

**HUD PD&R WORKING PAPER 10-01**  
**U.S. Rental Housing Characteristics: Supply, Vacancy, and Affordability**

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## **Abstract**

The aim of this working paper is to document key empirical facts on U.S. rental housing market conditions – reporting both current conditions (as of second quarter 2009) as well as notable historic trends. This analysis draws upon the findings of existing scholarly work and includes original analysis utilizing a mix of public and proprietary data.

This working paper is not a comprehensive assessment of U.S. rental housing market conditions; rather it focuses on describing market dynamics in the context of rental housing supply, variations across local rental housing markets, conditions in the nation's assisted rental housing stock, and the evolving need and demand for affordable rental housing.

The contents of this report are the views of the authors and do not necessarily reflect the views or policies of the U.S. Department of Housing and Urban Development or the U.S. Government. Any errors or omissions in this document are those of the authors. Furthermore any analysis in this document may be subject to change.

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## **I. Key Findings**

### **Vacancy Rates**

- The softening of the rental housing market in 2009 has been marked by increases in the nationwide rental vacancy rate through the second quarter of this year. The rental vacancy rate of 10.6 percent in the second quarter of 2009 was up fifty basis points from the 1<sup>st</sup> quarter level and sixty basis points from the second quarter of the previous year.<sup>1</sup>
- There is considerable regional variation in vacancy rates and vacancy rate trends. Significantly, those rental markets that are very tight have shown either slow growth or contraction in rental supply from 2005 to 2008.
- Though vacancy rates are rising nationally, the additional supply has mainly been higher-priced units. From the second quarter of 2008 to 2009, the percentage of vacant rental units with rents of \$1,500 or more have climbed from 7.6 percent to 9.3 percent. The share of vacant units with rents below \$400 fell from 10.8 percent to 9.3 percent over the same span.
- Conditions in the nation's assisted housing stock have been considerably tighter than the overall rental market in recent years. Vacancy rates in project-based Section 8 developments have not exceeded 5 percent. Public housing vacancies fell 2 percentage points from 2006 to 2008.
- Proprietary data from the portfolios of six private and two nonprofit investors indicate that properties receiving the Low Income Housing Tax Credit (LIHTC) have considerably lower vacancy rates than the nation's overall rental market from 2005 to 2009.

### **Rental Supply**

- Since 2000, LIHTC properties have comprised about 50 percent of all newly constructed multifamily rental units.
- From 1995-2005, two rental units were permanently removed from supply for every three produced. Over this same time period, the nation permanently lost 1.5 million low-cost rental units.<sup>2</sup>
- From 2001 to 2007 the nation's affordable unassisted rental housing stock decreased by 6.3%, while the high-rent rental housing stock increased 94.3% (Figure 3). This translates into a loss of more than 1.2 million affordable unassisted rental units from 2001 to 2007.<sup>3</sup>

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<sup>1</sup> HUDUSER.ORG "U.S. Housing Market Conditions, 2<sup>nd</sup> Quarter 2009"

<sup>2</sup> Low cost units are those renting for less than \$600 a month.

<sup>3</sup> Affordable to households earning at or below 60% of the local area median income (AMI), excluding subsidized units or no cash rent units. High rent defined as affordable to households earning at or above 100% of AMI.

## **Rental Affordability**

- Based on estimates from the 2008 American Community Survey, 8.7 million renter households paid 50% or more of their income on housing, up from 8.3 million renter households in 2007 and 6.2 million in 2000.
- For many metropolitan areas, the proportion of rent burdened households remains high. This fraction has increased or changed little from 2005 to 2008 across a wide cross-section of metropolitan areas, including Atlanta, Detroit, Phoenix, Tampa, Los Angeles, New York, San Francisco, and Seattle.<sup>4</sup>
- The continued rise in foreclosures and worsening economic circumstances may have caused some household consolidation or “doubling up.” Data show a 25.3 percent increase from 2005 to 2009 in the percentage of movers joining an existing household, with 12.6 and 2.6 percent the year-over-year changes from 2007 to 2008 and from 2008 to 2009, respectively.

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<sup>4</sup> “Rent burdened” is defined as paying more than 35 percent of income on gross rent.

## **II. Introduction**

While the housing market continues to soften as the supply of rental housing expands, housing affordability remains an issue for millions of American households. Based on estimates from the 2008 American Community Survey, 8.7 million renter households paid 50% or more of their income on housing, up from 8.3 million renter households in 2007 and 6.2 million in 2000. This working paper describes the changing characteristics of rental housing supply, variations across local housing markets, conditions in the nation's assisted rental housing stock, and the evolving need and demand for rental housing.

## **III. Rental Housing Supply**

- In their 2008 report on the nation's rental housing market, the JCHS notes that “although expanding the overall supply, these additions [excess single-family homes, condos, and vacation homes for rent] are generally higher-quality units that provide little relief to the large and growing number of low-income renters who struggle to afford even marginal housing.”
- Inflation-adjusted gross rents have risen steadily from a national average of \$715 in 1996 to \$790 in 2008.<sup>5</sup>
- This historical upward drift in rents has been driven by the addition of high-rent units to the inventory and the loss of lower-rent units. According to the Joint Center for Housing Studies, 1.5 million units renting for less than \$600 a month were lost from the rental housing inventory between 1995 and 2005.<sup>6</sup>
  - In addition, according to HUD's 2005-2007 Rental Dynamics Report of the American Housing Survey, the amount of rental units that are considered affordable declined by 1.526 million units from 2005 to 2007. Meanwhile, units considered affordable to households with incomes 80% and greater of the area median income increased by 1.248 million units during the same period.<sup>7</sup>
- Rising vacancies imply that the demand for rental housing is being outstripped by additional supply, but new construction of multifamily rental units has held at around 200,000 units per

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<sup>5</sup> Joint Center for Housing Studies “State of the Nation's Housing 2009” Appendix, Table A-1

