size Characteristics of Projected Secondary Source Housing Units
Westchester County, 2000-2015

Affordability Range	Number of Bedrooms			
	1	2 or 3	4 or more	Total
Not Affordable	811	1,539	1,064	3,413
80-100% of county Median	-	945	397	1,342
50-80% of county Median	127	2,615	979	3,721
0-50% of county Median	132	1,240	742	2,113
Total Available for Income Constrained	259	4,800	2,117	7,176
Total	1,070	6,339	3,181	10,590
Total Available for Target Households	259	3,855	1,721	5,834

Between 2000 and 2015, CUPR estimates that 9,389 units should be available from the downward filtering of sound units—those units occupied by upper income households that should become available to low-, moderate-, and middle-income households. Another 881 units should become available through conversions—the subdividing of residential structures or non-residential structures being converted to residential structures. Finally, we estimate that 320 units should become available from spontaneous rehabilitation—thus making deficient units occupied by the income-constrained no longer deficient. This provides a total of 10,590 new housing units that should become available due to secondary sources of supply—some of which might be

²⁰For an excellent discussion of components of change in the national housing inventory, see William C. Apgar, Jr., *The Changing Utilization of the Housing Inventory: Past Trends and Future Prospects*, Working Paper No. W83-1, Joint Center for Urban Studies of MIT and Harvard University, July 1983.

appropriate to meet current and/or projected affordable housing demand. The affordability and size of projected secondary housing supply is detailed in Exhibit 4-5. Of these 10,590 units, 5,834 are potentially affordable to the target population of low and moderate-income households (Exhibit 4-4).

SUMMARY

Based upon the results of projected housing supply from new construction and secondary sources, we expect the following in terms of growth in housing supply.

- *14,535 new housing units added through normal housing construction; 4,474 of these should be within the affordability range of target population households*
- *10,590 additional housing units through secondary sources; 5,834 of these should be within the affordability range of target population households*
- *A total of 10,308 housing units will potentially become available to income-constrained households through new construction and secondary sources*

We will now attempt to match these sources of supply with the households comprising current and projected affordable housing demand in Chapter 5.

CHAPTER 5: MATCHING HOUSING DEMAND AND HOUSING SUPPLY

INTRODUCTION

Preceding chapters have quantified the existing and projected *demand* for affordable housing in Westchester County and existing and projected levels of primary and secondary housing *supply*. Existing demand has been shown to consist of 2,481 low- and moderate-income households living in deficient housing (i.e., physically inadequate housing as measured by specific housing quality measures), 7,273 households living in overcrowded conditions (i.e., more than 1 person per room), and 677 homeless households. Future demand consists of 8,652 low- and moderate-income households that are projected to form in the region between 2000 and 2015.

The purpose of the present chapter is to determine the fit between future demand for affordable housing and future housing supply. The question posed in this chapter is the following: *To what extent can net growth in housing supply be expected to provide for some portion of projected demand for housing by low-, and moderate-income households?*

This approach represents something of a departure from the conventional wisdom concerning affordable housing demand. Implicit or explicit in most discussions regarding the need for affordable housing for income-constrained households is that the full complement of that need requires some form of subsidy or public intervention in order to be delivered: that is, that market-rate, conventional housing is entirely beyond the means of lower-income households. This assumption may be questioned, however, and particularly so in this study, given that the definition of income constrained reaches 100 percent of area median income—\$83,100 (in 2000 dollars). It is reasonable to expect that at least some conventional housing is likely to be available and affordable to those at that income level.

That the conventional housing supply can be expected to meet some portion of affordable housing demand is critical for determining the net, remaining unmet level of demand for housing for low-, moderate-, and middle-income households. This net unmet demand represents the remaining affordable housing need to be filled through some form of public intervention or some other means.

This chapter begins with a summary of findings from preceding chapters on the magnitude of demand for housing by low-, moderate-, and middle-income households and the level of housing supply available to meet that demand. The measure of housing demand distinguishes between the groups of existing demand and projected housing demand. The

summary of housing supply projections focuses on net new housing supply for 2000 to 2015 as presented in Chapter 4. Net new housing supply is the net increase or decrease in housing units resulting from new construction plus conversions minus demolitions.

