

**American Housing Survey**

**Components of Inventory Change and  
Rental Dynamics Analysis:  
San Diego, 2002–2011**

*Prepared For:*

**U.S. Department of Housing & Urban Development  
Office of Policy Development & Research**

*Prepared By:*

**Frederick J. Eggers & Fouad Moumen  
Econometrica, Inc.  
Bethesda, MD**

**Contract No. C-CHI-01030  
Order No. CHI-T0002  
Project No. 1053-002**

**May 2015**

## Table of Contents

Executive Summary .....	iv
1. Introduction .....	1
2. Special Issues: San Diego .....	2
3. Changes to the Housing Stock: 2002–2011 .....	3
4. Components With Atypical Losses or Additions .....	5
5. Rental Market Dynamics: 2002–2011 .....	10
6. Summary of Housing Market Changes: San Diego Metropolitan Area, 2002–2011 .....	12
Appendix A: CINCH and Rental Dynamics Methodology .....	A-1
Appendix B: CINCH and Rental Dynamics Tables .....	B-1

## List of Tables

Table 1: Disposition of 2002 San Diego Housing Units in 2011 .....	4
Table 2: Sources for 2011 San Diego Housing Stock.....	5
Table 3: Sectors Experiencing Atypical Loss Rates in San Diego, 2002–2011 .....	6
Table 4: Sectors Experiencing Atypical Rates of Addition in San Diego, 2002–2011 .....	8
Table 5: Summary of Forward-Looking Rental Dynamics for San Diego.....	11
Table 6: Summary of Backward-Looking Rental Dynamics for San Diego .....	12
Forward-Looking Table A: Housing Characteristics, San Diego.....	B-6
Forward-Looking Table B: Unit Quality, San Diego .....	B-9
Forward-Looking Table C: Occupant Characteristics, San Diego .....	B-11
Forward-Looking Table D: Income and Housing Cost, San Diego.....	B-13
Backward-Looking Table A: Housing Characteristics, San Diego .....	B-15
Backward-Looking Table B: Unit Quality, San Diego.....	B-18
Backward-Looking Table C: Occupant Characteristics, San Diego.....	B-20
Backward-Looking Table D: Income and Housing Cost, San Diego.....	B-22
Forward-Looking Rental Dynamics Table 1: Counts, 2002–2011, San Diego (All Numbers in Thousands).....	B-24
Forward-Looking Rental Dynamics Table 2: Row Percentages, 2002–2011, San Diego.....	B-24
Backward-Looking Rental Dynamics Table 1: Counts, 2002–2011, San Diego (All Numbers in Thousands).....	B-25
Backward-Looking Rental Dynamics Table 2: Row Percentages, 2002–2011, San Diego .....	B-25

## List of Figures

Figure A-1: How the Housing Inventory Changes .....	A-1
-----------------------------------------------------	-----

## ***Executive Summary***

Components of Inventory Change (CINCH) is a tool used by housing analysts to study how the housing inventory changes over time. One typically thinks of the housing stock as evolving through two mechanisms—the construction of new units and the demolition of old units. While new construction and losses through demolition and natural disasters are the primary means by which the housing stock changes, CINCH shows that there are other important engines of change.

This report describes how the housing stock in the San Diego metropolitan area changed between 2002 and 2011, with particular emphasis on affordable rental housing. The study uses data from the American Housing Survey, which collected detailed information on housing units in San Diego and on their occupants in both 2002 and 2011.

In 2002 the San Diego metropolitan area contained 1,072,000 housing units, including vacant units. By 2011 the number of housing units had increased to 1,186,100. This represents an overall increase of 10.6 percent, which translates to an average annual increase of 0.8 percent over the 9-year period. There were no changes to the definition of the metropolitan area between AHS surveys.

Between 2002 and 2011, only 7,000 units left the housing stock. Of these, 2,300 are clearly permanent losses—the original unit is gone, and major construction would be required to replace it with a new unit. Another 3,700 are temporary losses—the original unit needs repairs or is being used for other purposes. These units may or may not return to the housing stock. Finally, there were 1,000 units that left the housing stock either permanently or temporarily for “other” reasons, a category that encompasses a wide variety of situations.

In the period between the 2002 and the 2011 AHS surveys, 106,000 units were added to the housing stock. Ninety-four percent of these additions were newly constructed units. The 2011 AHS did track move-ins of mobile homes in San Diego, a factor that contributed 200 units. Also, 1,500 new units were formed from the conversion or merger of 2002 units. We classified 3,200 units as recovered because these units had been in the housing stock at some point but were classified in 2002 as nonresidential (2,900) or uninhabitable (300). Finally, 1,500 units were added in other unclassified ways.

The San Diego metropolitan area lost 0.7 percent of all 2002 housing units by 2011; additions between 2002 and 2011 represented 8.9 percent of the 2011 housing stock. Losses and additions varied across portions of the San Diego housing market defined by the characteristics of the unit or its occupants. We observed the following patterns, which were both atypical of the overall housing stock and statistically significant:

- Among units that were vacant in 2002, the loss rate was much higher.
- To the extent that the data permit generalization, it appears that newer units had lower loss rates than older units.

- Single-room units experienced high loss rates, whereas larger units (7 rooms or 4 or more bedrooms) had lower rates.
- Owner-occupied units in 2002 experienced a low loss rate that was statistically different from the loss rate of all occupied units. Among owner-occupied units, those occupied in 2002 by higher income households (\$100,000 or more) had a low loss rate.
- Units that were renter-occupied in 2002 had a loss rate that was higher but not statistically different from that of all occupied units. Rental units that were provided for no cash rent in 2002 had a very high loss rate.
- The rate of addition was particularly high among seasonal units. New additions were also high among units using wells and septic tanks.
- Structure type mattered. Single-family attached units had a high rate of addition, but manufactured housing had a very low rate. Among units in multifamily buildings, the rates of addition were low in small buildings (5–19 units) but very high among units in large buildings (50 or more units). Another characteristic of building size, number of floors, affected the rate of addition among units in multifamily buildings. Table 4 shows that the rate of addition increased sharply with the number of stories.
- New additions to the stock were underrepresented among units in 2011 with severe physical problems. With respect to specific quality deficiencies, units lacking complete plumbing demonstrated a lower rate of addition.
- Units occupied by households with elderly householders (65 years or older) had low rates of addition. Units occupied by households with children had an above-average rate of addition, while those without children had a below-average rate.
- New additions to the stock were lower than average among units with White Hispanic householders in 2011, whereas those with Black non-Hispanic or Asian householders had higher-than-average rates.
- Among owner-occupied units, those occupied by lower income owners (less than \$50,000) and those with low or moderate housing costs had lower rates of addition, while those occupied by high-income owners (\$100,000 or more) and those with high housing costs (\$1,250 per month or more) had higher-than-average rates of addition.
- A similar but less pronounced pattern was found among units that were renter-occupied in 2011. Rental units with low or moderate monthly housing costs in 2011 experienced lower-than-average rates of addition, while those with monthly housing costs of \$1,250 or more had a higher-than-average rate of addition. Units rented in 2011 by households with \$100,000 or more in income had a high rate of addition.

The 2002 rental stock in San Diego was not affordable. Of the 445,800 rental units in 2002, 78,100 were extremely low rent or very low rent units. In addition, 83,300 units were non-

market; that is, they were either assisted or offered for no cash rent. These three categories accounted for 36.2 percent of the 2002 rental stock. The three highest rent categories comprised 18.6 percent of the rental stock. Moves to a less affordable category (sometimes called gentrification) exceeded moves to a more affordable category (sometimes called filtration)—39.3 percent of all 2002 units compared to 15.2 percent. By 2011, 13.8 percent of the rental units in 2002 were no longer in the rental stock. The largest proportion of these losses was due to changes in tenure.

The rental stock in San Diego was even less affordable in 2011 than in 2002. Of the 546,900 rental units in 2011, 62,900 were extremely low rent or very low rent units. In addition, 63,300 units were non-market; that is, they were either assisted or offered for no cash rent. These three categories accounted for 23.1 percent of the 2011 rental stock. The three highest rent categories comprised 34.0 percent of the rental stock. Moves from a more affordable category (sometimes called gentrification) exceeded moves from a less affordable category (sometimes called filtration)—33.4 percent of all 2011 units compared to 13.1 percent. Of the rental units in 2011, 25.9 percent were not rental in 2002. The largest proportion of these gains was due to changes in tenure.

