

## **Is There Enough Housing to Go Around?**

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Most the analysis of housing affordability focuses on the demand side of the housing markets: the distribution of households by income and demographic characteristics, what they can afford to pay, and what they do pay as a proportion of their incomes. Most housing assistance programs, such as vouchers work on the demand side of the market. Vouchers are intended to provide households with the buying power to compete for privately managed units in the marketplace. However, the stock of such housing is not infinite, and it is worthwhile asking whether the supply of rental housing is sufficient to provide an affordable home for every household. This paper examines the relationship of housing supply to housing need, by income and other variables.

The paper's most important conclusions are:

- While the sheer number of rental housing units is sufficient to provide affordable housing to households with incomes above about 45 percent of area median income (AMI)<sup>3</sup>, the distribution of the *available* stock is sufficient only for households with incomes above about 65 percent of AMI. Moreover, if one excludes units with moderate or severe defects, the affordable, available, and *adequate* stock is sufficient to house only about 89 percent of all rental households.
- Nonmetropolitan areas tend to have the best match of rental housing stock to households, followed by central cities, and then suburban areas.
- The Midwest region has the best match of housing stock to demand, followed by the South, the Northeast, and the West.
- There has been very little change in the ratio of affordable, available rental housing units to the number of households over the past two decades.
- While a sufficient number of units rent for less than the Fair Market Rent (FMR) to house all households that can afford no more than the FMR, once units occupied by higher-income households are subtracted, only about 80 percent of such lower income households can be accommodated. Once inadequate units are subtracted, the stock is sufficient for less than 70 percent of households.

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<sup>1</sup> The material in this paper was published in substantially similar form as Chapter 4 of *Affordable Housing Needs: A Report to Congress on the Significant Need for Housing* (U.S Dept. HUD, December 2005, <http://www.huduser.org/publications/affhsg/affhsgneed.html> ).

<sup>2</sup>The views expressed in this paper are those of the author and do not necessarily reflect those of HUD.

<sup>3</sup> HUD's Economic Market Analysis Division annually estimates Area Median Income, Fair Market Rent, and related "income limits" for all metropolitan areas and non-metropolitan counties (see the links from <http://www.huduser.org/datasets/pdrdatas.html> ). For a detailed description of how we matched these estimates to AHS records, contact the author and request the latest version of the HADS documentation.

- About 5 percent of all renter households live in crowded housing, with more than one person per room. The incidence of crowded housing is well above average only for households with 5 or more persons. The stock of rental housing with 5 or more rooms is many times more than what is necessary to house such households at every level of income. However, once we subtract units occupied by smaller households, the remaining stock of units affordable to extremely low and very low income households is too small to accommodate the large households at these income levels. After we remove inadequate units, the remaining stock of large units is sufficient for only about 60 percent of the households that need them.

### Analytic Framework

This paper analyzes the rental housing stock relative to the number of renter households. The three key concepts are *affordability*, *availability*, and *adequacy*.

*Affordability* measures the extent to which there is a sufficient supply of rental housing units at different costs to place each household into a unit that it can afford (based on the 30 percent of income standard). It is the broadest measure of housing stock sufficiency. If we could simply allocate housing units to households based on cost, would there be enough to go around? Since a household would be content to spend less than 30 percent of its income for housing if it could, this is a cumulative analysis. For each level of income, how does the number of housing units affordable at that income or less compare with the number of households earning that income or less? The *affordable* stock includes both vacant and occupied units.

*Availability* measures the extent to which there are sufficient rental housing units, given that some are already occupied by households of higher income. Since households can choose not to spend as much as 30 percent of their incomes on rent, some occupy housing that is affordable to households of lower income. These units are thus not available. The availability measure also effectively removes units whose rents are artificially low, because they are occupied as a benefit of employment (caretakers, etc.) or because they are owned by relatives or friends of the occupants.<sup>4</sup> To summarize, a unit is considered *available* at a given level of income if it is affordable at that level and either 1) occupied by a household with that income or less or 2) vacant. Thus, “available” is an abbreviation for “affordable and available.”

The *adequacy* measure recognizes that we care about housing quality as well as cost. The AHS rates housing units using a three-level measure: adequate, moderately inadequate, and severely inadequate.<sup>5</sup> In this paper, the *adequate* stock at a given level of income includes those units that are affordable, available, and rated as adequate by the AHS. Adequacy and affordability are not independent of one another. Virtually all

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<sup>4</sup> The 2003 American Housing Survey (AHS) estimates that 2.2 million (6.6 percent) renter households occupied units while paying no rent. The AHS does not provide estimates of the number of households paying a positive but below-market rent because of employment or other reasons.