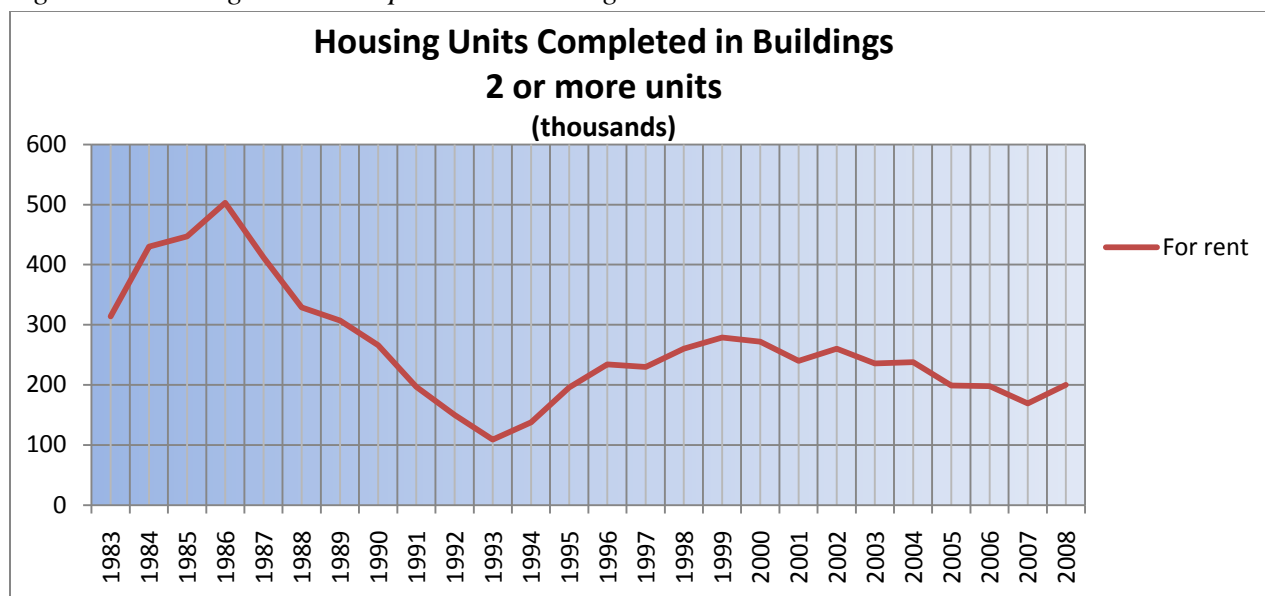
<sup>6</sup> JCHS “America's Rental Housing – The Key to a Balanced National Policy,” 2008, Pg. 15

<sup>7</sup> Affordable defined as rental units that renters with incomes at or below 60% of the local area median income (AMI) could afford. This figure also includes the loss of subsidized units or no cash rent units.

year since 2005, suggesting that the conversion of condominiums and other owner-occupied housing to rental units has triggered this upward movement in vacancy rates.<sup>8</sup>

- The table in Appendix 3 shows that recent increases in rental vacancy rates may be driven largely by vacancy increases in the multifamily rental stock, as the single-family rental vacancy rate has remained relatively flat since 2005 after a steady rise between 1993 and 2005.<sup>9</sup>
- Though vacancy rates are rising nationally, the additional supply has mainly been higher-amenity units. From the second quarter of 2008 to 2009, the percentage of vacant rental units with rents of \$1,500 or more climbed from 7.6 percent to 9.3 percent. In units with rents below \$400, the share of vacant rental units fell from 10.8 percent to 9.3 percent over the same span.<sup>10</sup>
- As Figure 1 shows, while multifamily completions rose nationwide from 169,000 in 2007 to 200,000 in 2008, the current level represents just 76% of 1998 completions.

*Figure 1: Housing Units Completed in Buildings with 2 or More Units*



Source: U.S. Census Bureau “Manufacturing and Construction Statistics,” 2009.

- From 1995 to 2005 two rental units were permanently removed from the rental inventory for every three units built during that span.<sup>11</sup>

<sup>8</sup> JCHS “America’s Rental Housing – The Key to a Balanced National Policy,” 2008

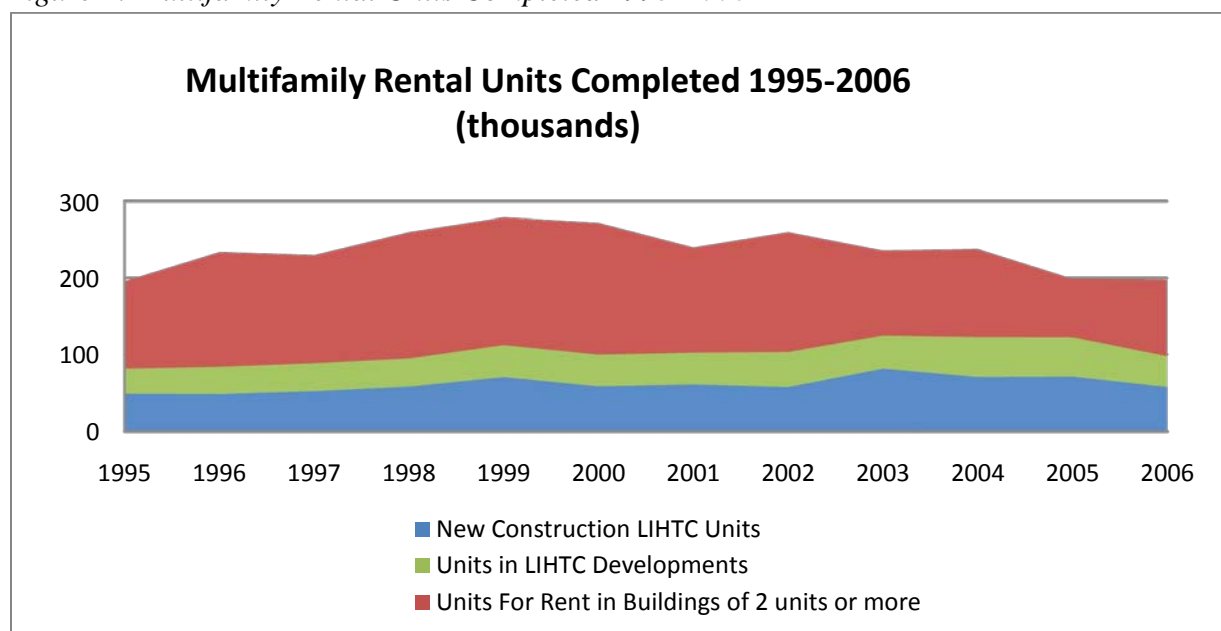
<sup>9</sup> U.S. Housing Vacancy Survey <<http://www.census.gov/hhes/www/housing/hvs/hvs.html>>

<sup>10</sup> National Low-Income Housing Coalition “Notes on the Housing Market.” 2009. Source: Housing Vacancy Survey, Draft 10/15/2009

<sup>11</sup> JCHS “America’s Rental Housing – The Key to a Balanced National Policy,” 2008

- As Figure 2 shows, units subsidized through the Low-Income Housing Tax Credit make up a sizeable share of new multi-family production. The figure below shows the production of new construction LIHTC units (this excludes market-rate units in LIHTC developments and rehabbed units), units placed in service in LIHTC developments (includes rehab and market-rate units), and privately-owned multifamily<sup>12</sup> rental units completed.