# Components of Inventory Change and Rental Dynamics Analysis: San Diego, 2002–2011

## 1. Introduction

This report describes how the housing stock in the San Diego metropolitan area changed between 2002 and 2011, with particular emphasis on affordable rental housing. The study uses data from the American Housing Survey (AHS), which collected detailed information on housing units in San Diego and on their occupants in both 2002 and 2011.<sup>1</sup>

As part of its Components of Inventory Change (CINCH) program, the U.S. Department of Housing and Urban Development (HUD) has funded, for a number of years, similar studies of metropolitan areas to document changes in the American housing stock. These studies have traditionally included an assessment of changes in the rental housing market called rental dynamics. This paper is one of 29 metropolitan CINCH studies based on the information provided by the 2011 AHS.<sup>2</sup>

CINCH reports present both forward-looking analysis (what happened to the 2002 units by 2011) and backward-looking analysis (where the 2011 units came from in terms of 2002).<sup>3</sup> This paper repeats the analysis contained in the most recent CINCH and rental dynamics studies, but its organization differs from that of previous reports.

- Section 2 discusses data and related issues that affect the CINCH and rental dynamics analysis for San Diego.
- Section 3 explains the changes in the housing stock between 2002 and 2011 in terms of losses to the housing stock through demolitions or the other ways units can leave the housing stock and additions through new construction and other means.
- Section 4 looks at components of the housing stock that experienced losses or additions markedly different from the overall patterns of losses and additions.
- Section 5 breaks the rental housing stock into eight affordability categories and tracks what happened to units in each of those categories between 2002 and 2011.

---

<sup>1</sup> Since 1973, the U.S. Department of Housing and Urban Development (HUD) and the Census Bureau have conducted an extensive survey of the American housing stock called the American Housing Survey (AHS). The AHS has two components: a national survey that, since 1985, has collected data every 2 years on the entire U.S. housing stock and a metropolitan component that, since 1985, has collected data at various times on the housing stock of 45 metropolitan areas. Both the national and metropolitan components use the same sample of housing units in successive surveys, making it possible to observe changes in units over time. The initial samples have been augmented in later years to account for units added by new construction or other means.

<sup>2</sup> HUD also funds CINCH studies of survey-to-survey changes in the national stock. At the national level, the Rental Dynamics studies are published separately. For a complete list of all CINCH studies, see <http://www.huduser.org/portal/datasets/cinch.html>.

<sup>3</sup> The forward-looking analysis was previously presented to HUD in December 2013. The data needed to produce the backward-looking analysis did not become available until after the allowed period of performance of the contract under which the previous report was completed.

- Section 6 summarizes the changes to the housing stock of the San Diego metropolitan area between 2002 and 2011.

The paper concludes with two appendices that contain analyses and data found in the body of previous CINCH reports.

- Appendix A explains the CINCH and rental dynamics methodologies.
- Appendix B contains the detailed CINCH and rental dynamics tables found in previous reports.

National economic conditions shaped in important ways the changes observed in this report. The 2002–2011 period encompassed a vigorous expansion (November 2001 to December 2007), included the recent harsh recession (December 2007 to June 2009), and ended with a period of lackluster recovery.

## ***2. Special Issues: San Diego***

Metropolitan areas are composed of counties or townships that are interrelated economically. The Office of Management and Budget periodically adjusts the composition of metropolitan areas as the economic relationships among counties change. In some cases, the AHS retains the metropolitan boundaries in effect when the original metropolitan sample was drawn; in other cases, the AHS will adjust the original sample to correspond to the new definition of the metropolitan area. A change in sample boundaries will affect the interpretation of CINCH analysis and its precision. The absolute sample size available to study changes between surveys determines how reliably the observed changes are measured.

### **Geography**

In 2002 the San Diego metropolitan area contained 1,072,000 housing units, including vacant units. By 2011 the number of housing units had increased to 1,186,100. This represents an overall increase of 10.6 percent, which translates to an average annual increase of 0.8 percent over the 9-year period. There were no changes to the definition of the metropolitan area between AHS surveys.

### **Sample size**

Both CINCH and rental dynamics require that, if a sample unit is in both the 2002 and 2011 housing stock, it must be interviewed in both surveys to be included in the analysis. Other analytical requirements also limit effective sample size. There are 2,772 sample units that were common to the 2002 and 2011 AHS San Diego surveys and satisfied all the analytical requirements.<sup>4</sup> Between 2002 and 2011, 28 sample units in the common area meeting the

---

<sup>4</sup> The 2002 AHS surveyed 4,834 units in the San Diego metropolitan area; 3,272 of these units were in the 2011 AHS public use file (PUF). Of the 1,562 sample units no longer in the survey, 111 were legitimate temporary or



analytical requirements were lost to the stock; thus, the forward-looking analysis is based on a maximum of 2,800 sample units. Between 2002 and 2011, 276 sample units meeting the analytical requirements were added to the AHS survey to represent additions to the stock throughout the metropolitan area as defined in 2011; thus, the backward-looking analysis is based on a maximum of 3,048 sample units. In the forward-looking analysis, the average weight of a sample unit is approximately 383 units; in the backward-looking analysis, the average weight of a sample unit is approximately 389 units

### ***Data reliability***

All CINCH analysis relies on two AHS variables: NOINT (why there was no interview), which, among other things, explains why a unit is temporarily or permanently out of the stock, and REUAD (why unit added), which explains why a sample unit entered the sample. Both variables require some detective work on the part of Census Bureau staff, and the longer the period between surveys, the more difficult the detective work. At the national level, the AHS data are collected every 2 years, so it is relatively easy to determine why a unit has been removed from or added to the sample. In the case of San Diego, 9 years separate the 2011 sample from the 2002 sample. As a result, explaining the loss or addition of sample units is very challenging. This report is part of a series that compares the housing stock in 2011 to the housing stock of 7 metropolitan areas in 1998, 12 metropolitan areas in 2002, 8 metropolitan areas in 2004, and 2 metropolitan areas in 2009. We compared the pattern of changes across the 29 areas studied in these reports to the changes recorded between 2009 and 2011 at the national level. With respect to losses, the patterns are reasonably similar except for the role played by the movement of mobile homes. Mobile home move-outs are much more important in explaining losses at the national level. At both the national and metropolitan levels, the “other” category accounts for one-fifth to one-quarter of the losses. With respect to additions, new construction accounts for 72 percent of all additions at the national level but 94 percent at the metropolitan level. We suspect that data issues downplay the importance of “means other than new construction” at the metropolitan level.

## ***3. Changes to the Housing Stock: 2002–2011***

### **Losses between 2002 and 2011**

One typically thinks of the housing stock evolving through two mechanisms: the construction of new units and the demolition of old units. While new construction and losses through demolition and natural disasters are the primary means by which the housing stock changes, CINCH shows that there are other important engines of change.

Table 1 reports that, between 2002 and 2011, only 7,000 units left the housing stock. Of these, 2,300 are clearly permanent losses—the original unit is gone, and major construction would be required to replace it with a new unit. Another 3,700 are temporary losses—the original unit

---

permanent losses to the housing stock and were considered for the analysis. The remaining 1,451 cases are coded as “sample reduction for the current survey year” with no further explanation.

---

needs repairs or is being used for other purposes. These units may or may not return to the housing stock. Finally, there were 1,000 units that left the housing stock either permanently or temporarily for “other” reasons, a category that encompasses a wide variety of situations.

**Table 1: Disposition of 2002 San Diego Housing Units in 2011<sup>5</sup>**

Present in 2002	1,072,000
2002 units present in 2011	1,065,000
<b>Units no longer in the stock</b>	<b>7,000</b>
2002 units lost due to conversion/merger	500
2002 house or mobile home moved out	100
2002 units lost through demolition or disaster	1,700
<b>Permanent losses</b>	<b>2,300</b>
2002 units changed to nonresidential use	3,200
2002 units badly damaged or condemned	500
<b>Temporary losses</b>	<b>3,700</b>
<b>2002 units lost in other ways</b>	<b>1,000</b>

Demolitions and natural disasters accounted for 1,700 of the permanent losses, while mergers and conversions contributed another 500 permanent losses. “Conversion” is the terminology used in the AHS for the splitting of a unit into two or more units. The movement of a mobile home or house is considered a permanent loss because a housing unit is the combination of land and capital. While movement preserves the capital, it dissolves the union of capital and land that formed the original unit; therefore, the movement of a mobile home is considered a permanent loss. The 2011 AHS survey in San Diego did track mobile home move-outs, which led to the loss of another 100 units.

Sometimes houses are used for business purposes. Such commercial use or the use of a house for a group home is considered a change to a nonresidential use. Badly damaged units may be repaired, left in an unusable state, or demolished.

Appendix B contains four forward-looking tables that break the overall stock into more than 100 subgroups, such as single-family detached houses or units occupied by Black householders in 2002. For each subgroup, these tables detail how many of the 2002 units in that subgroup are in the same subgroup in 2011, have moved into another subgroup, or have left the stock and how they left the stock. Section 4 looks across the Appendix B forward-looking tables and focuses on those subgroups that lost an unusually high or an unusually low number of units over the 2002–2011 period.