<sup>5</sup> For details on these measures, see the entry for the variable ZADEQ in the *Codebook for the American Housing Survey, Public Use File: 1997 and Later*. The most recent version is available for download at <http://www.huduser.org/datasets/ahs/ahsprev.html>.

housing units are adequate when first constructed. They become inadequate through neglect. One common reason for such neglect is that the rental income derived from the unit is not enough to pay for repairs and maintenance. Thus, more affordable units are more likely to be inadequate. In most cases, such units can return to the adequate stock by repairs. To the extent that this is true, the adequacy measure may be unduly pessimistic. To summarize, the adequacy measure captures those units that are affordable, available, and adequate.

Note that the measures of sufficiency are cumulative. For example, “the affordable stock at 45 percent of AMI,” means all the units that are affordable at that level of income or less. Thus, “the number of units per 100 households that are affordable at 45 percent of AMI” compares the stock of qualifying rental housing units to the number of renter households with incomes equal to 45 percent of AMI or less.

The results presented in this paper are large-scale measures that compare the entire housing stock with the entire rental population. Although this paper presents more geographically restricted measures below, housing demand and supply are local phenomena that cannot be captured by such large-scale measures. Thus, readers should view these results with some caution, as they are national or regional indicators based on underlying local housing markets. More severe shortages or generous surpluses can occur in specific markets, despite these national and regional findings.

### National Measures of Sufficiency

This study applies the analytical framework described above to rental housing data taken from the 2003 national AHS<sup>6</sup>. This analysis divides income and affordability into intervals representing 5 percent of AMI. The results are shown in Figure 1.

The figure shows that the number of affordable units rises steeply until it reaches about 87 units per 100 households at 15 percent of AMI.<sup>7</sup> Then it declines to about 77 at 25 percent of AMI, after which it climbs steadily. The curve crosses 100 at 40 percent of AMI, showing that there is a sufficient supply of affordable units for all households, at this income level. The curve peaks at 147 units per 100 households, at an income level of 75 percent of AMI. Beyond this, more households than housing units are being added, and so the curve falls. This occurs because higher income renter households choose not to spend as much as 30 percent of their income on housing. The final point on the curve shows that there are approximately 112 units per 100 households, for the entire population of renters.

The line representing affordable and available housing shows a different story. It is below the affordable line, showing that households that could afford to spend more on

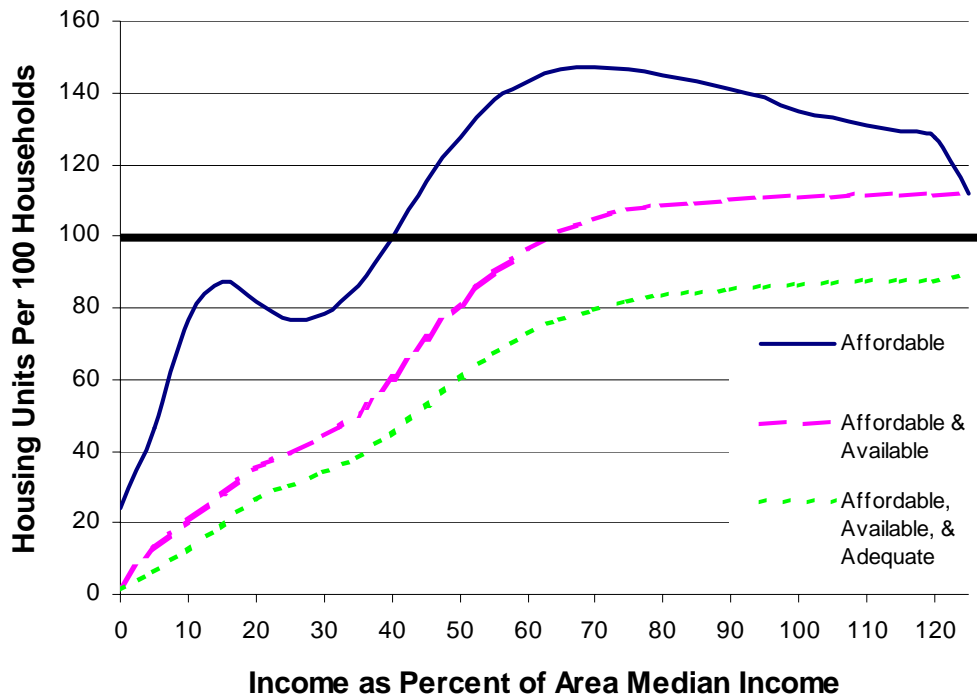
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<sup>6</sup> More specifically, the dataset was the 2003 file of the Housing Affordability Data System (HADS). The HADS is a set of AHS-based files that measure housing affordability and housing cost burden in a consistent way over the period 1985-2004, with plans to extend the files into the future as more AHS datasets become available. The author hopes to make the files available to the public soon.