*Figure 2: Multifamily Rental Units Completed 1995-2006*



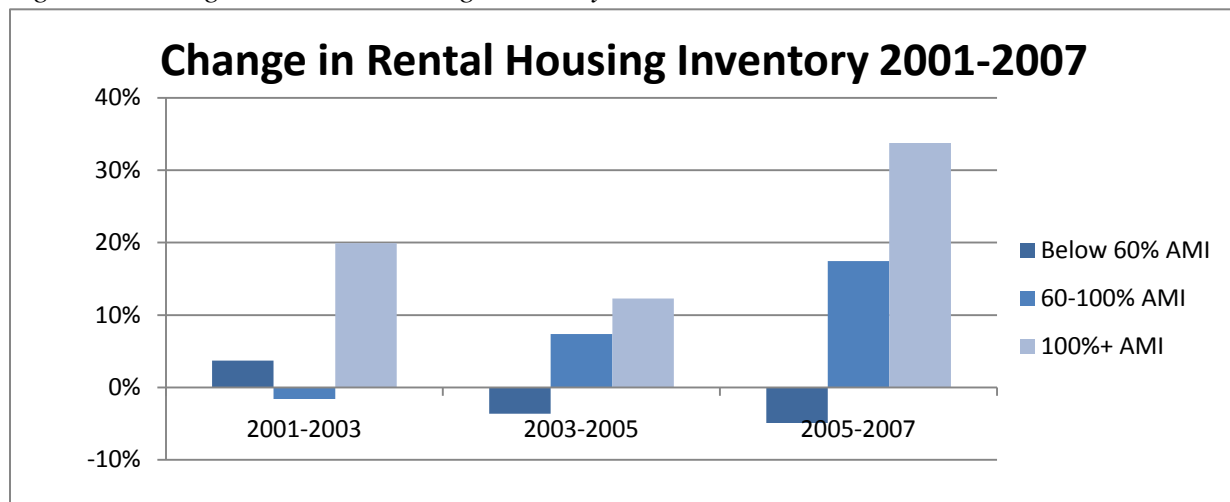
Sources: U.S. Census Bureau "Manufacturing and Construction Statistics," 2009. HUD LIHTC Database

- As Figure 3 shows, from 2001 to 2007 the nation's affordable rental housing stock (below 60% AMI) decreased by 6.3%, while the high-rent rental housing stock increased 94.3%. This translates into a loss of more than 1.2 million unassisted affordable rental units from 2001 to 2007.

<sup>12</sup> Multifamily defined here as buildings of two or more units



Figure 3: Change in Rental Housing Inventory 2001-2007



Source: CINCH Rental Market Dynamics 2001-03, 2003-05, 2005-07. American Housing Survey 2001, 2003, 2005, 2007. Note: Using CINCH Weights

#### IV. Variations Across Local Rental Housing Markets

- The rental vacancy rate of 10.6 percent in the second quarter of 2009 was up fifty basis points from the first quarter level and sixty basis points from the second quarter of the previous year.<sup>13</sup>
- As Figure 4 shows, there is considerable variation in vacancy rates across local rental markets. Some areas experienced consistently high or low vacancy rates since 2005, while others have increased or decreased their vacancy rates from year to year.
- See Appendix 1 for a map illustrating the differences in rental vacancy changes from 2005 to 2008 across the nation.

<sup>13</sup> HUDUSER.ORG “U.S. Housing Market Conditions, 2<sup>nd</sup> Quarter 2009”

Figure 4: Metropolitan Areas by Highest Rental Vacancy Rate in 2008

Metropolitan Areas by Highest Rental Vacancy Rate in 2008 <sup>14</sup>					
Rank		2005	2006	2007	2008
1	Detroit-Warren-Livonia, MSA	15.2	21.2	19.4	18.3
2	Atlanta-Sandy Springs-Marietta, MSA	15.3	12.3	14.7	16.1
3	Houston-Baytown-Sugar Land, MSA	15.4	16.8	17.3	15.6
4	Tampa-St. Petersburg-Clearwater, MSA	9.4	7.8	12.8	15.4
5	Phoenix-Mesa-Scottsdale, MSA	11.2	9.1	9.2	15.0

Source: 2008 CPS/HVS

- Despite the overriding nationwide downturn, market conditions remain fairly tight in many of the nation's coastal metropolitan areas, as shown in Figure 5. Traditionally high-rent cities such as New York, San Francisco and Los Angeles maintain fairly low rental vacancy rates.

Figure 5: Metropolitan Areas by Lowest Rental Vacancy Rate in 2008

Metropolitan Areas by Lowest Rental Vacancy Rate in 2008 <sup>15</sup>					
Rank		2005	2006	2007	2008
1	Seattle-Bellevue-Everett, MSA	6.9	5.6	4.9	4.5
2	New York City -NJ--Long Island, MSA	5.0	5.4	5.7	5.2
3	Los Angeles-Long Beach-Santa Ana, MSA	4.4	4.0	4.7	5.3
4	San Francisco-Oakland-Fremont, MSA	8.0	6.9	6.2	5.4
5	Portland-Vancouver-Beaverton, MSA	9.7	7.1	4.8	5.5

Source: 2008 CPS/HVS

- Figure 6 describes the net change of rental units in the largest metropolitan areas that have the highest and lowest vacancy rates. Overall, ACS data show that the country's rental housing stock increased by 2.74% from 2005 to 2008. Four out of the five areas with the highest vacancy rates experienced increases in rental housing stock, three of those with increases greater than 5%. Meanwhile, the areas with the lowest vacancy rates experienced either slow growth in rental supply or contraction. In addition to changes in the rental supply, variations in job loss across markets may also be contributing to the observed variation in rental vacancy rates.

<sup>14</sup> Restricted to the 25 largest metropolitan areas

<sup>15</sup> Restricted to the 25 largest metropolitan areas

Figure 6: Growth/Shrinkage in Rental Supply (2005 – 2008) using American Community Survey

		Growth in Rental Supply			
MSA		Tot Rental Units 08*	Tot Rental Units 05*	2005 - 2008	% Change
High Vacancy	Atlanta-Sandy Springs-Marietta, GA Metro Area	687,114	677,547	9,567	1.41%
	Detroit-Warren-Livonia, MI Metro Area	506,513	511,247	-4,734	-0.93%
	Houston-Sugar Land-Baytown, TX Metro Area	833,252	783,980	49,272	6.28%
	Phoenix-Mesa-Scottsdale, AZ Metro Area	538,522	508,193	30,329	5.97%
	Tampa-St. Petersburg-Clearwater, FL Metro Area	391,935	356,595	35,340	9.91%
Low Vacancy	Los Angeles-Long Beach-Santa Ana, CA Metro Area	2,126,314	2,077,933	48,381	2.33%
	New York-Northern New Jersey-Long Island, NY-NJ-PA Metro Area	3,351,476	3,323,028	28,448	0.86%
	Portland-Vancouver-Beaverton, OR-WA Metro Area	313,371	319,473	-6,102	-1.91%
	San Francisco-Oakland-Fremont, CA Metro Area	719,341	709,486	9,855	1.39%
	Seattle-Tacoma-Bellevue, WA Metro Area	516,816	516,872	-56	-0.01%
US		41,618,783	40,507,316	1,111,467	2.74%