## **Additions between 2002 and 2011**

Table 2, together with the backward-looking Appendix B tables, provides a great deal of information on additions to the housing stock between 2002 and 2011.<sup>6</sup>

<sup>5</sup> Numbers may not add consistently due to rounding. Counts were rounded to the nearest hundred.

<sup>6</sup> Inconsistencies between Tables 1 and 2 result from a combination of (1) changes in control housing counts between censuses and (2) different weights.

**Table 2: Sources for 2011 San Diego Housing Stock<sup>7</sup>**

2011 housing stock	1,186,000
2011 units present in 2002	1,080,000
<b>Total additions to stock</b>	<b>106,000</b>
Units added by new construction	99,600
House or mobile home moved in	200
Units added by conversion/merger	1,500
<b>New or reconstructed units</b>	<b>101,300</b>
Units added from nonresidential use	2,900
Units added from temporary losses	300
<b>Recovered units</b>	<b>3,200</b>
<b>Units added in other ways</b>	<b>1,500</b>

In the period between the 2002 and the 2011 AHS surveys, 106,000 units were added to the housing stock. Ninety-four percent of these additions were newly constructed units. The 2011 AHS did track move-ins of mobile homes in San Diego, a factor that contributed 200 units. Also, 1,500 new units were formed from the conversion or merger of 2002 units.

We classified 3,200 units as recovered because these units had been in the housing stock at some point but were classified in 2002 as nonresidential (2,900) or uninhabitable (300). Finally, 1,500 units were added in other unclassified ways.

Appendix B contains four backward-looking tables that break the overall stock into more than 100 subgroups. For each subgroup, these tables detail how many of the 2011 units in that subgroup were in the same subgroup in 2011, have moved from another subgroup, or are new additions to the stock. Section 4 looks across the Appendix B backward-looking tables and focuses on those subgroups that gained an unusually high or an unusually low number of units over the 2002–2011 period.

#### **4. Components With Atypical Losses or Additions**

The San Diego metropolitan area lost 0.7 percent of all 2002 housing units by 2011, but the loss rate varied across sectors of the stock. For example, the occupied housing stock lost 0.5 percent of its units between 2002 and 2011.

We examined all of the components of the 2002 San Diego housing stock contained in the four forward-looking tables in Appendix B to identify subgroups with unusual loss rates. Forward-Looking Table A reports information on all units in the stock; Table 3 lists subgroups from Table A with loss rates statistically different than the loss rate of the overall stock. Forward-Looking Tables B, C, and D describe important characteristics of occupied units and their residents; Table 3 lists subgroups from those tables with loss rates statistically different than the loss rate of occupied units. We also employed judgment in selecting among components with statistically different loss rates. In general, we looked for subgroups with loss rates less than half or more than double the benchmark rate, but we listed other subgroups if their inclusion illustrated

<sup>7</sup> Numbers may not add consistently due to rounding. Counts were rounded to the nearest hundred.

interesting patterns within loss rates. Finally, Table 3 includes the loss rates for four key segments of the housing market—occupied units, vacant units, owner-occupied units, and renter-occupied units—even if their loss rates are not statistically different.

**Table 3: Sectors Experiencing Atypical Loss Rates in San Diego, 2002–2011<sup>8</sup>**

Characteristics	Present in 2002	Total lost	Percent lost
<i>Housing stock</i>	1,072,000	7,000	0.7%
<i>Occupancy status</i>			
Occupied	999,100	4,600	0.5%
Vacant	67,100	2,100	3.2% **
<i>Year built</i>			
1985–1989	158,000	200	0.2% **
1940–1949	61,100	1,900	3.1% *
<i>Rooms</i>			
1	2,400	900	38.7% **
7	130,900	200	0.2% *
<i>Bedrooms</i>			
4 or more	196,800	200	0.1% **
<i>Stories in structure (multifamily)</i>			
1	35,700	1,800	5.0% *
<i>Tenure</i>			
Owner-occupied	586,000	800	0.1% *
Renter-occupied	413,100	3,600	0.9%
<i>Renter monthly housing costs</i>			
No cash rent	8,800	1,000	11.4% *
<i>Owner household income</i>			
\$100,000 or more	158,000	200	0.1% ***

\*Statistically different from either all units or all occupied units, as appropriate, at the 10-percent level.

\*\*Statistically different from either all units or all occupied units, as appropriate, at the 5-percent level.

\*\*\* Statistically different from either all units or all occupied units, as appropriate, at the 1-percent level.

The small overall loss rate and our ability to track only 28 sample units that left the stock limited the number of market sectors with statistically different loss rates. Table 3 shows the following variation in loss rates across subgroups.

- Among units that were vacant in 2002, the loss rate was much higher.
- To the extent that the data permit generalization, it appears that newer units had lower loss rates than older units.
- Single-room units experienced high loss rates, whereas larger units (7 rooms or 4 or more bedrooms) had lower rates.

<sup>8</sup> Two conditions were necessary for a housing sector to appear in Table 3, one mathematical and one judgmental: (1) the difference between the sector’s loss rate and the benchmark rate had to have been statistically significant at the 10-percent level, and (2) the difference had to be interesting. Counts are rounded to the nearest hundred.

- Owner-occupied units in 2002 experienced a low loss rate that was statistically different from the loss rate of all occupied units. Among owner-occupied units, those occupied in 2002 by higher income households (\$100,000 or more) had a low loss rate.
- Units that were renter-occupied in 2002 had a loss rate that was higher but not statistically different from that of all occupied units. Rental units that were provided for no cash rent in 2002 had a very high loss rate.

The 106,000 additions reported in Table 2 represented 8.9 percent of the 2011 housing stock. The rate of addition varied by the characteristics of the housing. Additions represented 8.6 percent of occupied units.

We examined all of the components of the 2002 San Diego housing stock contained in the four backward-looking tables in Appendix B to identify subgroups with unusual addition rates. Backward-Looking Table A reports information on all units in the stock; Table 4 lists subgroups from Table A with addition rates statistically different than the addition rate of the overall stock. Backward-Looking Tables B, C, and D describe important characteristics of occupied units and their residents; Table 4 lists subgroups from those tables with addition rates statistically different than the addition rate of occupied units. We also employed judgment in selecting among components with statistically different addition rates. In general, we looked for subgroups with addition rates less than half or more than double the benchmark rate, but we listed other subgroups if their inclusion illustrated interesting patterns within addition rates. Finally, Table 4 includes the addition rates for four key segments of the housing market—occupied units, vacant units, owner-occupied units, and renter-occupied units—even if their addition rates are not statistically different.

**Table 4: Sectors Experiencing Atypical Rates of Addition in San Diego, 2002–2011<sup>9</sup>**

Characteristics	Present in 2011	Total additions	Percent additions
<i>Housing units</i>	1,186,000	106,000	8.9%
<i>Occupancy status</i>			
Occupied	1,093,500	93,600	8.6%
Vacant	78,400	9,000	11.5%
Seasonal	14,100	3,400	24.4% **
<i>Units in structure</i>			
1, attached	112,500	18,100	16.1% ***
5 to 9	113,700	6,200	5.5% **
10 to 19	88,900	5,300	5.9% *
50 or more	58,800	11,800	20.1% ***
Manufactured/mobile home	42,200	400	0.9% ***
<i>Rooms</i>			
4	283,400	16,000	5.7% ***
9	45,000	9,300	20.6% ***
10 or more	17,500	5,000	28.5% ***
<i>Bedrooms</i>			
2	394,900	25,800	6.5% ***
4 or more	241,300	37,100	15.4% ***
<i>Stories in structure (multifamily)</i>			
1	56,300	3,100	5.4% *
2	262,200	10,000	3.8% ***
3	52,400	9,500	18.2% ***
4 to 6	29,200	6,900	23.6% ***
7 or more	15,300	6,500	42.3% ***
<i>Lack some plumbing</i>	17,900	200	0.9% ***
<i>Water</i>			
Well serving 1 to 5 units	18,700	3,900	21.0% **
<i>Sewer</i>			
Septic tank/cesspool	58,800	9,000	15.2% **
<i>Severe problems</i>	23,200	600	2.4% ***
Plumbing	17,900	200	0.9% ***
<i>Age of householder</i>			
65 to 74	107,700	5,300	4.9% **
75 or older	123,900	4,200	3.4% ***
<i>Children in household</i>			
Some	368,400	42,500	11.5% **
None	725,100	51,100	7.0% *
<i>Race and ethnicity</i>			
White Non-Hispanic	659,600	46,700	7.1% *
Black Non-Hispanic	54,000	7,300	13.5% *
Asian alone	105,400	15,300	14.6% **

<sup>9</sup> Two conditions were necessary for a housing sector to appear in Table 4, one mathematical and one judgmental: (1) the difference between the sector's addition rate and the benchmark rate had to have been statistically significant at the 10-percent level, and (2) the difference had to be interesting. Counts are rounded to the nearest hundred.