The housing demand and housing supply data are then used to determine the share of future demand that will be satisfied by projected new housing supply through the year 2015. A computer algorithm developed by CUPR matches future low-, moderate-, and middle-income households, characterized by household size and income, with projected housing units, characterized by unit size (in terms of number of bedrooms) and housing value or rent, to determine the capacity of net new supply to provide some measure of affordable housing. Any remaining future households are then added to existing housing deficient and overcrowded households, and paired against housing supply from secondary sources. The difference between total affordable housing demand and that proportion of demand “housed” by net new housing supply yields net remaining unmet demand for affordable housing in Westchester County. Net remaining unmet demand is reported by number of housing units required during the period 2000 to 2015. Note that the lack of detailed characteristics for the homeless population prevents them from being included in the matching algorithm. As a result, the homeless total is added directly to unmet need. These data provide a firm basis for defining the kind of interventionary response that will be required to meet the need for affordable housing in Westchester County through the year 2015.

AFFORDABLE HOUSING DEMAND

As specified in Chapter 2, affordable housing demand is comprised of separate components. Existing demand is the number of low- and moderate-income households currently living in deficient or overcrowded housing units. These components of demand are prioritized by the likelihood of a new unit being needed. Thus, all households in deficient housing are counted in that category, while the overcrowded category contains only those households that are not deficient. Homeless households are also included. Projected demand is the net growth in the number of low- and moderate-income households between 2000 and 2015.

**Exhibit 5-1
Total Housing Demand, by Income Level,
Westchester County, 2000-2015**

Source of Housing Demand	Household Income Related to County Median					
	Low <50%		Moderate 50-80%		Total	
	Number	Percent	Number	Percent	Number	Percent
Deficient	1,499	23.3%	982	29.7%	2,481	22.5%
Crowded	4,948	76.7%	2,325	70.3%	7,273	65.9%
Homeless	677	-	-	-	677	11.6%
Total Existing Demand	7,124	100%	3,307	100%	10,431	100.0%
Total Projected Demand	6,917		1,735		8,652	
Total Demand	14,041		5,042		19,083	

Existing (2000) Housing-Deficient Demand

The number of low- and moderate-income households in Westchester County living in deficient units totaled 2,481 in 2000 (Exhibit 5-1). More than 60 percent of the deficient units occupied by income-constrained households in the county (1,499 units) were occupied by low-income households. Among the larger group of income-constrained households (including middle-income), 60.8 percent of housing-deficient households consist of small (one- to two-person households), 27.4 percent of three- to four-person households, and 11.8 percent of five-plus-person households (see Chapter 2, Exhibit 2-7).

Existing (2000) Overcrowded Demand

The number of low- or moderate-income households in Westchester County living in overcrowded units totaled 7,273 in 2000 (Exhibit 5-1). More than 68 percent of the overcrowded units occupied by income-constrained households in the county were occupied by low-income households (4,948).

Projected Demand, 2000–2015

By 2015, it is projected that Westchester County will contain a net additional 8,652 low- and moderate-income households (see Exhibit 5-1). The largest share of projected demand for affordable housing will consist of low-income households—79.9 percent of new households will

be in this category. Almost all of the growth in demand in Westchester County will be comprised of small, one- to two-person households (see Chapter 2, Exhibit 2-18).

PROJECTED HOUSING SUPPLY

Projecting net change in housing supply over more than the short term (i.e., three to six months) is extremely difficult given the uncertainty of interest rates, construction costs, mortgage availability, developer behavior, and the like. However, historical patterns, as well as projections of demand driven by household formation rates, provide useful benchmarks for likely estimates of net change in housing supply. That is, long-term housing supply is expected to respond to long-term trends in household formation, within the broad constraints of the historical trends plus expectations regarding the level of household growth.

Net change in housing supply is the sum of new construction plus conversions of structures from nonresidential to residential uses minus demolitions and conversions from residential to nonresidential uses. During the decade from 1990 to 2000, net new housing supply totaled 17,933 units in Westchester (see Chapter 4, Exhibit 4-2). For the forecast period, from 2000 to 2015, we estimate net new growth in the housing supply of 14,535 units in the county (see Chapter 4, Exhibit 4-3). This figure reflects our expectation of a continued drop in the growth rate of the housing supply consonant with the slower projected growth in total households. Of these new units, 4,474 are projected be affordable for low- and moderate-income households (see Chapter 4, Exhibit 4-4).