<sup>7</sup> This rising section includes “no cash rent units,” which have zero rent but positive utility costs. Thus, their monthly costs are low but not zero.

housing occupy a considerable proportion of even the most affordable housing. This means that there is insufficient available stock to house the lower income renters. The available stock does not reach 100 units per 100 households until 65 percent of AMI. Shortly after that, it levels off at about 112 units. Note that the affordable line and the available line meet at the highest income level, just as a matter of arithmetic.

**Figure 1**  
**Is the Rental Stock Sufficient?**



The line that represents affordable, available, and adequate housing shows the effect of removing inadequate units from consideration. The distance between this line and the available line is a measure of the cumulative number of inadequate units at each level of income. The most striking feature of the adequate line is that it never reaches 100 units per 100 households, ending instead at around 89. Thus, there are simply not enough adequate rental units to house all rental households. The fact that the adequate line and the available line diverge until about 75 percent of AMI shows that most of the inadequate units are affordable at that level of income or lower. Beyond that income, the two lines are parallel, showing that few if any inadequate units require more than 75 percent of AMI to afford.

Sufficiency by Income Class

As one might expect, the housing stock is least sufficient for the lowest-income households. Table 1 illustrates this by presenting the housing stock measures for some standard income groups. There are only about 8 affordable units for every 10 extremely low income (ELI) households. Available units are about half this number. The stock of

affordable, available, and adequate units is sufficient to house only about a third of ELI households.

**Table 1**  
**Rental Housing Stock by Income, 2003**

<u>Income</u>	<b>Housing Units per 100 HH</b>		
	<u>Affordable</u>	<u>Available</u>	<u>Adequate</u>
ELI (<30% AMI)	78.20	44.03	33.88
VLI (30-50% AMI)	127.48	81.37	60.52
LI (50-80% AMI)	144.81	108.73	83.43
MI (>80% AMI)	111.79	111.79	89.40

While there are sufficient units to house all households at the very low income (VLI) level, this sufficiency disappears after subtracting the units that are not available. Only about 8 in 10 units remain. This is further reduced when adequacy is taken into consideration, with enough units to house about three-fifths of households with incomes below 50 percent of AMI.

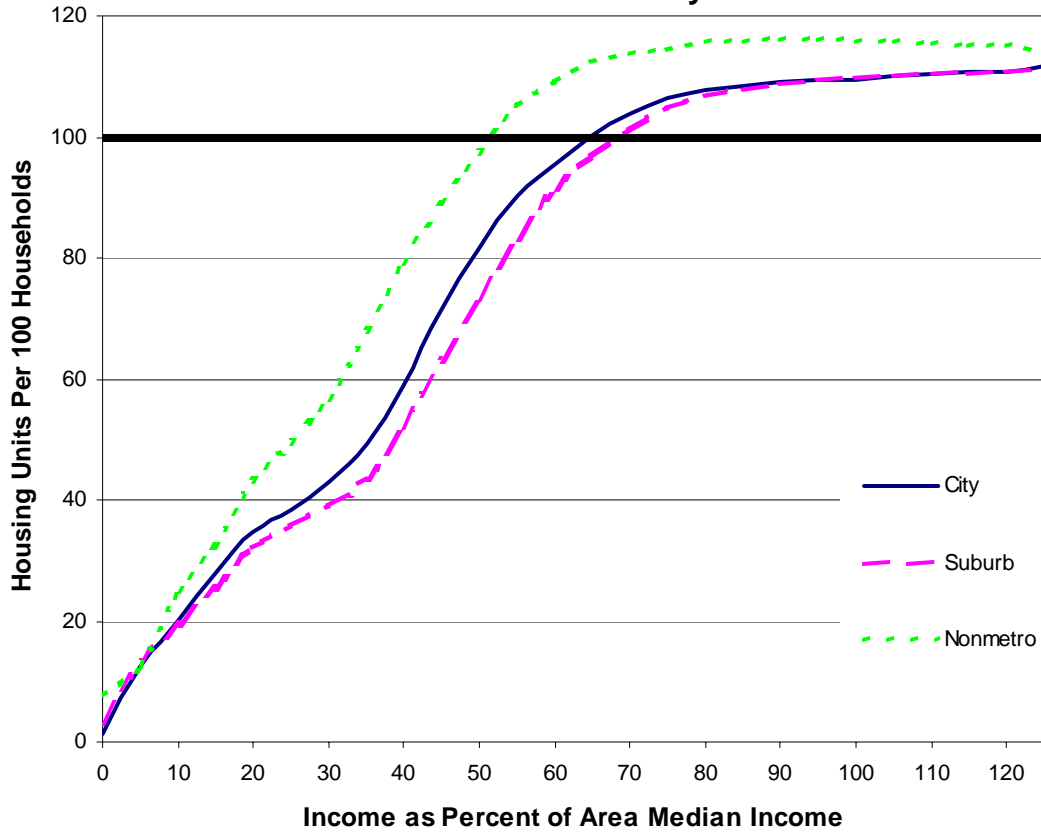
At the higher levels of income, the available rental stock is sufficient to house all renters. Of course, the surplus is higher at the moderate income (MI) level than at low income (LI). As noted earlier, the stock of adequate units is never enough to house the entire rental population, although the inadequate units are concentrated at the lower affordability levels.