*\*Including vacant rental units that are rented and for rent*

*Source: ACS 2005 and ACS 2008*

## V. Conditions in the Assisted Rental Housing Stock

- Figure 7 shows that vacancy rates for the nation's assisted housing units are considerably tighter than the overall rental market in recent years. The available data indicates that vacancy rates remain quite low (5 percent or below) in project-based section 8 developments. Vacancy rates in the public housing stock have fallen from 11.5 percent in 2006 to 9.5 percent in 2008.<sup>16</sup>
- Proprietary data from the portfolios of six private and two nonprofit investors indicate that properties receiving the Low Income Housing Tax Credit (LIHTC) have considerably lower vacancy rates than the nation's overall rental market from 2005 to 2009 (See Appendix 5).

<sup>16</sup> Changes in the nation's public housing vacancy rates may reflect major recent redevelopment efforts.

Figure 7: Comparison of Vacancy Rates for Assisted Rental Housing to the General Rental Market

Rental Vacancy Rates (2003-2008)			
Year	Public Housing	Project – Based Section 8	All Rentals
2003	12.2	-	9.8
2004	12.0	5.0	10.2
2005	11.5	-	9.8
2006	11.5	5.0	9.7
2007	9.2	4.4	9.7
2008	9.5	4.9	10.0
2009	-	4.3	-
Sources: LIHTC, Public Housing, Section 8 – HUD, All Rentals –Housing Vacancy Survey			

## VI. Evolving Need and Demand for Affordable Rental Housing

- Figure 8 shows that 37.64% of US rental households in 2005 spent 35% or more of their income on gross rent. In 2008, this number increased to 37.85%, which indicates that a large portion of renters still face high rent burdens even in times of large growth of rental supply in some markets. For instance, even though the rental supply in the Tampa metropolitan area grew by 9.91% from 2005 to 2008 (Figure 6), and its vacancy rate grew by 6 percentage points (Figure 4), there are 5.03% more rental households that are rent burdened in 2008 than in 2005 (Figure 8).
- The tables in Appendix 2 show in more detail that the proportion of low income rental households that spend more than 30 percent of their income on rent has increased substantially from 2005 to 2008.

Figure 8: Percentage Point Change in the Amount of Households spending 35% of Income on Gross Rent

MSA	2005			2008			
	Total HHs in Rental Structures	HHs Spending 35% of Income on Gross Rent	% Rental HHs spending 35% or more of Income on Rent	Total HHs in Rental Structures	HHs Spending 35% of Income on Gross Rent	% Rental HHs spending 35% or more of Income on Rent	% Point Change (2005 - 2008)
Atlanta-Sandy Springs-Marietta, GA Metro Area	559,314	212,314	37.96%	568,514	211,318	37.17%	<b>-0.79%</b>
Detroit-Warren-Livonia, MI Metro Area	447,639	181,121	40.46%	439,168	175,743	40.02%	<b>-0.44%</b>
Houston-Sugar Land-Baytown, TX Metro Area	644,307	253,001	39.27%	688,792	238,336	34.60%	<b>-4.67%</b>
Phoenix-Mesa-Scottsdale, AZ Metro Area	434,233	158,159	36.42%	445,624	171,265	38.43%	<b>2.01%</b>
Tampa-St. Petersburg-Clearwater, FL Metro Area	299,287	112,957	37.74%	316,607	135,417	42.77%	<b>5.03%</b>
Los Angeles-Long Beach-Santa Ana, CA Metro Area	1,972,339	872,684	44.25%	2,000,393	902,392	45.11%	<b>0.86%</b>
New York-Northern New Jersey-Long Island, NY-NJ-PA Metro Area	3,134,755	1,265,690	40.38%	3,144,978	1,245,731	39.61%	<b>-0.77%</b>
Portland-Vancouver-Beaverton, OR-WA Metro Area	288,040	116,781	40.54%	284,315	107,603	37.85%	<b>-2.70%</b>
San Francisco-Oakland-Fremont, CA Metro Area	655,405	252,392	38.51%	671,202	258,562	38.52%	<b>0.01%</b>
Seattle-Tacoma-Bellevue, WA Metro Area	467,747	170,791	36.51%	480,412	174,009	36.22%	<b>-0.29%</b>
<b>US</b>	<b>35,013,076</b>	<b>13,178,782</b>	<b>37.64%</b>	<b>35,902,433</b>	<b>13,588,844</b>	<b>37.85%</b>	<b>0.21%</b>
Source: ACS 2005 and ACS2008							

- Data from the Current Population Survey (CPS) provide some evidence that household size increased by 0.4 percent from March 2008 to March 2009 as a result of household consolidation, although this increase was not statistically significant. During the same time period, household sizes in the Pacific Census Division rose by 1 percent, 1.1 percent in the Mountain Census Division, and .9% in the Middle Atlantic.<sup>17</sup>
- The CPS also shows that 11.9 percent of all individuals that moved between March 2008 and March 2009 joined an existing household, which has been steadily increasing from 9.5 percent in March 2005. This increase in household size may be caused by households doubling up in response to the foreclosure crisis, job loss, and the ongoing lack of affordable housing stock in many regions.<sup>18</sup>

*Figure 9<sup>19</sup>: Percent of Movers Joining Existing Household and Annual Percentage Change*

Percent of Movers Joining Existing Household and Annual Percentage Change									
	% of Movers Joining Existing Household					Annual Percentage Change			
	2005	2006	2007	2008	2009	2005 to 2006	2006 to 2007	2007 to 2008	2008 to 2009
<b>Overall</b>	9.5%	9.7%	10.3%	11.6%	11.9%	1.2%	6.6%	12.5%	3.0%

*Source: U. S. Current Population Survey*

<sup>17</sup> Data analysis provided by Geoffery Newton and Mark Stanton from the Economic Market Analysis Division on 10/15/2009.

<sup>18</sup> *Ibid.*

<sup>19</sup> *Ibid.*

## VII. Conclusion

Overall, we find that the characteristics of the nation's rental housing stock vary greatly across markets. For instance, even though the national rental vacancy is 10.6 percent in 2009Q2—up 50 basis points since 2009Q1—some markets have experienced pronounced declines in rental vacancies. The differences in these trends are caused by various factors, including but not limited to, an increase in households doubling up, job loss in some areas and robustness in others, a glut of new rental housing from single-family foreclosure activity, contraction of rental housing supply from multi-family foreclosure activity, and local land-use restrictions. There are a myriad of local and national factors that interact to make each rental housing market unique.