In addition, CUPR forecasts 10,590 additional units of housing supply through secondary sources—such as filtering of units, conversions and spontaneous rehabilitation. Through an examination of the affordability of these units (see Chapter 4, Exhibit 4-5), CUPR has determined that 5,834 are potentially available to low- and moderate-income households in Westchester. *Thus, a total of 10,308 additional units of housing supply will become available to target population households in Westchester between 2000 and 2015.*

MATCHING DEMAND TO SUPPLY

We turn now to a discussion of determining the share of existing and future affordable housing demand that will be satisfied through the conventional net new housing supply. As has been suggested, some share of net new housing should be available at an affordable level of housing cost to offset a portion of demand for affordable housing. Matching demand to supply thus apportions demand into the component that will be housed through conventional supply or

secondary sources, with the remainder constituting net unmet demand to be answered through some form of public intervention.

In the current study, we first look to see the extent to which projected housing construction will accommodate projected growth in target population households. Those projected households not matched will then be added to existing deficient and overcrowded households, representing a population that will potentially be able to take advantage of additional housing from secondary sources. After this group is matched to secondary housing supply, the remainder represents the number of households whose needs will be unmet without further action.

The CUPR Housing Demand Algorithm

The procedure for matching housing demand to the specifics of net new housing supply is encompassed in a computer algorithm developed by CUPR. In the simplest terms, the matching program compares two data files—one representing the set of projected low-, moderate-, and middle-income households and the second representing the set of net new housing units—and sequentially searches the data files for appropriate pairings of households and housing units.

For purposes of the match, projected low-, moderate-, and middle-income households are defined in terms of household size (number of persons) and income level. Housing units are similarly defined in terms of tenure, unit size (number of bedrooms), and rent or value. Housing units and low-, moderate-, and middle-income households are sorted sequentially by size (number of bedrooms, number of persons) and by housing cost and rent and household income. The computer algorithm then selects a first household, searches the housing unit file for a unit of appropriate size given household size, and searches appropriate-size units for a unit of appropriate value or rent given household income. The household is then either “housed” or “not housed” as a result of the search procedure, the next household is selected, and the process is repeated until either all housing units are occupied or all households are either “housed” or “not housed.”

Several elements of this procedure bear highlighting. The housing demand algorithm closely resembles the actual process a household would follow in seeking a housing unit: It determines the size of unit needed and searches for a unit of the desired size at an affordable cost, given a fixed criterion of affordability. All households compete on an equal footing for affordable housing, entering the household queue simultaneously, differing in their access to housing only insofar as their size and income characteristics differ. In the event that several households have identical size and income characteristics, such households are randomly entered into the household queue to compete for available housing units. Finally, if households cannot be

matched with an appropriately sized unit, they are allowed to search for a unit of a larger size, as long as it is still affordable.

Therefore, for a unit to be found “affordable,” it must also be appropriate in terms of size as well as cost. A hypothetically available four-room unit listed at a low rent would not be counted within the affordable stock if there is no household of appropriate size and income to qualify for that unit. Similarly, a four-person household with an income at the high end of the middle-income scale may not be able to obtain affordable housing if the supply of appropriate-size units has been exhausted.

Projected Housing Demand Versus Projected New Housing Units

The results of our first housing demand matching exercise provide a count of the number of prospective low-, moderate-, and middle-income households that will be housed through net growth in the conventional housing supply (new construction) and those that will need housing from other sources. This latter group will subsequently be added to the existing deficient and overcrowded groups and then matched with secondary sources of supply. The affordability characteristics of projected new housing supply are reproduced in Exhibit 5-2. A total of 4,474 units are deemed to be within the affordability range for income-constrained households. These units are then matched against the households representing projected demand, totaling 8,652. The results of the match are presented in Exhibit 5-3.

Exhibit 5-2
Affordability Characteristics of Projected New Construction Housing Units
Westchester County, 2000-2015

Affordability Range	Number of Units
Not Affordable	9,198
80-100% of County Median	863
50-80% of County Median	2,726
0-50% of County Median	1,748
Total Available for Income Constrained	5,337
Total	14,535
Total Available for Target Households	4,474

**Exhibit 5-3
Match for Projected Target Population Households with New Construction
Westchester County, 2000-2015**

Affordability	New Units	Projected Demand	Matched	Not Matched
80-100% of county Median	863	700	700	0
50-80% of county Median	2,726	1,735	1,735	0
0-50% of county Median	1,748	6,917	1,748	5,169
Total	5,337	9,352	4,183	5,169
Total Match for Target Households	4,474	8,652	3,483	5,169

Through the matching process, CUPR has determined that 3,483 projected target population households will be accommodated through projected new housing provision. Of the new units constructed, 1,154 could not be filled because their costs were too high for those comprising the need population. The results of the match mean that 5,169 households—all low income—will not be accommodated by projected new housing construction. This number will be added into the population matched to secondary sources in the next section.