Sufficiency by Location

The rental stock in nonmetropolitan areas is somewhat more generous than in central cities or suburbs, as is illustrated in Figure 2. The available stock is larger in nonmetropolitan areas at all levels of income, reaching 100 units per 100 households at 50 percent of AMI. In suburban areas, by contrast, the supply is less ample, particularly in the range of 10-80 percent of AMI. Both central cities and suburbs reach 100 available units per 100 households at around 65 percent of AMI.

We see the same patterns using the affordable and adequate measures, as illustrated with the standard income categories in Table 2. However, suburban areas show a somewhat better stock of adequate rental housing at upper income levels, compared with central cities.

**Figure 2  
Available Rental Units By Metro Status**



**Table 2  
Rental Housing Stock by Income and  
Metropolitan Status, 2003**

<u>Income</u>	<u>Housing Units per 100 HH</u>		
	<u>Affordable</u>	<u>Available</u>	<u>Adequate</u>
<b>Central Cities</b>			
ELI (<30% AMI)	65.59	42.95	32.40
VLI (30-50% AMI)	120.34	81.49	59.96
LI (50-80% AMI)	137.39	107.71	81.74
MI (>80% AMI)	111.58	111.58	87.81
<b>Suburbs</b>			
ELI (<30% AMI)	74.53	39.08	30.97
VLI (30-50% AMI)	121.17	73.29	56.82
LI (50-80% AMI)	149.56	106.87	84.54
MI (>80% AMI)	111.03	111.03	91.46

**Table 2**  
**Rental Housing Stock by Income and Metropolitan Status, 2003**

<u>Income</u>	<b>Housing Units per 100 HH</b>		
	<u>Affordable</u>	<u>Available</u>	<u>Adequate</u>
<b>Nonmetropolitan</b>			
ELI (<30% AMI)	121.45	56.74	43.80
VLI (30-50% AMI)	160.26	97.60	69.64
LI (50-80% AMI)	155.13	115.58	85.72
MI (>80% AMI)	114.11	114.11	88.94

On a regional basis, the Midwest shows the best rental stock sufficiency, at least above 35 percent of AMI. There are sufficient available units in the Midwest for renters with incomes of 40 percent of AMI and higher. The next best rental stock is found in the South, where the 100 units per 100 households mark is reached at 60 percent of AMI. The Northeast achieves this level at about 75 percent of AMI, and the West at 80 percent. Except for the West, there is very little difference among regions at low incomes, with all following about the same pattern in the 0-30 percent range. The West shows fewer units relative to households at all income ranges below 90 percent of AMI.

Table 3 details the affordable, available, and adequate stocks relative to demand in the four regions for each of the standard income categories. The same pattern is seen in the variation of affordable and adequate by region, with the Midwest having the most generous supply, followed by the South and Northeast. The West has considerably fewer units per 100 households than the other three regions.