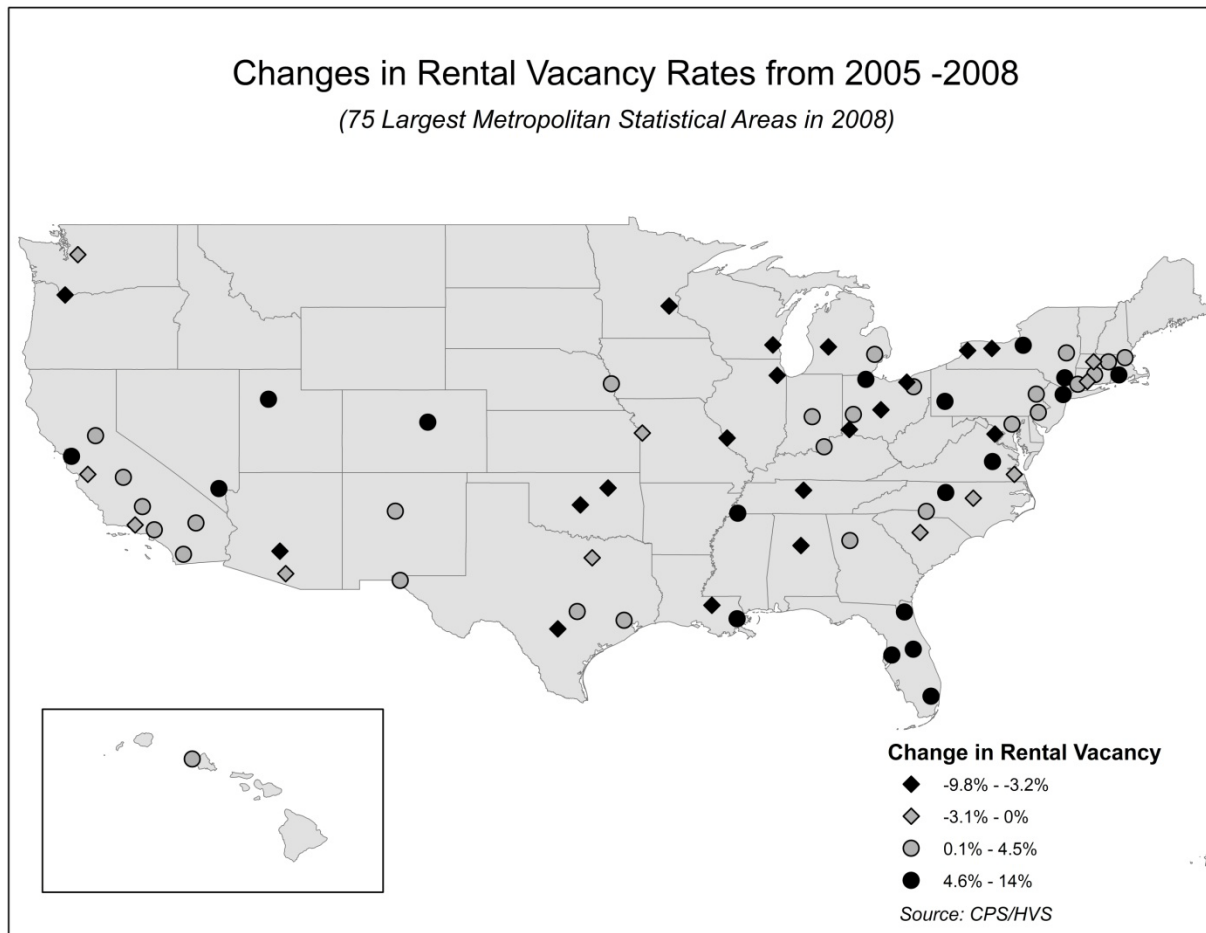
One persistent theme across rental housing markets, however, is housing affordability for low-income renters as illustrated in the charts in Appendix 2. Across soft and tight markets, upwards of 70% of renters earning less than \$20,000 spend more than 35% of their income on housing. In low-vacancy markets such as New York City, Los Angeles and San Francisco housing affordability remains an acute concern for moderate-income renters. For example, in 2008 over 47 percent of moderate income renters in the Bay Area were rent-burdened compared to just 12 percent of moderate income renters in Houston.<sup>20</sup> While there's considerable variation across markets, affordability concerns are exacerbated by continual loss of low-cost rental units. From 2005 to 2007 alone, the amount of rental units that are affordable to households at or below 60% of their area median income declined by more than 1.5 million.

It is essential that future rental housing policy is guided by rigorous analysis and sound empirical evidence. This working paper is intended to document timely research and identify key facts and historical trends on the nation's rental housing market to better inform future policy making efforts.

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<sup>20</sup> Moderate income defined here as earning \$35-\$50,000.

Appendix 1: Change in Rental Vacancy Rates from 2005 to 2008 in the 75 Largest MSAs





## Appendix 2: Households by Income and Housing Expenditure as a Percent of Income

Relative to full tenure population

<b>2008</b>	<b>Less than 20,000</b>	<b>\$20,000 to \$34,999:</b>	<b>\$35,000 to \$49,999:</b>	<b>\$50,000 to \$74,999:</b>	<b>\$75,000 or more:</b>	<b>Total</b>	
<b>Owner</b>							
Less than 20%	1.3%	4.1%	5.1%	8.9%	26.2%	45.6%	
20 to 29%	1.3%	2.5%	2.9%	5.6%	10.8%	23.1%	
30% or more	1.5%	6.2%	5.2%	5.9%	5.9%	24.7%	93.4%
<b>Renter</b>							
Less than 20%	0.8%	1.7%	3.7%	7.1%	10.4%	23.8%	
20 to 29%	2.6%	5.4%	6.4%	5.5%	2.8%	22.8%	
30% or more	24.4%	13.6%	5.2%	2.3%	0.6%	46.1%	92.7%

*NOTE: Percentages are of all owners or all renters. Residual of owners is zero or negative income; residual of renters is zero or negative income or no cash rent Source: 2008 ACS*