Demand Satisfied Through Secondary Sources of Housing Provision

CUPR has projected that the secondary sources of housing provision—filtering, conversions, and rehabilitations—will contribute 10,590 additional housing units in Westchester County between 2000 and 2015. Of these, 5,384 will fall within the affordability range of low- and moderate-income households. The affordability and size characteristics of these units are reproduced in Exhibit 5-4. These units were matched with a demand population consisting of three components—those projected income-constrained households not matched to projected conventional supply (5,169), those existing households in deficient housing (2,481), and those existing households in overcrowded housing (7,273). Thus, the total demand population matched to supply from secondary sources is 14,923. The results of the match are presented in Exhibit 5-5.

The CUPR matching routine was able to match 4,832 households to projected secondary sources of supply. 10,091 low- and moderate-income households were not able to be matched. Of the unmatched households, 9,566 (or 94.7%) are in the low-income category. To this figure is added 677 existing homeless households that also could not be matched for a total of 10,768

units. Exhibit 5-6 provides a summary of both matches for the income-constrained population, both existing and projected.

**Exhibit 5-4
Affordability and Size Characteristics of Projected Secondary Source Housing Units
Westchester County, 2000-2015**

Affordability Range	Number of Bedrooms			
	1	2 or 3	4 or more	Total
Not Affordable	811	1,539	1,064	3,413
80-100% of county Median	-	945	397	1,342
50-80% of county Median	127	2,615	979	3,721
0-50% of county Median	132	1,240	742	2,113
Total Available for Income Constrained	259	4,800	2,117	7,176
Total	1,070	6,339	3,181	10,590
Total Available for Target Households	259	3,855	1,721	5,834

**Exhibit 5-5
Match for Existing (Not Homeless) and Projected Target Population Households with
Secondary Sources
Westchester County, 2000-2015**

Affordability	Secondary Units	Projected Demand	Matched	Not Matched
80-100% of county Median	1,342	1,144	682	462
50-80% of county Median	3,721	3,307	2,782	525
0-50% of county Median	2,113	11,616	2,050	9,566
Total	7,176	16,067	5,514	10,553
Total Match for Target Households	5,834	14,923	4,832	10,091

**Exhibit 5-6
Summary of Primary and Secondary Matching
Projected and Existing Demand (Not Homeless)
Westchester County, 2000-2015**

Affordability	Projected Demand	Matched to Primary Sources	Matched to Secondary Sources	Projected Not Matched	Existing Demand	Matched to Secondary Sources	Existing Not Matched	Total Matched	Total Not Matched
80-100% of county Median	700	700	-	-	1,144	682	462	1,382	462
50-80% of county Median	1,735	1,735	-	-	3,307	2,782	525	4,517	525
0-50% of county Median	6,917	1,748	1,330	3,839	6,447	720	5,727	3,798	9,566
Total	9,352	4,183	1,330	3,839	10,898	4,184	6,714	9,697	10,553
Total Match for Target Households	8,652	3,483	1,330	3,839	9,754	3,502	6,252	8,315	10,091

SUMMARY

Projected low- and moderate-income households and existing low- and moderate-income households that are in deficient or overcrowded units that are not housed through growth in the conventional or secondary sources of supply constitute net future unmet demand for affordable housing in the region. Housing for this remaining unmet projected demand, as well as for existing cost-burdened demand identified earlier, constitutes the object for policy consideration. A variety of programs, such as new construction, rehabilitation of existing units, or some other form of public intervention or subsidy, may be required to satisfy this remaining unmet demand. The magnitude of unmet existing and projected demand is as follows.

- *Through 2015, of a total affordable housing demand of 19,083 units, primary and secondary sources of affordable housing supply are projected to provide for 8,315 target population households*
- *Through 2015, 10,768 existing and projected target population households will constitute housing need that is projected not to be met through primary or secondary sources of housing supply. Our projections indicate that this unmet need is represented by 6,252 existing and 3,839 future low- and moderate-income households, plus 677 existing homeless households.*

CHAPTER 6: AFFORDABLE HOUSING NEED

As specified in Chapter 2, affordable housing demand is comprised of separate components. Existing demand is the number of low- and moderate-income households currently living in deficient or overcrowded housing units, plus the number of homeless households. These components of demand are prioritized by the likelihood of a new unit being needed. Thus, all households in deficient housing are counted in that category, while the overcrowded category contains only those households that are not deficient. Projected demand is the net growth in the number of low- and moderate-income households between 2000 and 2015. From these are subtracted the future supply that was matched to demand in Chapter 5. The total affordable housing need for Westchester County to the year 2015 is summarized in the Exhibit 6-1.