**Table 3**  
**Rental Housing Stock by Income and Region, 2003**

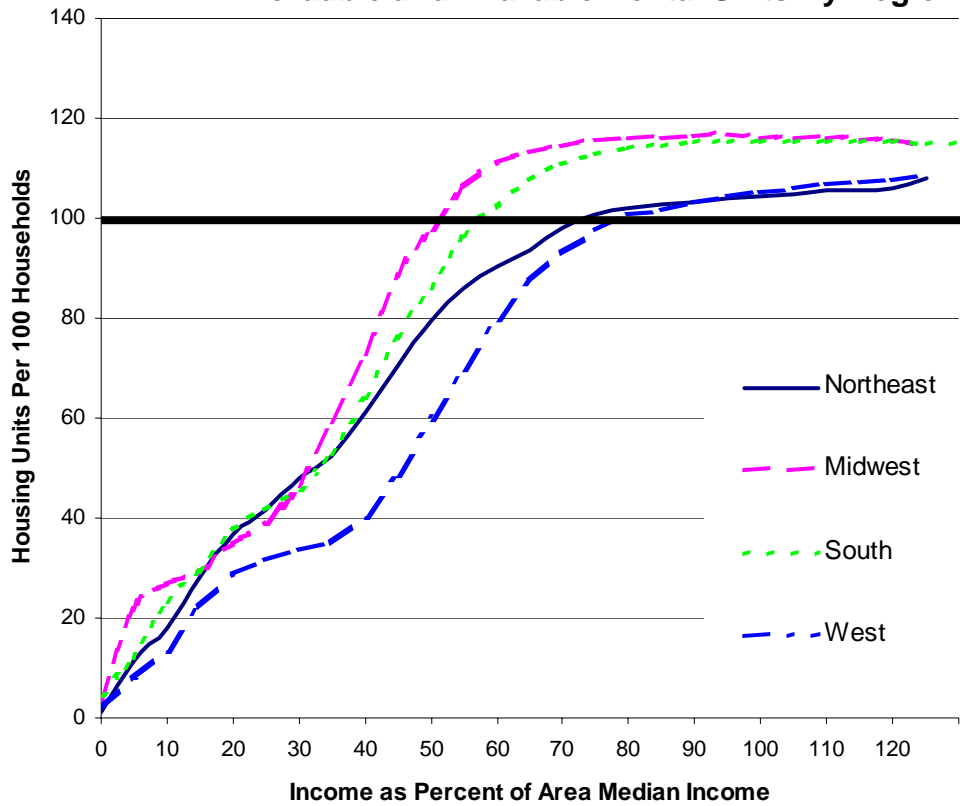
<u>Income</u>	<b>Housing Units per 100 HH</b>		
	<u>Affordable</u>	<u>Available</u>	<u>Adequate</u>
<b>Northeast</b>			
ELI (<30% AMI)	80.10	48.09	38.58
VLI (30-50% AMI)	120.76	79.42	62.89
LI (50-80% AMI)	136.85	101.93	81.66
MI (>80% AMI)	107.92	107.92	88.46
<b>Midwest</b>			
ELI (<30% AMI)	81.41	46.86	36.31
VLI (30-50% AMI)	157.60	98.03	72.99
LI (50-80% AMI)	149.54	116.11	89.12
MI (>80% AMI)	114.45	114.45	91.69



**Table 3**  
**Rental Housing Stock by Income and Region,**  
**2003**

<u>Income</u>	<u>Housing Units per 100 HH</u>		
	<u>Affordable</u>	<u>Available</u>	<u>Adequate</u>
<b>South</b>			
ELI (<30% AMI)	82.80	45.89	33.93
VLI (30-50% AMI)	134.80	86.57	60.49
LI (50-80% AMI)	153.12	114.08	82.68
MI (>80% AMI)	114.86	114.86	87.89
<b>West</b>			
ELI (<30% AMI)	65.24	33.49	26.00
VLI (30-50% AMI)	95.23	60.14	46.74
LI (50-80% AMI)	136.04	100.76	81.08
MI (>80% AMI)	108.83	108.83	90.47

**Figure 3**  
**Affordable and Available Rental Units By Region**



## Sufficiency Relative to Fair Market Rent

The Fair Market Rent (FMR) is an important threshold for many housing assistance programs. Since such programs will generally pay no more than the FMR for assisted units, a useful question is the extent to which the stock of below-FMR housing is adequate to meet the needs of households who can afford to pay no more than the FMR. In a sense, this is a thought experiment to see whether a “super voucher program,” structured as an entitlement, would be able to house all qualifying households at the FMR.