Characteristics	Present in 2011	Total additions	Percent additions
<i>Tenure</i>			
Owner-occupied	582,700	50,000	8.6%
Renter-occupied	510,800	43,600	8.5%
<i>Renter monthly housing costs</i>			
Less than \$350	24,600	400	1.7%***
\$800 to \$1,249	167,100	7,600	4.5%***
\$1,250 or more	247,300	27,800	11.3%**
<i>Renter household income</i>			
\$100,000 or more	63,000	9,500	15.1%***
<i>Owner monthly housing costs</i>			
Less than \$350	25,700	500	1.9%***
\$350 to \$599	65,600	800	1.2%***
\$600 to \$799	43,200	400	0.8%***
\$800 to \$1,249	64,300	2,300	3.6%***
\$1,250 or more	384,000	46,000	12.0%***
<i>Owner household income</i>			
Less than \$15,000	42,800	1,000	2.3%***
\$15,000 to \$29,999	60,600	2,000	3.2%***
\$30,000 to \$49,999	87,000	4,800	5.5%*
\$100,000 or more	210,300	24,700	11.7%***

\*Statistically different from either all units or all occupied units, as appropriate, at the 10-percent level.

\*\*Statistically different from either all units or all occupied units, as appropriate, at the 5-percent level.

\*\*\* Statistically different from either all units or all occupied units, as appropriate, at the 1-percent level.

The results reported in Table 4 tell an interesting story about changes in the San Diego metropolitan area.

- The rate of addition was particularly high among seasonal units. New additions were also high among units using wells and septic tanks.
- Structure type mattered. Single-family attached units had a high rate of addition, but manufactured housing had a very low rate. Among units in multifamily buildings, the rates of addition were low in small buildings (5–19 units) but very high among units in large buildings (50 or more units). Another characteristic of building size, number of floors, affected the rate of addition among units in multifamily buildings. Table 4 shows that the rate of addition increased sharply with the number of stories.
- New additions to the stock were underrepresented among units in 2011 with severe physical problems. With respect to specific quality deficiencies, units lacking complete plumbing demonstrated a lower rate of addition.
- Units occupied by households with elderly householders (65 years or older) had low rates of addition. Units occupied by households with children had an above-average rate of addition, while those without children had a below-average rate.

- New additions to the stock were lower than average among units with White Hispanic householders in 2011, whereas those with Black non-Hispanic or Asian householders had higher-than-average rates.
- Among owner-occupied units, those occupied by lower income owners (less than \$50,000) and those with low or moderate housing costs had lower rates of addition, while those occupied by high-income owners (\$100,000 or more) and those with high housing costs (\$1,250 per month or more) had higher-than-average rates of addition.
- A similar but less pronounced pattern was found among units that were renter-occupied in 2011. Rental units with low or moderate monthly housing costs in 2011 experienced lower-than-average rates of addition, while those with monthly housing costs of \$1,250 or more had a higher-than-average rate of addition. Units rented in 2011 by households with \$100,000 or more in income had a high rate of addition.

## **5. Rental Market Dynamics: 2002–2011**

Rental market dynamics focuses on the supply of rental housing and how that supply changes over time. Rental dynamics analysis has many of the features of CINCH analysis. A key step in rental dynamics analysis is to separate the rental stock into classes or strata based on how affordable the units are. This paper uses eight categories:

- Non-market: Either no cash rent or a subsidized rent.
- Extremely low rent: Affordable to renters with incomes less than or equal to 30 percent of local area median income.
- Very low rent: Affordable to renters with incomes greater than 30 percent but less than or equal to 50 percent of local area median income.
- Low rent: Affordable to renters with incomes greater than 50 percent but less than or equal to 60 percent of local area median income.
- Moderate rent: Affordable to renters with incomes greater than 60 percent but less than or equal to 80 percent of local area median income.
- High rent: Affordable to renters with incomes greater than 80 percent but less than or equal to 100 percent of local area median income.
- Very high rent: Affordable to renters with incomes greater than 100 percent but less than or equal to 120 percent of local area median income.
- Extremely high rent: Affordable to renters with incomes greater than 120 percent of local area median income.



For each category, “affordable” is defined as a gross-rent-to-income ratio of 30 percent or less for the higher of the incomes that define the boundaries for that category.<sup>10</sup> The categories are defined relative to area median income; therefore, the boundaries of the categories will change as area median income changes.

Table 5 summarizes what happened to the 2002 rental units by how affordable they were in 2002. It is based on Forward-Looking Rental Dynamics Table 1 in Appendix B, which traces in more detail where these units wound up in 2011.

**Table 5: Summary of Forward-Looking Rental Dynamics for San Diego**

Affordability categories	2002 rental units	To more affordable categories in 2011	In same affordability category in both years	To less affordable categories in 2011	2002 rental units non-rental in 2011
Non-market	83,300	NA	29.1%	62.1%	8.8%
Extremely low rent	12,600	14.9%	5.5%	67.0%	12.6%
Very low rent	65,500	8.3%	21.7%	53.3%	16.7%
Low rent	91,300	18.7%	32.9%	38.2%	10.1%
Moderate rent	110,200	20.0%	45.2%	23.2%	11.6%
High rent	47,300	18.0%	20.7%	34.5%	26.8%
Very high rent	19,900	32.1%	31.7%	16.1%	20.2%
Extremely high rent	15,700	40.1%	41.6%	NA	18.4%
Total	445,800	15.2%	31.8%	39.3%	13.8%

The 2002 rental stock in San Diego was not affordable. Of the 445,800 rental units in 2002, 78,100 were extremely low rent or very low rent units. In addition, 83,300 units were non-market; that is, they were either assisted or offered for no cash rent. These three categories accounted for only 36.2 percent of the 2002 rental stock. The three highest rent categories comprised 18.6 percent of the rental stock. Moves to a less affordable category (sometimes called gentrification) exceeded moves to a more affordable category (sometimes called filtration)—39.3 percent of all 2002 units compared to 15.2 percent.

By 2011, 13.8 percent of the 445,800 rental units in 2002 were no longer in the rental stock (61,500 units). The largest proportion of these losses was due to changes in tenure, with 47,800 rental units becoming owner-occupied or vacant for sale in 2011. Another 8,100 units became seasonal units, units occupied by persons with usual residence elsewhere, or units used for migratory workers. Finally, 5,400 rental units were no longer in the housing stock in 2011. Some of these losses were permanent; that is, the units were demolished or destroyed. Some losses were potentially reversible, such as units being used for nonresidential purposes. Forward-Looking Rental Dynamics Table 2 shows how the movement out of the rental stock varied across the affordability categories.

Table 6 summarizes where the 2011 rental units came from, with respect to 2002, by how affordable they were in 2011. It is based on Backward-Looking Rental Dynamics Table 1 in Appendix B, which traces in more detail the origin of these units.

<sup>10</sup> Gross rent is equal to rent plus utilities.

The rental stock in San Diego was even less affordable in 2011 than in 2002. Of the 546,900 rental units in 2011, 62,900 were extremely low rent or very low rent units. In addition, 63,300 units were non-market; that is, they were either assisted or offered for no cash rent. These three categories accounted for 23.1 percent of the 2011 rental stock. The three highest rent categories comprised 34.0 percent of the rental stock. Moves from a more affordable category (sometimes called gentrification) exceeded moves from a less affordable category (sometimes called filtration)—33.4 percent of all 2011 units compared to 13.1 percent.

**Table 6: Summary of Backward-Looking Rental Dynamics for San Diego**

Affordability categories	2011 rental units	From more affordable categories in 2002	In same affordability category in both years	From less affordable categories in 2002	2011 rental units non-rental in 2002
Non-market	63,300	NA	41.3%	33.7%	25.0%
Extremely low rent	16,300	11.2%	4.6%	49.2%	35.0%
Very low rent	46,600	15.0%	32.0%	30.9%	22.1%
Low rent	86,500	41.0%	37.1%	14.8%	7.1%
Moderate rent	148,100	44.2%	35.8%	4.9%	15.1%
High rent	68,500	43.4%	15.3%	7.9%	33.5%
Very high rent	64,900	46.8%	9.8%	3.8%	39.6%
Extremely high rent	52,800	24.3%	13.4%	NA	62.3%
Total	546,900	33.4%	27.6%	13.1%	25.9%

Of the 546,900 rental units in 2011, 25.9 percent were not rental in 2002 (141,700 units). The largest proportion of these gains was due to changes in tenure, with 86,400 rental units having been owner-occupied or vacant for sale in 2002. Another 8,800 units had been seasonal units, units occupied by persons with usual residence elsewhere, or units used for migratory workers. Finally, 46,500 rental units had not been in the housing stock in 2002. Of these, 40,900 were added by new construction and 5,600 by other means. Backward-Looking Rental Dynamics Table 2 shows how the movement into the rental stock varied across the affordability categories.