<b>2005</b>	<b>Less than 20,000</b>	<b>\$20,000 to \$34,999:</b>	<b>\$35,000 to \$49,999:</b>	<b>\$50,000 to \$74,999:</b>	<b>\$75,000 or more:</b>	<b>Total</b>	
<b>Owners</b>							
Less than 20%	2.0%	5.3%	6.0%	10.1%	23.8%	47.3%	
20 to 29%	2.0%	3.0%	3.7%	6.3%	8.9%	23.8%	
30% or more	8.5%	6.5%	5.0%	4.8%	3.5%	28.3%	99.4%
<b>Renters</b>							
Less than 20%	1.1%	2.3%	4.7%	7.7%	8.0%	23.8%	
20 to 29%	3.3%	7.0%	6.6%	4.3%	1.6%	22.8%	
30% or more	27.5%	12.7%	3.8%	1.5%	0.3%	45.7%	92.3%

*NOTE: Percentages are of all owners or all renters. Residual of owners is zero or negative income; residual of renters is zero or negative income or no cash rent. Source: 2008 ACS*

Relative to income/tenure subpopulation

<b>2008</b>	<b>Less than 20,000</b>	<b>\$20,000 to \$34,999:</b>	<b>\$35,000 to \$49,999:</b>	<b>\$50,000 to \$74,999:</b>	<b>\$75,000 or more:</b>
<b>Owners</b>					
Less than 20%	13.2%	32.0%	38.6%	43.6%	61.1%
20 to 29%	14.8%	19.4%	22.0%	27.4%	25.2%
30% or more	71.9%	48.6%	39.4%	29.0%	13.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Renters</b>					
Less than 20%	2.9%	8.2%	24.1%	47.6%	75.1%
20 to 29%	9.5%	26.1%	42.0%	36.7%	20.4%
30% or more	87.6%	65.7%	33.9%	15.7%	4.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

*NOTE: Percentages are of owners or renters within an income group. Residual of owners is zero or negative income; residual of renters is zero or negative income or no cash rent.*

*Source: 2008 ACS*

<b>2005</b>	<b>Less than 20,000</b>	<b>\$20,000 to \$34,999:</b>	<b>\$35,000 to \$49,999:</b>	<b>\$50,000 to \$74,999:</b>	<b>\$75,000 or more:</b>
<b>Owners</b>					
Less than 20%	15.7%	36.0%	41.2%	47.6%	65.7%
20 to 29%	16.3%	20.2%	24.9%	29.6%	24.5%
30% or more	68.0%	43.9%	33.9%	22.8%	9.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Renters</b>					
Less than 20%	3.4%	10.7%	31.1%	57.0%	80.7%
20 to 29%	10.4%	31.8%	43.9%	31.9%	16.2%
30% or more	86.2%	57.5%	25.0%	11.1%	3.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

*NOTE: Percentages are of owners or renters within an income group. Residual of owners is zero or negative income; residual of renters is zero or negative income or no cash rent.*

*Source: 2005 ACS Survey*

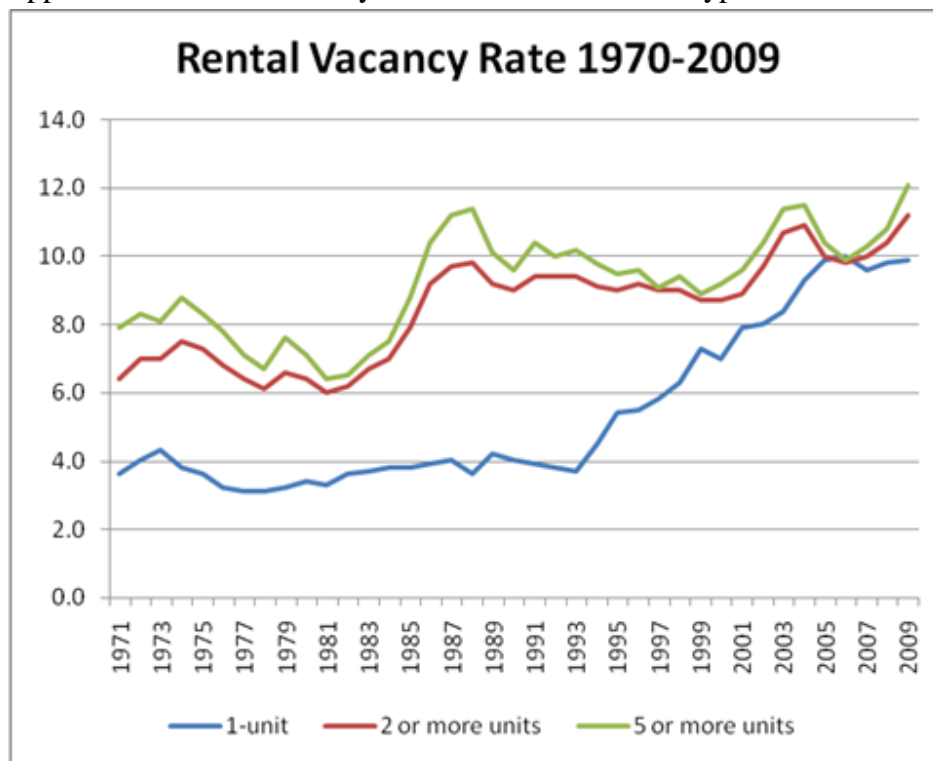
Tight Rental Markets	Soft Rental Markets	2008	Percentage of Renters Spending 35% or more of Income on Housing Relative to Tenure Population in Income Bracket		
			Less than 20,000	\$20,000 to \$34,999:	\$35,000 to \$49,999:
		United States	71.1%	47.4%	19.4%
		Atlanta	78.2%	57.3%	17.5%
		Detroit	72.1%	45.9%	14.0%
		Houston	79.8%	44.1%	12.7%
		Phoenix	76.0%	59.1%	26.0%
		Tampa	78.9%	60.0%	20.5%
		Los Angeles	79.2%	<b>76.8%</b>	<b>43.9%</b>
		New York	72.9%	<b>69.1%</b>	<b>36.3%</b>
		Portland	80.1%	55.0%	13.4%
		San Francisco-Oakland	74.1%	<b>75.4%</b>	<b>47.1%</b>
		Seattle	75.6%	61.1%	25.6%

Income brackets in 2008 dollars, Source: ACS 2008

Tight Rental Markets	Soft Rental Markets	2005	Percentage of Renters Spending 35% or more of Income on Housing Relative to Tenure Population in Income Bracket		
			Less than 20,000	\$20,000 to \$34,999:	\$35,000 to \$49,999:
		United States	70.0%	38.9%	13.4%
		Atlanta	78.1%	51.2%	12.3%
		Detroit	74.0%	39.8%	7.7%
		Houston	79.9%	36.2%	9.5%
		Phoenix	76.1%	41.8%	12.0%
		Tampa	76.2%	40.2%	10.4%
		Los Angeles	79.5%	<b>67.6%</b>	<b>30.4%</b>
		New York	73.4%	<b>61.8%</b>	<b>26.2%</b>
		Portland	79.6%	42.9%	10.2%
		San Francisco-Oakland	73.1%	<b>70.0%</b>	<b>36.3%</b>
		Seattle	74.9%	49.5%	14.3%