Providing for this affordable housing need constitutes the object for policy consideration. A variety of programs, such as new construction, rehabilitation of existing units, or some other form of public intervention or subsidy, may be required to satisfy this need. These findings provide the data required for shaping appropriate policy responses to housing needs Westchester County.

Exhibit 6-1 Westchester County Affordable Housing Need, 2000 to 2015

Existing Demand (2000)	
Deficient Units	2,481
Crowded Units	7,273
Homeless	677
Total Current Demand	10,431
Future Demand (2000-2015)	
New Low-, and Moderate-Income Households.....	8,652
Total Affordable Housing Demand.....	19,083
Future Supply (2000-2015)	
Primary Sources	3,483
Secondary Sources	4,832
Total Affordable Housing Supply	8,315
Total Affordable Housing Need	
Total Demand – Total Supply	10,768

APPENDIX A: COMMUTATION ANALYSIS

In discussions with CUPR, representatives of Westchester County expressed interest in obtaining more information on the commutation patterns evident in the region. To that end, we have provided the following analysis comparing characteristics of commuters to and from Westchester County, both generally, by origin and by destination within the county. It should be noted that, in the CUPR model of affordable housing need, commuters are not included in the formulation of existing demand. If we were to assume that commuters preferred to live in Westchester County, then we must also assume that commuters out of Westchester would prefer to live in the region of their destination. Nevertheless, the propensity for onetime commuters to move to Westchester is captured in the projection of future affordable housing demand, as it is based upon previous household growth that includes any commuters that moved to Westchester from 1990 to 2000.

COMMUTING DESTINATIONS OF EMPLOYED WESTCHESTER RESIDENTS

The destinations of employed residents of Westchester County are presented in Exhibit A-1. CUPR was able to obtain data for 420,637 residents using the *U.S. Census PUMS* data.²¹ Of this group, 225,331, or 53.6 percent, work within Westchester County. By far, the largest destination for commuters out of the county is Manhattan, with 19.1 percent of the total employed population of Westchester. This is followed by the surrounding upstate New York counties (10.7 percent) and the rest of New York City's boroughs (9 percent).

Exhibit A-1
Location of Work for Westchester Residents
Westchester County, 2000

Origin	Number	Percent	Cumulative Percent
Westchester	225,331	53.6%	53.6%
Manhattan	80,327	19.1%	72.7%
Other New York City	37,869	9.0%	81.7%
Near Upstate New York	44,883	10.7%	92.3%
Connecticut	18,598	4.4%	96.8%
Other	13,628	3.2%	100.0%
Total	420,637	100.0%	

²¹ It must be noted that all data in this chapter exclude the Northeast region of Westchester, which was combine with portions of Dutchess and Putnam counties by the Census, and is thus not able to be considered on its own.

ORIGINS OF COMMUTERS WORKING IN WESTCHESTER

The origins of those employed within Westchester are presented in Exhibit A-2. CUPR has identified 333,960 persons employed within the county. Of this workforce, Westchester residents represent 67.5 percent. We can see that the volume of commuters leaving Westchester is greater than the volume of commuters entering the county. The surrounding counties of upstate New York provide the biggest source of commuters into Westchester, with 11.9 percent of the total county workforce. Although Manhattan was an important destination for commuting Westchester residents, it is not a significant source of commuters to the county. Rather, the Bronx is more important, with 7.8 percent of the county workforce commuting from that borough. Thus, although New York City as a whole is the most important origin and destination for commuters to and from Westchester, the precise geography of these movements varies.

Exhibit A-2
Location of Residence for People Working in Westchester
Westchester County, 2000

Origin	Number	Percent	Cumulative Percent
Westchester	225,331	67.5%	67.5%
Bronx	25,987	7.8%	75.3%
Other New York City	15,620	4.7%	79.9%
Near Upstate New York	39,804	11.9%	91.8%
Connecticut	14,863	4.5%	96.3%
Other	12,355	3.7%	100.0%
Total	333,960	100.0%	

COMPARING CHARACTERISTICS OF COMMUTER GROUPS

In their discussions with CUPR, representatives of Westchester County expressed a desire to have more information on whether those commuting into the county had significantly different characteristics than those who lived and worked in Westchester or those who commuted out of the county. The following provides some comparisons of these groups, focusing on demographic and employment characteristics.