## **6. Summary of Housing Market Changes: San Diego Metropolitan Area, 2002–2011**

In 2002 the San Diego metropolitan area contained 1,072,000 housing units, including vacant units. By 2011 the number of housing units had increased to 1,186,100. This represents an overall increase of 10.6 percent, which translates to an average annual increase of 0.8 percent over the 9-year period. There were no changes to the definition of the metropolitan area between AHS surveys.

Between 2002 and 2011, only 7,000 units left the housing stock. Of these, 2,300 are clearly permanent losses—the original unit is gone, and major construction would be required to replace it with a new unit. Another 3,700 are temporary losses—the original unit needs repairs or is being used for other purposes. These units may or may not return to the housing stock. Finally, there were 1,000 units that left the housing stock either permanently or temporarily for “other” reasons, a category that encompasses a wide variety of situations. Demolitions and natural disasters accounted for 1,700 of the permanent losses, while mergers and conversions

contributed another 500 permanent losses. The 2011 AHS survey in San Diego did track mobile home move-outs, which led to the loss of another 100 units.

In the period between the 2002 and the 2011 AHS surveys, 106,000 units were added to the housing stock. Ninety-four percent of these additions were newly constructed units. The 2011 AHS did track move-ins of mobile homes in San Diego, a factor that contributed 200 units. Also, 1,500 new units were formed from the conversion or merger of 2002 units. We classified 3,200 units as recovered because these units had been in the housing stock at some point but were classified in 2002 as nonresidential (2,900) or uninhabitable (300). Finally, 1,500 units were added in other unclassified ways.

The San Diego metropolitan area lost 0.7 percent of all 2002 housing units by 2011; additions between 2002 and 2011 represented 8.9 percent of the 2011 housing stock. Losses and additions varied across portions of the San Diego housing market defined by the characteristics of the unit or its occupants. We observed the following patterns, which were both atypical of the overall housing stock and statistically significant:

- Among units that were vacant in 2002, the loss rate was much higher.
- To the extent that the data permit generalization, it appears that newer units had lower loss rates than older units.
- Single-room units experienced high loss rates, whereas larger units (7 rooms or 4 or more bedrooms) had lower rates.
- Owner-occupied units in 2002 experienced a low loss rate that was statistically different from the loss rate of all occupied units. Among owner-occupied units, those occupied in 2002 by higher income households (\$100,000 or more) had a low loss rate.
- Units that were renter-occupied in 2002 had a loss rate that was higher but not statistically different from that of all occupied units. Rental units that were provided for no cash rent in 2002 had a very high loss rate.
- The rate of addition was particularly high among seasonal units. New additions were also high among units using wells and septic tanks.
- Structure type mattered. Single-family attached units had a high rate of addition, but manufactured housing had a very low rate. Among units in multifamily buildings, the rates of addition were low in small buildings (5–19 units) but very high among units in large buildings (50 or more units). Another characteristic of building size, number of floors, affected the rate of addition among units in multifamily buildings. Table 4 shows that the rate of addition increased sharply with the number of stories.
- New additions to the stock were underrepresented among units in 2011 with severe physical problems. With respect to specific quality deficiencies, units lacking complete plumbing demonstrated a lower rate of addition.

- Units occupied by households with elderly householders (65 years or older) had low rates of addition. Units occupied by households with children had an above-average rate of addition, while those without children had a below-average rate.
- New additions to the stock were lower than average among units with White Hispanic householders in 2011, whereas those with Black non-Hispanic or Asian householders had higher-than-average rates.
- Among owner-occupied units, those occupied by lower income owners (less than \$50,000) and those with low or moderate housing costs had lower rates of addition, while those occupied by high-income owners (\$100,000 or more) and those with high housing costs (\$1,250 per month or more) had higher-than-average rates of addition.
- A similar but less pronounced pattern was found among units that were renter-occupied in 2011. Rental units with low or moderate monthly housing costs in 2011 experienced lower-than-average rates of addition, while those with monthly housing costs of \$1,250 or more had a higher-than-average rate of addition. Units rented in 2011 by households with \$100,000 or more in income had a high rate of addition.

The 2002 rental stock in San Diego was not affordable. Of the 445,800 rental units in 2002, 78,100 were extremely low rent or very low rent units. In addition, 83,300 units were non-market; that is, they were either assisted or offered for no cash rent. These three categories accounted for only 36.2 percent of the 2002 rental stock. The three highest rent categories comprised 18.6 percent of the rental stock. Moves to a less affordable category (sometimes called gentrification) exceeded moves to a more affordable category (sometimes called filtration)—39.3 percent of all 2002 units compared to 15.2 percent. By 2011, 13.8 percent of the 445,800 rental units in 2002 were no longer in the rental stock (61,500 units). The largest proportion of these losses was due to changes in tenure, with 47,800 rental units becoming owner-occupied or vacant for sale in 2011.

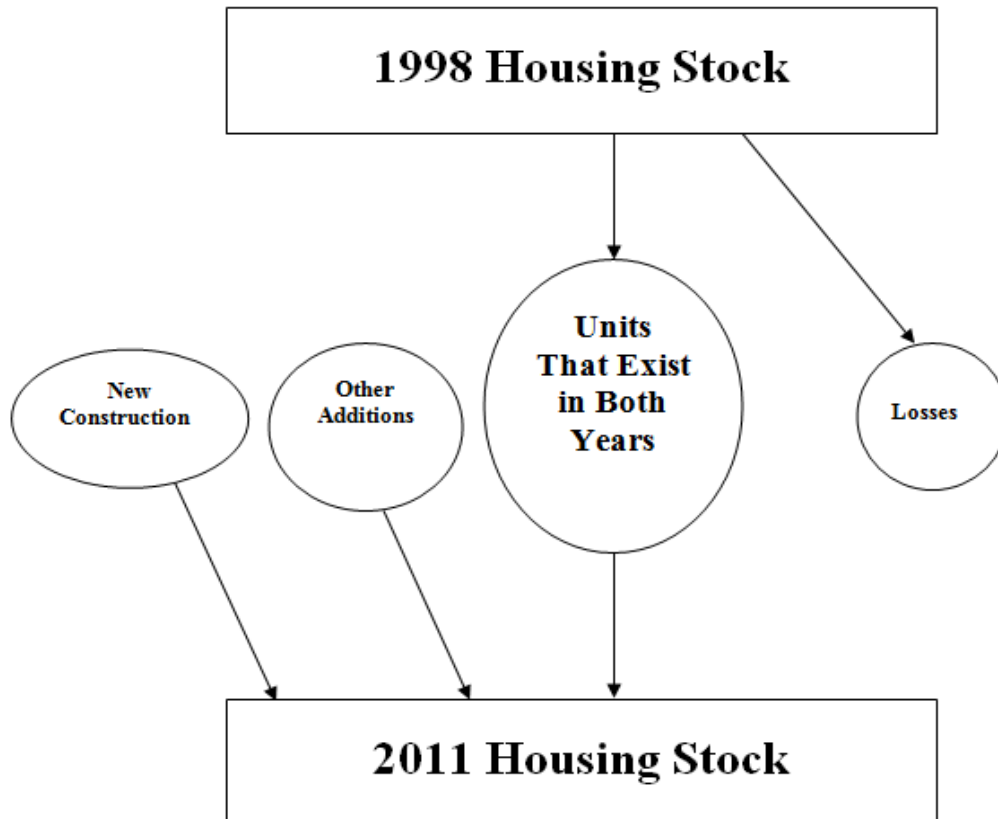
The rental stock in San Diego was even less affordable in 2011 than in 2002. Of the 546,900 rental units in 2011, 62,900 were extremely low rent or very low rent units. In addition, 63,300 units were non-market; that is, they were either assisted or offered for no cash rent. These three categories accounted for 23.1 percent of the 2011 rental stock. The three highest rent categories comprised 34.0 percent of the rental stock. Moves from a more affordable category (sometimes called gentrification) exceeded moves from a less affordable category (sometimes called filtration)—33.4 percent of all 2011 units compared to 13.1 percent. Of the 546,900 rental units in 2011, 25.9 percent were not rental in 2002 (141,700 units). The largest proportion of these gains was due to changes in tenure, with 86,400 rental units having been owner-occupied or vacant for sale in 2002.

## Appendix A: CINCH and Rental Dynamics Methodology

### Overview

Components of Inventory Change (CINCH) is a tool used by housing analysts to study how the housing inventory changes over time. Figure 1 illustrates how the inventory evolves.

**Figure A-1: How the Housing Inventory Changes**



In the context of Figure A-1, the U.S. Census Bureau provides estimates for both rectangles (the 2002 and 2011 housing stocks) and one oval (units added through new construction between 2002 and 2011). No one estimates the other three ovals: the number of units that belong to both the 2002 and 2011 housing stock, units lost to the housing stock between 2002 and 2011, and other additions to the housing stock between 2002 and 2011.