**Table 4**  
**Below-FMR Housing Supply, 2003**

	<b>Households (thousands)</b>	<b>Units (thousands)</b>			<b>Units per 100 Households</b>		
		<b>Affordable</b>	<b>Available</b>	<b>Adequate</b>	<b>Affordable</b>	<b>Available</b>	<b>Adequate</b>
All	18,745	21,997	14,750	12,923	117.35	78.69	68.94
Northeast	4,333	5,107	3,608	3,145	117.87	83.28	72.58
Midwest	3,362	3,968	2,461	2,233	118.01	73.19	66.43
South	6,132	7,325	4,837	4,129	119.45	78.87	67.34
West	4,918	5,597	3,844	3,416	113.82	78.16	69.46
City	9,009	10,237	7,190	6,171	113.63	79.81	68.50
Suburb	6,923	8,268	5,414	4,892	119.42	78.19	70.65
Nonmetro	2,813	3,492	2,146	1,861	124.16	76.30	66.15

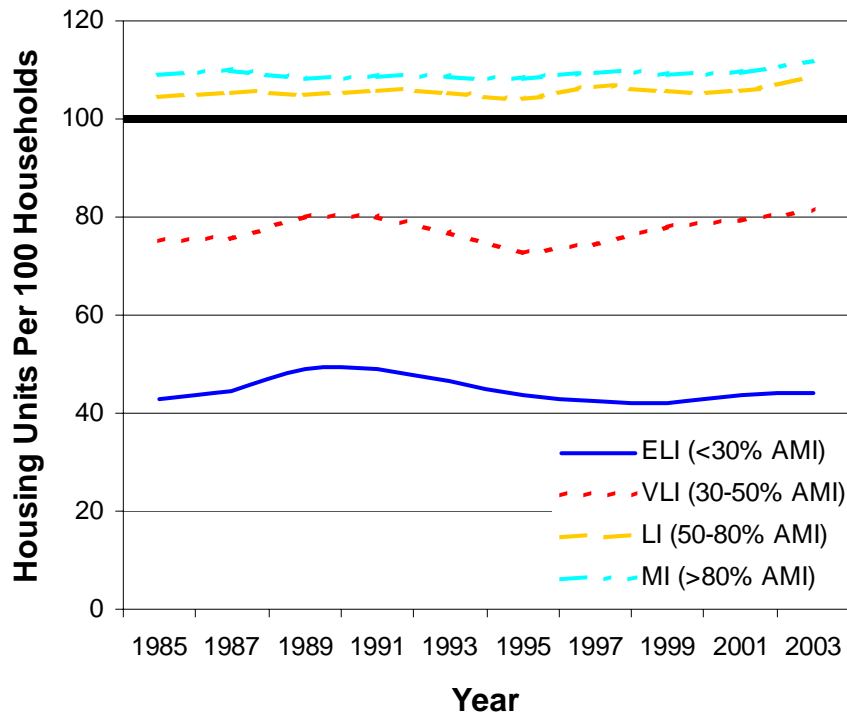
As Table 4 illustrates, the answer is “no.” While enough affordable units exist in all regions and metropolitan conditions, the number of available units is sufficient to house only 73-83 percent of the households, depending on location. Moreover, if adequate quality were a stipulation of such a program, only 66-72 percent of households could find affordable, adequate units. This analysis is, of course, overly simplistic. It does not account for the change in rents that caused by such a massive increase in housing demand—although FMRs would then rise as well.

## Trends in Rental Stock Sufficiency

The basic outlines of the sufficiency of the rental stock have changed very little over the past two decades. Figure 4 shows the available rental units per 100 households for the four standard income categories, over the period 1985-2003.<sup>8</sup> There was a mild increase in the availability of rental units for extremely-low and very-low income households in the period 1985-1991, followed by a reversal in 1993-1995. However, the available stock of units affordable to ELI renters has remained in the range of 42-49 per 100 households for the entire period. Similarly, the variation for the VLI renters has been in the 73-81 units per 100 range. For higher income groups, the available stock has always been above 100, with even less variation.

<sup>8</sup> The source of this figure is custom tabulations of the American Housing Survey national datasets, for odd-numbered years in the period.

**Figure 4**  
**Available Rental Units, 1985-2003**



Crowding

Crowding (defined here as more than one person per room) can be a symptom of affordability problems and housing-related stress. Households may double up, and young adults or newlyweds may delay forming new households, because of an inability to afford their own units. This section examines the extent of crowding by income and location as well as the supply sufficiency of large units relative to the number of large households.