Demographic Characteristics of Commuting Groups

Selected demographic characteristics of the three basic commuting groups (those who live in Westchester, but work elsewhere; those who live and work in Westchester; and those who work in Westchester, but live elsewhere) are presented in Exhibit A-3. In terms of relative

groups sizes, those who both live and work within the county are the largest group (225,331) followed by those who commute out of Westchester (202,220) and those who commute into Westchester (108,629).

**Exhibit A-3
Socioeconomic Characteristics of Employed Persons Living and/or Working in
Westchester County, 2000**

Characteristics		Commuter Group					
		Live in Westchester, Work Elsewhere		Live and work in Westchester		Work in Westchester, Live Elsewhere	
		Number	Percent	Number	Percent	Number	Percent
Race	White	156,950	77.6%	158,838	70.5%	76,897	70.8%
	Black	19,986	9.9%	32,906	14.6%	16,351	15.1%
	Other	25,284	12.5%	33,586	14.9%	15,381	14.2%
	Total	202,220	100.0%	225,331	100.0%	108,629	100.0%
Hispanic Origin	Not Hispanic	179,554	88.8%	187,184	83.1%	93,448	86.0%
	Hispanic	22,666	11.2%	38,147	16.9%	15,181	14.0%
	Total	202,220	100.0%	225,331	100.0%	108,629	100.0%
Sex	Male	116,276	57.5%	108,501	48.2%	66,155	60.9%
	Female	85,944	42.5%	116,830	51.8%	42,474	39.1%
	Total	202,220	100.0%	225,331	100.0%	108,629	100.0%
Age	15 to 24	13,786	6.8%	23,028	10.2%	9,444	8.7%
	25 to 34	45,321	22.4%	48,285	21.4%	25,397	23.4%
	35 to 44	59,306	29.3%	59,521	26.4%	32,575	30.0%
	45 to 54	48,975	24.2%	51,226	22.7%	26,060	24.0%
	55 to 64	26,454	13.1%	30,116	13.4%	12,544	11.5%
	65 to 74	6,442	3.2%	10,019	4.4%	2,179	2.0%
	75 and up	1,935	1.0%	3,136	1.4%	430	.4%
	Total	202,220	100.0%	225,331	100.0%	108,629	100.0%
Household Income	\$25,000 or less	10,592	5.2%	21,129	9.4%	8,360	7.7%
	\$25,001 thru \$49,100	22,112	10.9%	41,088	18.2%	18,921	17.4%
	\$49,101 thru \$81,000	40,736	20.1%	55,073	24.4%	27,781	25.6%
	\$81,001 thru \$140,000	58,512	28.9%	62,455	27.7%	35,473	32.7%
	\$140,001 thru highest	70,268	34.7%	45,586	20.2%	18,094	16.7%
	Total	202,220	100.0%	225,331	100.0%	108,629	100.0%

One of the most notable patterns in the data is the stronger presence of racial and ethnic minority groups among those who work in Westchester versus those who live in Westchester and work elsewhere. While only 9.9 percent of commuters out of Westchester are black, 14.9 percent

of those who live and work in the county and 15.1 percent of those that commute into the county are in that racial group. Similarly, there are a greater percentage of Hispanics among those who live and work in Westchester (16.9 percent) and those who commute-in (14 percent), than among those who commute out Westchester (11.2 percent).

While the age distribution of the three groups are roughly similar (Exhibit A-3) the income distribution varies somewhat. Those who commute out of Westchester tend to be more concentrated in the higher income ranges compared to the other two groups. In fact, over a third (34.7 percent) of Westchester residents who work outside the county have annual incomes greater than \$140,000. This compares to only a fifth for those who both live and work in the county (20.2 percent) and about a sixth (16.7 percent) for those who commute into Westchester. This most likely reflects the higher salaries paid to employees in Manhattan, which is the largest destination for Westchester's commuters. On average, the lowest incomes are found in the group that both lives and works in the county.

Employment Characteristics of Commuters into Westchester

Given that county representatives expressed particular interest in the employment characteristics of commuters into Westchester, we have provided two views of this group—by both origin and destination within the county. Exhibit A-4 compares Westchester employees by their region of origin. In this way, we can see if the commuters into the county from various regions differ significantly from those who live and work in the county.

In terms of occupation, the greatest differences are among those who commute from the Bronx versus other areas. In particular, Bronx commuters are less represented in the management and professional occupations and more represented in manufacturing, and service occupations than all other regions. Managers make up a large portion of Connecticut's commuters (31.8 percent), while professionals are highly represented (33.4 percent) among commuters from the rest of New York City.