While losses and other additions are small relative to the overall stock, they encompass important features of how housing markets evolve. Housing units are “clumps” of physical capital associated with specific plots of land, and the housing inventory is the aggregation of these capital-land combinations. New construction creates new clumps, and—like all capital—some “clumps” depreciate and disappear. However, housing units undergo other interesting changes. Losses can be either permanent or temporary. Units destroyed by natural disasters or intentionally demolished are permanent losses. Temporary losses include units that are used for

nonresidential purposes and units that are uninhabitable because of structural defects that can be repaired. Additions can result from restoring units that were uninhabitable or converting nonresidential structures into residential structures.

In addition to determining the size of each oval, housing analysts find information about the characteristics of the units in the different ovals useful. Interesting characteristics include structure type, age of the unit, size of the unit, location by region, location by metropolitan status, tenure, household size and composition, resident income, and resident race and ethnicity.

CINCH analysis has three goals:<sup>11</sup>

- To provide an estimate for all six components of Figure A-1.
- To disaggregate losses and other additions into relevant component parts.
- To characterize the units that survive from one period to the next and the units that are added or lost between periods.

The AHS has four features that make CINCH analysis possible:

- Each unit has weights that can be used to estimate its share of the overall stock.
- The AHS tracks new construction and the various types of losses and other additions.
- The AHS has detailed information about the characteristics of each unit and its occupants.
- The AHS tracks the same unit from one period to the next so that changes in status and characteristics can be observed directly.

Housing analysts and policymakers are particularly interested in what happens to affordable rental housing units. Rental dynamics is a form of CINCH analysis that classifies the rental housing stock by affordability level and tracks the evolution of the rental housing stock by affordability class.

---

<sup>11</sup> Previous CINCH analyses have distinguished between the “status” of a unit with respect to the housing stock (e.g., existing as a nonresidential structure) and the “characteristics” of the unit or its occupants (e.g., rental vs. owner-occupied, or race of householder). This report uses this same distinction. Also adopting previous CINCH terminology, Appendix A will refer to the more recent AHS survey year, 2011, as the current year and the previous AHS survey year, 2002, as the base year.

## Why the analysis needs to be separated into two components

It would be possible to list for every AHS sample unit its status and characteristics in both 2002 and 2011. In some cases, there may be no status, (e.g., not yet constructed in 2002) or no characteristics (e.g., no race of householder for vacant units), but with this understanding such a listing would still be possible. From the listing, one could construct an exact accounting of the movement of units among the various statuses and characteristics between 2002 and 2011.

The exact accounting would apply only to AHS sample observations, roughly a 1-in-500 picture of the housing stock at the metropolitan level. To obtain estimates of the magnitude of actual changes in the housing stock, one needs to apply weights to the sampled units. When weights are applied, the accounting will no longer be exact because units have different weights in different years.<sup>12</sup> For example, the exact accounting might show that 2,500 sample units that were rental in 2002 became owner-occupied or vacant for sale in 2011. To estimate the number of units in the national housing stock that were rental in 2002 and became owner-occupied in 2011, one would need to apply weights. However, using 2002 weights would produce a different estimate than using 2011 weights. There is no conceptual reason to favor the answer using 2002 weights over the answer using 2011 weights. The choice of weights depends upon how the intended analysis will be used.

For this reason, previous CINCH analyses have distinguished between:

1. *Forward-looking analysis*; that is, starting with the base-year stock (2002) and determining the status and characteristics of *those* units in the current year (2011). The goal is to explain what happened to the units comprising the housing stock in the base year. Forward-looking analysis takes the housing stock as given in the base year and looks at the destination of these units in the current year.
2. *Backward-looking analysis*; that is, starting from the current year (2011) stock and determining the status and characteristics of *those* units in the base year (2002). The goal here is to explain where the units comprising the current year housing stock came from. Backward-looking analysis takes the current-year housing stock as given and looks at the source of these units, either in the base year or in new construction or other additions.

---

<sup>12</sup> The Census Bureau assigns both a pure weight (the inverse of the probability of selection) and a final weight to each AHS observation. The final weights are designed to sum up to independent estimates of the total housing stock. The pure weights will vary over observations within a given AHS survey because of stratification in drawing the sample. Generally, pure weights do not vary across survey years. The final weights will differ over observations within a given AHS because the Census Bureau makes adjustments for various factors affecting the sample. The final weights of a given observation will also vary between AHS surveys because of changes in the housing stock.

## Why changes in geography boundaries affect CINCH analysis

The analysis in this report applies only to that portion of the metropolitan area that was common to the metropolitan area as defined in both 2002 and 2011, and the application to the common area is not precise for the following reasons:

- For forward-looking analysis (2002 to 2011), we observe only those sample units in the geography common to both 2002 and 2011. Thus the observed changes correctly apply only to the common area. However, the forward-looking weights are based by necessity on the entire 2002 geography. Since the common area is smaller than the 2002 geography, the counts are overestimates for the common area.
- For the backward-looking analysis (2011 from 2002), we observe (a) sample units that were in the common area in 2002 and are still in the stock in 2011, (b) sample units representing additions to the stock throughout the metropolitan area as newly defined, and (c) sample units that represent housing existing in 2002 in the added portion of the metropolitan area. We can eliminate (c) and try to focus the analysis on the common area, but there are two problems. The backward-looking weights are based by necessity on the entire 2011 geography. Since the common area is smaller than the 2011 geography, the counts are overestimates for the common area. Moreover, we cannot determine which newly added sample units in (b) represent the common area and which represent the added portion of the metropolitan area. Therefore, additions are overestimated with respect to the common area.



## ***Appendix B: CINCH and Rental Dynamics Tables***

### **Contents**

This appendix contains 12 detailed CINCH and rental dynamics tables that have been featured in previous reports. There are:

- Four forward-looking CINCH tables that track changes to the 2002 housing stock in 2011 by various characteristics of the units or their occupants.
- Four backward-looking CINCH tables that track where the 2011 housing stock originated by various characteristics of the units or their occupants.
- Two forward-looking rental dynamics tables (one with counts and one with percentages) that track by affordability category what happened to the 2002 rental stock by 2011.
- Two backward-looking rental dynamics tables (one with counts and one with percentages) that track by affordability category where the 2011 rental stock came from with respect to 2002.

Appendix B begins with an explanation of how to read the tables.

### **How to read CINCH tables**

Rows and columns serve different purposes in CINCH tables. The rows identify classes of units to be analyzed. The columns trace those units either forward or backward. All counts are rounded to the nearest hundred.

The forward-looking tables report what happened to the 2002 housing stock by 2011. There are three possible dispositions of 2002 units:

- Units that continue to exist in 2011 with the same characteristics (or serving the same market).
- Units that continue to exist in 2011 but with different characteristics (or serving a different market).
- Units that were lost to the stock in 2011.

The backward-looking tables report where the 2011 housing stock came from in reference to 2002. There are three possible sources of 2011 units:

- Units that existed in 2002 with the same characteristics (or serving the same market).

- Units that existed in 2002 but with different characteristics (or serving a different market).
- Units that are additions to the housing stock between 2002 and 2011.

Since the essence of the CINCH analysis is in the columns, we will explain the columns in detail.

### ***Columns Common to Both Forward-Looking and Backward-Looking Tables***

The first and last columns contain the row numbers, which are identical for the same tables in the forward-looking and backward-looking sets. Columns A through D set up the analysis and track units that exist in both periods.

- Column A specifies the characteristic that defines the subset of the stock that is being tracked forward or backward in a particular row, for example, occupied units or units built from 1990 through 1994.
- Column B gives the CINCH estimate of the number of units that satisfy two conditions: (a) being part of the housing stock in the relevant year (2002 for the forward-looking tables and 2011 for the backward-looking tables) and (b) satisfying the condition in column A.
- Column C is the CINCH estimate of the number of units from column B that (a) are also part of the housing stock in the other year and (b) continue to belong to the subset defined by column A.
- Column D is the CINCH estimate of the number of units from column B that (a) are also part of the housing stock in the other year but (b) no longer belong to the subset defined by column A. In some cases, the analysis will not allow a unit to change characteristics between the base year and the other year. Examples include type of structure, year built, and number of stories; these characteristics are considered impossible or unlikely to change.

### ***Columns Unique to Forward-Looking Tables***

In the forward-looking tables, columns E through J track what happened to units that were lost from 2002 to 2011.