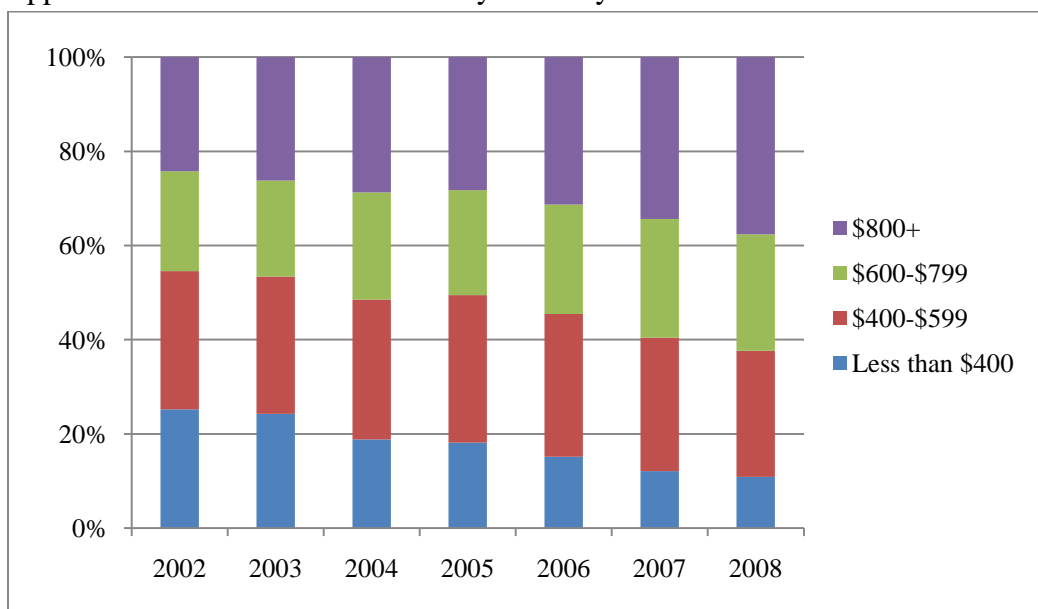
Income brackets in 2008 dollars, Source: ACS 2005