There are similar trends in industry characteristics. Bronx commuters are highly concentrated in education, health and social services (26.9 percent) and in retail trade (15.5 percent). The surrounding upstate New York counties have a relatively high proportion of commuters in public administration (6.9 percent compared to an average of 4 percent). Of all the groups, workers from Westchester and the surrounding upstate counties are the most represented in the public sector with 14.9 percent and 18.8 percent, respectively.

**Exhibit A-4
Socioeconomic Characteristics of Commuters to Westchester by Origin
Westchester County 2000**

Commuter Characteristics	Region of Origin						
	Westchester	Bronx	Other New York City	Near Upstate NY	Connecticut	Other	Total
Total Commuters	225,331	25,987	15,620	39,804	14,863	12,355	333,960
Percentage of Total	67.5%	7.8%	4.7%	11.9%	4.5%	3.7%	100.0%
Occupation							
Management, Business & Finance	14.3%	8.7%	19.3%	19.3%	31.8%	28.0%	16.0%
Professional and Related	24.1%	16.9%	33.4%	29.0%	27.9%	23.5%	24.7%
Service Occupations	17.5%	21.8%	11.0%	10.8%	5.9%	6.9%	15.9%
Sales and Office occupations	28.7%	29.0%	20.6%	21.4%	23.4%	22.6%	27.0%
Farming, Fishing, & Forestry	.1%	.1%	.1%	.3%	.0%	.0%	.1%
Construction & Maintenance	7.6%	8.0%	4.9%	11.5%	5.8%	10.3%	8.0%
Production & Transportation	7.7%	15.5%	10.7%	7.7%	5.1%	8.7%	8.4%
Total	225,331	25,987	15,620	39,804	14,863	12,355	333,960
Industry							
Agriculture, forestry, fishing and hunting, and mining:	.2%	.1%	.4%	.4%	.9%	.0%	.2%
Construction	6.6%	4.0%	4.2%	7.2%	4.0%	8.5%	6.3%
Manufacturing	6.4%	9.1%	13.5%	7.9%	14.1%	13.2%	7.7%
Wholesale trade	3.4%	3.5%	3.5%	4.4%	7.1%	6.4%	3.8%
Retail trade	10.9%	15.5%	10.8%	9.0%	9.5%	9.1%	10.9%
Transportation, warehousing & utilities	4.3%	7.5%	3.9%	8.8%	5.1%	6.5%	5.2%
Information	4.1%	4.5%	6.0%	6.5%	8.4%	7.6%	4.8%
Finance, insurance & real estate	8.4%	6.7%	9.7%	6.5%	10.7%	13.0%	8.3%
Professional, scientific, management & administrative	12.1%	8.0%	12.3%	10.5%	15.4%	10.1%	11.7%
Educational, health and social services	27.1%	26.9%	20.8%	25.5%	15.6%	15.2%	25.7%
Arts, entertainment & recreation	6.4%	5.5%	6.1%	2.8%	4.2%	3.5%	5.7%
Other services	6.1%	5.7%	6.0%	3.5%	3.4%	3.4%	5.5%
Public administration	3.8%	3.0%	2.6%	6.9%	1.6%	3.5%	4.0%
Armed Forces	.0%	.0%	.0%	.0%	.0%	.0%	.0%
Total	225,331	25,987	15,620	39,804	14,863	12,355	333,960
Sector							
Private	71.2%	84.6%	81.3%	75.1%	84.0%	80.8%	74.1%
Local Gov.	11.2%	6.9%	5.1%	10.1%	4.7%	4.9%	9.9%
State or Fed. Gov.	3.7%	4.5%	6.0%	8.7%	2.4%	5.5%	4.5%
Self Employed	13.8%	4.1%	7.6%	6.1%	8.9%	8.9%	11.4%
Total	224,893	25,927	15,549	39,804	14,858	12,340	333,371

These same employment characteristics are also presented by the destination of commuters within Westchester (Exhibit A-5). As the data indicate, the West Central portion of the county is the greatest recipient of commuters, with a share of 33.5 percent. This is followed by the Northwest (19.8 percent) and East Central (18.1 percent). Interestingly, the largest regions in terms of population—Yonkers and the Southeast—have the smallest shares of commuters—13.4 and 15.2 percent, respectively.

Commuters to Yonkers and the Southeast tend to be more concentrated in the manufacturing and service occupations than the average for all commuters. The central areas of the county attract the highest proportion of managers, while the Northwest is more concentrated in the professional occupations.