About 5 percent of renter households are crowded, as is shown in Table 5. While the incidence of crowding is inversely related to income, ELI households show less crowding than VLI households do, perhaps because ELI households have a greater proportion of 1-person households (which, by definition, cannot be crowded). Households in nonmetropolitan areas have the lowest incidence of crowding, followed by suburban and then central city areas. The regional incidence of crowding parallels what we saw in the supply sufficiency section above. The highest incidence of crowding is in the West. The other three regions are more similar to one another, with the Midwest being the region with the lowest incidence.

**Table 5**  
**Crowded Households**

	Households (thousands)	Incidence Per 100 HH
All Renters	1,615	4.81
<b><u>Income</u></b>		
ELI (<= 30% AMI)	522	5.75
VLI (30-50% AMI)	464	7.05
LI (50-80% AMI)	366	4.91
MI (> 80% AMI)	263	2.51
<b><u>Metropolitan Status</u></b>		
City	837	5.54
Suburb	594	4.60
Nonmetro	185	3.29
<b><u>Region</u></b>		
Northeast	328	4.56
Midwest	149	2.26
South	431	3.76
West	708	8.44
<b><u>Household Size</u></b>		
1 Person	NA	NA
2 Persons	54	0.61
3 Persons	44	0.85
4 Persons	205	5.39
5 Persons	552	30.96
6 Persons	408	53.90
7+ Persons	352	84.06

Not surprisingly, larger households have a higher incidence of crowding than smaller ones. There is a distinct increase in the incidence of crowding for households with five or more persons. Contrary to what might be expected, this is not caused simply by a lack of large units. As Figure 5 illustrates, the sheer number of affordable units with five or more rooms is 2-5 times larger than the number of households with five or more persons. The main cause of crowding is the lack of available units.<sup>9</sup> The available supply is less than 100 units per 100 households at incomes below 65 percent of AMI. The supply of adequate units is lower still. Thus, crowding does not appear to be caused by a lack of large units, but by the fact that smaller households prefer these units as well.

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<sup>9</sup> As noted in the introduction, however, this analysis does not capture local markets. The large families and the bigger units may not be in the same place.