- Column E is the CINCH estimate of the number of units from column B that are not in the 2011 housing stock because they were merged with other units or converted into multiple units.
- Column F is the CINCH estimate of the number of houses or manufactured homes from column B that were moved out during the period. In most cases, these units were relocated rather than destroyed. The AHS considers them “losses” because a housing unit is a combination of land and capital, and a move breaks that specific combination to

create a new combination at a different location. For this reason, manufactured houses that move from one lot to another are treated as both losses and additions.<sup>13</sup>

- Column G is the CINCH estimate of the number of units from column B that became nonresidential at the end of the period. For example, a real estate firm, a tax preparation office, a palm reader, or some other business might buy or rent a house to use for business rather than residential purposes.<sup>14</sup>
- Column H is the CINCH estimate of the number of units from column B that were demolished or were destroyed by fires or natural disasters by 2011.
- Column I is the CINCH estimate of the number of units from column B that in 2011 were condemned or were no longer usable for housing because of extensive damage.
- Column J is the CINCH estimate of the number of units from column B that were lost by 2011 for other reasons.

The columns form a closed system. Column B counts the number of units tracked; columns C through J account for all the possible outcomes. Therefore, column B minus the sum of columns C through J always equals zero, except for rounding.

### ***Columns Unique to Backward-Looking Tables***

In backward-looking tables, columns E through J track where units came from that are part of the housing stock in 2011 but were not part of the 2002 housing stock.

- Column E is the CINCH estimate of the number of units from column B that were created by the merger or conversion of other units.
- Column F estimates the number of houses or mobile homes from column B that were moved in during the period. For many of the metropolitan areas in the 2011 AHS survey, information on movements was not collected.
- Column G is the CINCH estimate of the number of units from column B that had been nonresidential in 2002.
- Column H is the CINCH estimate of the number of units from column B that were newly constructed between 2002 and 2011. Note: Generally, in Backward-Looking Table A, there will be units in column H with year-built data substantially earlier than the survey year. There are three explanations for this apparent inconsistency. (1) With the exception of manufactured houses, presence in column H is determined by information from the

---

<sup>13</sup> The AHS does not track what happens to a house or mobile home that is moved off of a lot that is part of the AHS sample, and does not inquire about the previous history of a unit that is moved on to a lot that is part of the AHS sample.

<sup>14</sup> If the owner or tenant both lives in a unit and conducts business out of the unit, the AHS considers the unit to be residential. Nonresidential, therefore, means strictly no residential use.

Census Bureau indicating that the unit entered the sample from a listing of new construction; the Census Bureau may be mistaken. (2) Year built is based on information from the respondent; the respondent may be mistaken. (3) An older unit may have undergone substitution renovation that required a new construction permit, but the respondent may have given the original construction date rather than the renovation date. The extent of major renovation occurring in many established neighborhoods throughout the country makes (3) a likely possibility.

- Column I is the CINCH estimate of the number of units from column B that were added by 2011 from units that were structurally unsound in 2002.<sup>15</sup>
- Column J is the CINCH estimate of the number of units from column B that were added by 2011 from units that had been temporarily lost to the stock in 2002 for reasons “not classified” or were newly added by “other” means.

In some metropolitan areas, the AHS surveys do not report data for all the rows in the tables in this appendix. The columns for those rows are left blank.

## How to read rental dynamics tables

Forward-Looking Rental Dynamics Table 1 details by affordability category how the rental units in the 2002 housing stock relate to the 2011 housing stock. Column A estimates the number of units in each affordability category in 2002. Columns B through L explain where the 2002 rental units fit into the 2011 housing stock.

- If the units are still rental in 2011, they will be counted in columns B through I, depending upon how affordable they are in 2011.
- If the units have become owner-occupied or for vacant for sale, they will be counted in column J.
- Seasonal units, units that are not the primary residence of their occupants, units used for migratory workers, and units that are vacant but not for rent or sale are counted in column K.
- Column L counts 2002 units that are not in the 2011 housing stock; these can be either temporary or permanent losses to the stock.

The sum of columns B through L equals column A, except for rounding.

Forward-Looking Rental Dynamics Table 2 presents the same information as Table 1, but columns B through L are now percentages of column A. Columns B through L sum to 100 percent in each row.

---

<sup>15</sup> These units had codes that identified them as “occupancy prohibited” or “interior exposed to the elements.”

Backward-Looking Rental Dynamics Table 1 details by affordability category where the rental units in the 2011 housing stock came from with respect to the 2002 housing stock. Column A estimates the number of units in each affordability category in 2011. Columns B through L explain where the 2011 rental units originated.

- If the units were rental in 2002, they will be counted in columns B through I, depending upon how affordable they are in 2002.
- If the units were owner-occupied or for vacant for sale, they will be counted in column J.
- Seasonal units, units that are not the primary residence of their occupants, units used for migratory workers, and units that are vacant but not for rent or sale in 2002 are counted in column K.
- Column L counts rental units that were newly constructed between 2002 and 2011.
- Column M counts rental units that were added to the housing stock after 2002 by other means.

The sum of columns B through M equals column A, except for rounding.

Backward-Looking Rental Dynamics Table 2 presents the same information as Table 1, but columns B through M are now percentages of column A. Columns B through M sum to 100 percent in each row.

These four Rental Dynamics Tables look only at the endpoints of the 9-year period; for example, a unit that is low rent in 2002 and moderate rent in 2011 might have been high rent, owned, or out of the stock at points in between the two surveys. These tables do not track the path of rental units between 2002 and 2011.

**Forward-Looking Table A: Housing Characteristics, San Diego**

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 2002	2002 units present in 2011	Change in characteristics	2002 units lost due to conversion/merger	2002 house or mobile home moved out	2002 units changed to nonresidential use	2002 units lost through demolition or disaster	2002 units badly damaged or condemned	2002 units lost in other ways	Row
1	Housing stock	1,072,000	1,065,000	0	500	100	3,200	1,700	500	1,000	1
	Occupancy status										
2	Occupied	999,100	931,600	62,900	500	100	1,200	1,400	500	700	2
3	Vacant	67,100	8,400	56,600	0	0	1,700	200	0	200	3
4	Seasonal	5,800	1,800	3,700	0	0	300	0	0	0	4
	Units in structure										
5	1, detached	565,300	562,800	0	300	100	900	400	500	200	5
6	1, attached	151,700	150,500	0	0	0	300	1,000	0	0	6
7	2 to 4	76,000	75,000	0	0	0	200	200	0	500	7
8	5 to 9	81,000	80,500	0	0	0	300	0	0	200	8
9	10 to 19	62,200	60,700	0	200	0	1,300	0	0	0	9
10	20 to 49	47,200	46,900	0	0	0	200	0	0	0	10
11	50 or more	38,300	38,300	0	0	0	0	0	0	0	11
12	Manufactured/mobile home	50,300	50,300	0	0	0	0	0	0	0	12

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 2002	2002 units present in 2011	Change in characteristics	2002 units lost due to conversion/ merger	2002 house or mobile home moved out	2002 units changed to nonresidential use	2002 units lost through demolition or disaster	2002 units badly damaged or condemned	2002 units lost in other ways	Row
	Year built										
15	2000–2004	38,500	38,500	0	0	0	0	0	0	0	15
16	1995–1999	39,500	39,300	0	0	0	200	0	0	0	16
17	1990–1994	51,900	51,700	0	0	0	200	0	0	0	17
18	1985–1989	158,000	157,800	0	200	0	0	0	0	0	18
19	1980–1984	80,600	80,400	0	0	0	0	0	200	0	19
20	1975–1979	141,600	141,600	0	0	0	0	0	0	0	20
21	1970–1974	141,300	140,900	0	300	100	0	0	0	0	21
22	1960–1969	190,900	189,100	0	0	0	700	700	300	0	22
23	1950–1959	117,200	116,200	0	0	0	1,000	0	0	0	23
24	1940–1949	61,100	59,200	0	0	0	700	500	0	700	24
25	1930–1939	33,100	32,400	0	0	0	200	200	0	200	25
26	1920–1929	10,700	10,500	0	0	0	0	200	0	0	26
27	1919 or earlier	7,500	7,500	0	0	0	0	0	0	0	27
	Rooms										
28	1	2,400	400	1,100	0	0	900	0	0	0	28
29	2	10,100	5,500	4,000	0	0	300	200	0	0	29
30	3	126,400	92,800	32,300	0	0	700	200	0	200	30
31	4	255,300	179,800	73,800	0	0	700	500	0	500	31
32	5	230,700	112,600	117,000	500	100	0	400	0	0	32
33	6	181,000	78,500	101,800	0	0	200	200	0	200	33
34	7	130,900	46,400	84,300	0	0	200	0	0	0	34
35	8	79,800	32,000	47,500	0	0	0	0	300	0	35
36	9	30,100	9,300	20,700	0	0	0	0	0	0	36
37	10 or more	25,400	4,000	21,200	0	0	0	0	200	0	37