Yonkers and the Southeast commuters tend to be more concentrated in the manufacturing and retail trade industries, while those two regions plus the Northwest have large proportions of commuters in the educational, health and social services industries. The central areas are well represented in the professional and scientific industries as well as finance, insurance and real estate. Generally, the central regions attract a greater proportion of commuters in the private sector, while Yonkers and the Northwest have relatively high concentrations of government workers.

**Exhibit A-5
Employment Characteristics of Commuters to Westchester by Destination
(Excluding Northeast), Westchester County 2000**

Commuter Characteristics		Westchester Sub-region					Total	
		Yonkers	Northwest	West Central	East Central	Southeast		
Total Commuters		14,505	21,503	36,414	19,691	16,516	108,629	
Percentage of Total		13.4%	19.8%	33.5%	18.1%	15.2%	100.0%	
Occupation of Head	Management, Business & Finance	12.3%	13.1%	23.1%	29.3%	14.3%	19.5%	
	Professional and Related	20.9%	34.1%	25.6%	25.9%	20.7%	26.0%	
	Service Occupations	18.4%	13.3%	9.7%	10.0%	14.5%	12.3%	
	Sales and Office occupations	23.0%	20.8%	25.1%	21.7%	26.1%	23.5%	
	Farming, Fishing, & Forestry	.3%	.0%	.1%	.0%	.5%	.1%	
	Construction & Maintenance	8.8%	10.4%	7.8%	7.2%	10.8%	8.8%	
	Production & Transportation	16.1%	8.3%	8.7%	5.9%	13.2%	9.8%	
	Total	14,505	21,503	36,414	19,691	16,516	108,629	
Industry	Agriculture, forestry, fishing and hunting, and mining:	.3%	.1%	.7%	.2%	.2%	.4%	
	Construction	6.7%	6.4%	4.2%	4.8%	8.3%	5.7%	
	Manufacturing	12.4%	8.1%	10.5%	10.0%	12.2%	10.5%	
	Wholesale trade	3.1%	3.6%	5.0%	5.1%	6.0%	4.6%	
	Retail trade	12.7%	7.6%	12.6%	7.4%	14.1%	10.9%	
	Transportation, warehousing & utilities	9.2%	9.2%	6.5%	6.3%	4.3%	7.0%	
	Information	3.9%	8.3%	6.2%	9.3%	2.7%	6.4%	
	Finance, insurance & real estate	3.9%	3.7%	9.9%	15.3%	6.4%	8.3%	
	Professional, scientific, management & administrative	4.6%	9.1%	15.3%	12.7%	6.2%	10.8%	
	Educational, health and social services	26.4%	30.3%	17.3%	17.5%	27.4%	22.6%	
	Arts, entertainment & recreation	5.9%	3.1%	3.4%	5.6%	4.1%	4.2%	
	Other services	4.2%	3.9%	4.9%	3.7%	4.7%	4.4%	
	Public administration	6.7%	6.5%	3.6%	2.1%	3.3%	4.3%	
	Armed Forces	.0%	.0%	.0%	.0%	.0%	.0%	
	Total	14,505	21,503	36,414	19,691	16,516	108,629	
	Sector	Private	76.6%	73.5%	84.9%	83.3%	77.7%	80.1%
		Local Gov.	11.8%	9.3%	4.5%	5.0%	9.5%	7.3%
State or Fed. Gov.		5.3%	11.3%	5.3%	4.8%	3.2%	6.1%	
Self Employed		6.4%	6.0%	5.3%	7.0%	9.7%	6.5%	
Total		14,487	21,479	36,343	19,658	16,511	108,478	

SUMMARY

While this analysis of commutation patterns is necessarily limited, it nevertheless provides some interesting generalizations.

- New York City remains an important region in terms of commuters both into and out of Westchester. Nevertheless, the precise geography of these flows differs, with Manhattan being a more important destination for Westchester commuters and the Bronx being a more important source of commuters into the county (Exhibits A-1 and A-2).
- Despite the perceptions on the part of many, commuters into Westchester are not particularly concentrated in low-income groups (Exhibit A-3) or in local government (Exhibit A-4). In fact, both of these characteristics are more evident in those who live and work in Westchester than in those who commute in. Thus, any policy that targets commuters for affordable housing provision should be carefully considered.
- The West Central area is the county region with highest share of commuters, while those in the south end of the county (Yonkers and the Southeast) are relatively low (Exhibit A-5).

It is our hope that the data presented in this Appendix will be of interest and use to the county in designing future policy.