**Figure 5**  
**Large Unit Problem Is Availability, Not Affordability**

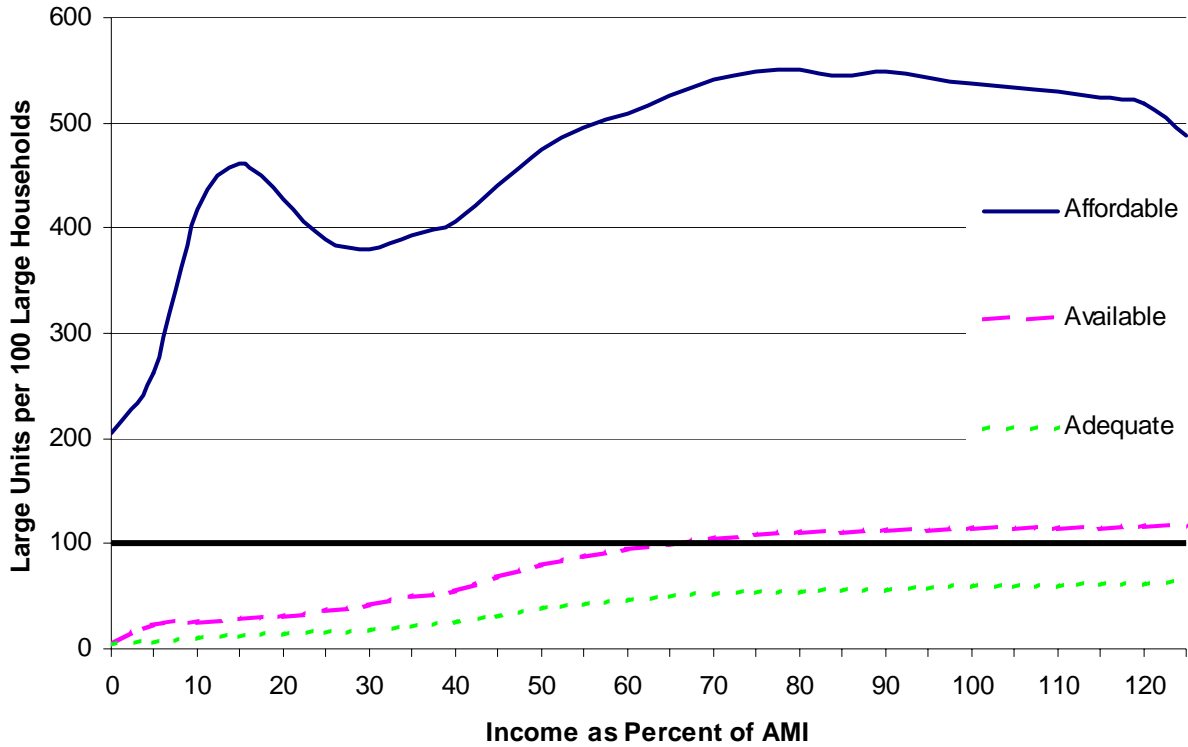


Table 6 summarizes the supply sufficiency for rental units with five or more rooms, relative to households with five or more persons by income and location. Even at 30 percent of AMI, there are almost 4 large units for every household, and this increases to 5 or more units per household at higher incomes. However, only 4 units are *available* for each 10 ELI households that need larger units to avoid crowding. Even for VLI renters, there are only 9 units for every 10 households. The relative supply of adequate units shows another sharp drop, with ELI-affordable units sufficient to cover fewer than 1 household in 5. Even at the highest income levels, fewer than two-thirds of large households will be able to find adequate large units. The patterns are much the same by location, although the numbers vary, much along the patterns discussed earlier in this paper.

**Table 6**  
**Units Per 100 Households, 5+ persons and 5+ rooms only**

<u>Income</u>	<u>Affordable</u>	<u>Available</u>	<u>Adequate</u>
<b>Nation</b>			
ELI (<30% AMI)	379.80	41.10	16.82
VLI (30-50% AMI)	508.78	94.28	45.81
LI (50-80% AMI)	551.30	109.27	54.05
MLI (>80% AMI)	487.63	116.17	63.19
<b>Central Cities</b>			
ELI (<30% AMI)	267.30	37.36	17.95
VLI (30-50% AMI)	421.34	86.87	45.13
LI (50-80% AMI)	467.69	98.54	51.14
MLI (>80% AMI)	431.40	105.53	59.22
<b>Suburbs</b>			
ELI (<30% AMI)	349.81	39.56	13.84
VLI (30-50% AMI)	510.14	85.42	42.91
LI (50-80% AMI)	566.89	105.79	53.33
MLI (>80% AMI)	506.29	116.15	64.69
<b>Nonmetropolitan</b>			
ELI (<30% AMI)	928.68	60.94	20.89
VLI (30-50% AMI)	792.21	140.23	55.18
LI (50-80% AMI)	769.02	150.49	64.71
MLI (>80% AMI)	599.02	145.44	70.61
<b>Northeast</b>			
ELI (<30% AMI)	419.11	45.77	26.48
VLI (30-50% AMI)	557.92	85.97	51.89
LI (50-80% AMI)	573.06	94.65	54.00
MLI (>80% AMI)	504.91	100.39	62.13
<b>Midwest</b>			
ELI (<30% AMI)	436.55	57.55	21.97
VLI (30-50% AMI)	716.76	150.61	63.09
LI (50-80% AMI)	744.47	160.67	69.99
MLI (>80% AMI)	625.51	154.91	73.76
<b>South</b>			
ELI (<30% AMI)	403.18	44.73	16.26
VLI (30-50% AMI)	620.25	115.11	48.74
LI (50-80% AMI)	678.78	135.06	56.91
MLI (>80% AMI)	593.32	140.93	64.30

**Table 6**  
**Units Per 100 Households, 5+ persons and 5+ rooms only**

<u>Income</u>	<u>Affordable</u>	<u>Available</u>	<u>Adequate</u>
<b>West</b>			
ELI (<30% AMI)	271.05	19.35	6.27
VLI (30-50% AMI)	258.98	48.26	30.27
LI (50-80% AMI)	323.38	67.79	43.58
MLI (>80% AMI)	317.03	84.03	57.88

Conclusion

A comparison of the distributions of the rental housing stock and renter households shows that there is an absolute shortage of housing that is affordable to households earning less than 40 percent of area median income. Moreover, if one subtracts the housing occupied by households who could afford more expensive units, there are insufficient *available* units that are affordable to households earning less than 65 percent of AMI. There are simply not enough *adequate* rental units to house all renter households. These conclusions hold true, with minor variations, if one considers rental markets by region and metropolitan status. They have been true, again with some variation, since at least 1985. Of particular interest to policy makers is the fact that there are not enough rental units available at Fair Market Rents to house all households that can afford no more than the FMR. Finally, while the stock of affordable large (5+ rooms) units is more than sufficient to house large (5+ persons) households, the available stock is too small at the lower income levels, and the available and adequate stock is too small at all levels.