### Appendix 3: Rental Vacancy Rates Across Structure Type



Source: U.S. Census Housing Vacancy Survey

### Appendix 4: Vacant Units for Rent by Monthly Rents



Source: U.S. Housing Vacancy Survey

## Appendix 5: Vacancy Rates in the LIHTC Portfolios of Major Investors by State

State	2005			2006			2007			2008			2009			% of Sample 2006 Units to Total Units in LIHTC Buildings in 2006	% of Sample 2009 Units to Total Units in LIHTC Buildings in 2006
	Vacancy Rate	No. of Units	No. Occupied Units	Vacancy Rate	No. of Units	No. Occupied Units	Vacancy Rate	No. of Units	No. Occupied Units	Vacancy Rate	No. of Units	No. Occupied Units	Vacancy Rate	No. of Units	No. Occupied Units		
AK	3.9%	364	350	10.4%	364	326	5.4%	364	344	4.6%	417	398	3.3%	580	561	12.05%	20.73%
AL	4.7%	2,168	2,067	6.5%	2,105	1,968	6.5%	2,247	2,102	6.8%	2,483	2,315	4.1%	3,789	3,634	6.81%	12.58%
AR	9.4%	5,133	4,648	6.4%	5,277	4,937	7.3%	5,765	5,346	10.1%	5,894	5,296	9.8%	7,429	6,704	29.88%	40.58%
AZ	7.4%	1,670	1,546	8.7%	1,766	1,613	8.2%	2,190	2,011	5.7%	2,474	2,334	7.9%	5,575	5,134	6.71%	21.35%
CA	4.2%	22,071	21,145	4.6%	25,415	24,250	5.9%	26,042	24,495	4.4%	28,229	26,990	3.3%	54,162	52,379	15.14%	32.70%
CO	8.3%	5,603	5,141	7.2%	6,222	5,773	9.0%	6,989	6,362	4.8%	6,935	6,602	4.9%	13,436	12,781	22.26%	49.29%
CT	4.3%	4,756	4,553	6.6%	5,174	4,835	11.2%	5,711	5,072	3.2%	5,687	5,503	3.7%	8,054	7,758	41.24%	66.17%
DC	3.4%	2,446	2,362	4.6%	2,446	2,334	5.6%	2,050	1,935	5.2%	2,396	2,271	3.8%	4,024	3,872	20.65%	34.27%
DE	4.5%	900	860	4.5%	935	893	12.6%	992	867	7.4%	983	911	3.3%	2,074	2,006	14.61%	32.81%
FL	7.2%	32,186	29,857	4.6%	32,666	31,153	5.7%	33,486	31,580	7.1%	35,021	32,535	7.5%	49,601	45,879	25.06%	36.91%
GA	8.0%	12,029	11,064	8.7%	13,053	11,911	7.6%	13,310	12,295	7.5%	14,859	13,741	7.8%	17,568	16,202	24.38%	33.16%
HI	1.0%	306	303	0.0%	306	306	1.2%	306	302	2.1%	306	300	2.5%	452	441	8.57%	12.35%
IA	10.3%	2,498	2,241	7.8%	3,359	3,096	6.7%	3,408	3,179	11.2%	3,715	3,300	6.7%	6,694	6,242	18.77%	37.83%
ID	13.7%	1,502	1,297	11.7%	1,384	1,222	8.4%	1,591	1,457	9.5%	1,635	1,479	9.1%	2,345	2,133	17.18%	29.97%
IL	7.5%	4,140	3,830	11.3%	4,266	3,782	9.2%	4,811	4,370	10.6%	5,169	4,622	3.7%	21,610	20,805	7.59%	41.77%
IN	13.6%	3,113	2,690	14.2%	3,380	2,900	10.4%	3,275	2,934	10.8%	3,123	2,785	7.4%	6,278	5,812	6.78%	13.59%
KS	11.6%	3,139	2,774	7.0%	3,137	2,916	5.7%	3,819	3,601	5.8%	4,524	4,261	5.9%	5,451	5,127	14.05%	24.71%
KY	7.2%	4,115	3,818	6.6%	4,459	4,164	6.8%	4,560	4,249	6.5%	5,023	4,698	5.4%	6,432	6,082	27.77%	40.56%
LA	5.2%	7,193	6,817	3.5%	7,648	7,384	5.8%	7,732	7,285	6.7%	8,028	7,490	6.2%	13,418	12,584	28.95%	49.34%
MA	5.7%	11,604	10,944	3.1%	11,699	11,341	4.5%	14,059	13,431	2.9%	14,859	14,406	2.9%	19,048	18,499	27.89%	45.50%
MD	5.6%	7,606	7,177	4.5%	8,187	7,817	5.7%	8,668	8,173	5.5%	9,494	8,972	4.9%	15,894	15,122	21.12%	40.85%
ME	5.3%	1,486	1,407	8.5%	1,536	1,406	3.5%	1,442	1,391	3.7%	1,564	1,506	4.4%	2,256	2,157	19.80%	30.38%
MI	10.4%	8,478	7,595	10.9%	8,683	7,738	9.1%	8,330	7,574	8.2%	8,158	7,491	8.3%	13,590	12,467	11.74%	18.92%
MN	7.2%	4,017	3,726	4.7%	4,492	4,280	4.5%	4,715	4,459	4.5%	4,663	4,453	4.3%	8,375	8,016	14.57%	27.29%
MO	7.8%	8,829	8,137	5.9%	9,030	8,497	7.3%	9,991	9,260	9.6%	11,127	10,058	9.7%	16,441	14,839	17.88%	31.22%
MS	7.5%	5,033	4,658	6.1%	4,957	4,656	4.9%	5,221	4,963	11.6%	4,503	3,979	8.5%	6,676	6,109	24.69%	32.40%
MT	9.8%	543	490	6.8%	503	469	12.5%	543	475	4.2%	527	505	5.9%	1,097	1,032	12.13%	26.70%
NC	6.4%	5,161	4,830	5.8%	5,104	4,807	3.4%	6,268	6,053	4.1%	6,513	6,246	4.6%	9,857	9,401	12.03%	23.53%
ND	9.3%	977	886	8.3%	911	835	6.3%	908	851	9.9%	466	420	9.6%	1,224	1,107	21.58%	28.60%
NE	13.1%	497	432	15.5%	496	419	10.8%	424	378	18.6%	322	262	7.7%	866	799	4.16%	7.94%
NH	3.2%	1,023	991	3.7%	1,213	1,168	6.0%	1,427	1,341	5.0%	1,572	1,494	3.9%	1,782	1,712	23.11%	33.89%
NJ	8.2%	3,020	2,773	2.4%	3,552	3,468	5.7%	4,561	4,301	8.4%	5,516	5,055	4.9%	10,260	9,761	16.11%	45.35%
NM	3.9%	1,188	1,142	6.2%	1,240	1,163	5.7%	1,122	1,058	6.3%	1,356	1,271	4.8%	2,830	2,693	9.02%	20.90%
NV	6.2%	3,987	3,741	5.8%	5,136	4,837	7.5%	4,590	4,245	12.6%	4,744	4,145	11.1%	8,378	7,448	31.75%	48.89%
NY	8.5%	10,346	9,468	10.5%	11,385	10,188	6.9%	13,970	13,005	5.7%	17,168	16,197	2.5%	53,285	51,950	9.57%	48.81%
OH	8.4%	5,786	5,298	8.0%	6,082	5,594	7.8%	6,198	5,716	6.4%	5,918	5,540	4.7%	15,131	14,427	6.64%	17.13%
OK	9.8%	3,189	2,878	9.1%	3,363	3,057	8.5%	3,378	3,091	8.6%	3,791	3,464	6.9%	6,472	6,028	13.85%	27.32%
OR	5.7%	4,196	3,958	5.2%	4,072	3,859	4.6%	4,295	4,099	5.7%	4,590	4,328	4.6%	7,407	7,064	14.65%	26.82%
PA	4.0%	5,491	5,273	2.3%	5,324	5,204	6.3%	6,182	5,791	2.2%	6,587	6,439	2.1%	11,707	11,463	13.96%	30.75%
RI	5.1%	577	548	6.9%	647	602	2.1%	743	728	2.4%	1,141	1,114	4.0%	3,715	3,565	7.58%	44.91%
SC	4.9%	2,629	2,499	6.2%	3,495	3,278	5.9%	3,864	3,635	5.9%	4,166	3,920	5.1%	7,522	7,137	15.99%	34.81%
SD	9.5%	315	285	3.8%	315	303	5.4%	315	298	4.1%	267	256	4.5%	708	676	5.26%	11.75%
TN	12.3%	3,567	3,130	7.4%	3,413	3,160	8.2%	3,649	3,349	10.2%	4,030	3,619	10.9%	5,746	5,122	10.23%	16.58%
TX	10.9%	21,406	19,074	9.0%	25,279	22,998	8.2%	28,893	26,513	7.8%	33,927	31,267	7.1%	58,704	54,544	15.84%	37.58%
UT	7.4%	1,617	1,497	5.6%	1,885	1,780	5.7%	1,833	1,729	3.7%	1,817	1,750	4.8%	4,188	3,989	13.39%	30.00%
VA	4.2%	17,150	16,425	5.2%	18,859	17,872	6.9%	20,857	19,421	4.2%	21,385	20,489	4.5%	27,118	25,900	27.64%	40.05%
VT	4.1%	767	736	2.6%	604	588	1.3%	1,555	1,535	4.7%	1,762	1,679	5.8%	2,033	1,916	9.73%	31.67%
WA	12.4%	4,979	4,361	6.8%	5,265	4,908	4.8%	5,406	5,147	3.7%	7,024	6,766	3.0%	16,575	16,077	10.46%	34.28%
WI	14.4%	2,484	2,126	10.2%	2,493	2,238	8.6%	2,394	2,188	8.4%	2,744	2,515	6.3%	6,676	6,253	6.98%	19.52%
WV	2.4%	1,308	1,276	4.4%	1,264	1,209	5.0%	1,354	1,286	8.5%	1,370	1,253	5.9%	2,090	1,967	15.51%	25.23%
WY	1.7%	292	287	3.2%	221	214	7.8%	307	283	2.5%	359	350	2.7%	1,124	1,094	7.75%	39.64%
Total	7.4%	264,880	245,408	6.5%	284,067	265,715	6.7%	306,110	285,555	6.4%	330,312	309,038	5.4%	577,747	546,471	16.00%	32.91%
US Vacancy Rate	9.8%			9.6%			9.5%			10.0%			10.6%				

Source: Proprietary Data, US Housing Vacancy Survey, and HUD LIHTC Database

## Notes on Appendix 5:

While all data is reported as of the second quarter of each year, the reader should interpret this chart with caution due to limited sample size in most states and the diversity of vacancy measurements reported by different investors. Data from 2005 to 2008 include vacancies from four major private investors and one nonprofit investor. Data from 2009 include two additional investors and one additional nonprofit. Some investors report vacancies in only those units that receive the LIHTC, while others report on buildings that contain LIHTC units, which include some small fraction of market rate units.