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 2002	2002 units present in 2011	Change in characteristics	2002 units lost due to conversion/merger	2002 house or mobile home moved out	2002 units changed to nonresidential use	2002 units lost through demolition or disaster	2002 units badly damaged or condemned	2002 units lost in other ways	Row
	Bedrooms										
38	None	7,700	4,100	2,600	0	0	900	0	0	0	38
39	1	157,000	127,100	27,700	0	100	1,300	500	0	200	39
40	2	369,000	324,700	41,900	300	0	700	900	0	500	40
41	3	341,500	291,500	48,800	200	0	200	200	300	200	41
42	4 or more	196,800	168,600	27,900	0	0	0	0	200	0	42
43	Multiunit structures	304,700	301,400	0	200	0	2,000	200	0	700	43
	Stories in structure										
44	1	35,700	33,900	0	0	0	1,500	0	0	200	44
45	2	204,300	203,400	0	0	0	200	200	0	500	45
46	3	38,000	37,500	0	200	0	200	0	0	0	46
47	4 to 6	8,800	8,800	0	0	0	0	0	0	0	47
48	7 or more	17,900	17,900	0	0	0	0	0	0	0	48



**Forward-Looking Table B: Unit Quality, San Diego**

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 2002	2002 units present in 2011	Change in characteristics	2002 units lost due to conversion/merger	2002 house or mobile home moved out	2002 units changed to nonresidential use	2002 units lost through demolition or disaster	2002 units badly damaged or condemned	2002 units lost in other ways	Row
1	Occupied units	999,100	931,600	62,900	500	100	1,200	1,400	500	700	1
2	With complete kitchen	980,200	881,800	94,000	500	100	1,000	1,400	500	700	2
3	Lacking complete kitchen facilities	18,900	2,100	16,500	0	0	200	0	0	0	3
4	With complete plumbing	992,600	910,000	78,300	500	100	1,000	1,400	500	700	4
5	Lack some plumbing	6,500	700	5,500	0	0	200	0	0	0	5
6	No hot piped water	200	0	0	0	0	200	0	0	0	6
7	No bathtub/shower	600	400	0	0	0	200	0	0	0	7
8	No flush toilet	600	400	0	0	0	200	0	0	0	8
9	No exclusive use	5,900	400	5,500	0	0	0	0	0	0	9
	Water										
10	Public/private water	984,700	918,400	61,700	500	100	1,200	1,400	500	700	10
11	Well serving 1 to 5 units	14,400	12,500	1,900	0	0	0	0	0	0	11
12	Other water source										12
	Sewer										
13	Public sewer	945,500	878,200	63,300	200	100	1,200	1,400	200	700	13
14	Septic tank/cesspool	53,600	40,500	12,500	300	0	0	0	300	0	14
15	Other										15

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 2002	2002 units present in 2011	Change in characteristics	2002 units lost due to conversion/merger	2002 house or mobile home moved out	2002 units changed to nonresidential use	2002 units lost through demolition or disaster	2002 units badly damaged or condemned	2002 units lost in other ways	Row
16	Severe problems	16,400	1,100	15,100	0	0	200	0	0	0	16
17	Plumbing	6,500	700	5,500	0	0	200	0	0	0	17
18	Heating	9,200	400	8,900	0	0	0	0	0	0	18
19	Electric	300	0	300	0	0	0	0	0	0	19
20	Upkeep	1,100	0	1,100	0	0	0	0	0	0	20
21	Moderate problems	28,800	2,900	25,900	0	0	0	0	0	0	21
22	Plumbing	1,400	0	1,400	0	0	0	0	0	0	22
23	Heating	1,900	1,100	800	0	0	0	0	0	0	23
24	Kitchen	18,900	2,100	16,500	0	0	200	0	0	0	24
25	Upkeep	9,100	0	9,100	0	0	0	0	0	0	25

**Forward-Looking Table C: Occupant Characteristics, San Diego**

Row	A	B	C	D	E	F	G	H	I	J	Row
	Characteristics	Present in 2002	2002 units present in 2011	Change in characteristics	2002 units lost due to conversion/merger	2002 house or mobile home moved out	2002 units changed to nonresidential use	2002 units lost through demolition or disaster	2002 units badly damaged or condemned	2002 units lost in other ways	
1	Occupied units	999,100	931,600	62,900	500	100	1,200	1,400	500	700	1
	Age of householder										
2	Under 65	792,000	650,500	137,400	500	100	1,000	1,200	500	700	2
3	65 to 74	108,100	12,700	95,400	0	0	0	0	0	0	3
4	75 or older	99,100	44,900	53,700	0	0	200	200	0	0	4
	Children in household										
5	Some	358,600	187,300	169,800	0	0	500	500	200	200	5
6	None	640,500	477,400	160,000	500	100	700	1,000	300	500	6
	Race and ethnicity										
7	White	759,000	641,200	113,700	500	100	1,000	1,200	500	700	7
8	Hispanic	90,500	54,900	35,300	300	0	0	0	0	0	8
9	Non-Hispanic	668,500	507,100	157,600	200	100	1,000	1,200	500	700	9
10	Black	48,100	16,100	32,000	0	0	0	0	0	0	10
11	Hispanic	1,800	0	1,800	0	0	0	0	0	0	11
12	Non-Hispanic	46,300	15,400	30,900	0	0	0	0	0	0	12
13	American Indian or Alaska Native alone	5,200	0	5,200	0	0	0	0	0	0	13
14	Asian or Pacific Islander	74,500	38,900	35,600	0	0	0	0	0	0	14
16	Other	112,400	2,400	109,500	0	0	200	200	0	0	16
17	Hispanic or Latino (any race)	197,900	132,000	65,100	300	0	200	200	0	0	17

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 2002	2002 units present in 2011	Change in characteristics	2002 units lost due to conversion/merger	2002 house or mobile home moved out	2002 units changed to nonresidential use	2002 units lost through demolition or disaster	2002 units badly damaged or condemned	2002 units lost in other ways	Row
	Income sources of families and primary individuals										
18	Wages and salaries	818,200	594,300	220,400	200	0	700	1,200	500	700	18
20	Dividends, interest, or rent	360,000	139,400	218,500	500	0	200	500	200	500	20
21	Public assistance or public welfare	38,500	3,200	34,800	0	0	0	200	0	200	21

**Forward-Looking Table D: Income and Housing Cost, San Diego**

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 2002	2002 units present in 2011	Change in characteristics	2002 units lost due to conversion/merger	2002 house or mobile home moved out	2002 units changed to nonresidential use	2002 units lost through demolition or disaster	2002 units badly damaged or condemned	2002 units lost in other ways	Row
1	Occupied units	999,100	931,600	62,900	500	100	1,200	1,400	500	700	1
	Tenure										
2	Owner-occupied	586,000	480,400	104,800	300	0	500	0	0	0	2
3	Homeownership rate	58.7%									3
4	Renter-occupied	413,100	334,000	75,200	200	100	700	1,400	500	700	4
	Renter monthly housing costs										
5	No cash rent	8,800	400	7,400	0	0	500	0	0	500	5
6	Less than \$350	25,200	9,400	15,700	0	0	0	0	0	0	6
7	\$350 to \$599	49,200	4,300	44,200	0	100	200	200	0	0	7
8	\$600 to \$799	89,500	7,900	80,600	0	0	0	700	0	200	8
9	\$800 to \$1,249	163,800	56,100	107,200	0	0	0	500	0	0	9
10	\$1,250 or more	76,600	47,500	28,400	200	0	0	0	500	0	10
	Renter household income										
11	Less than \$15,000	64,000	19,500	43,700	0	100	500	0	0	200	11
12	\$15,000 to \$29,999	106,900	24,200	81,900	0	0	0	500	0	200	12
13	\$30,000 to \$49,999	113,000	20,400	91,600	0	0	0	1,000	0	0	13
14	\$50,000 to \$99,999	102,200	27,900	73,500	0	0	200	0	300	200	14
15	\$100,000 or more	27,000	6,100	20,400	200	0	0	0	200	0	15

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 2002	2002 units present in 2011	Change in characteristics	2002 units lost due to conversion/merger	2002 house or mobile home moved out	2002 units changed to nonresidential use	2002 units lost through demolition or disaster	2002 units badly damaged or condemned	2002 units lost in other ways	Row
	Owner monthly housing costs										
16	Less than \$350	78,900	10,900	67,800	0	0	200	0	0	0	16
17	\$350 to \$599	87,200	16,800	70,400	0	0	0	0	0	0	17
18	\$600 to \$799	44,600	7,500	37,000	0	0	0	0	0	0	18
19	\$800 to \$1,249	88,800	14,800	74,100	0	0	0	0	0	0	19
20	\$1,250 or more	286,500	195,900	90,100	300	0	200	0	0	0	20
	Owner household income										
21	Less than \$15,000	37,600	5,800	31,600	0	0	200	0	0	0	21
22	\$15,000 to \$29,999	72,600	17,800	54,600	300	0	0	0	0	0	22
23	\$30,000 to \$49,999	106,000	23,400	82,600	0	0	0	0	0	0	23
24	\$50,000 to \$99,999	211,800	60,900	150,800	0	0	0	0	0	0	24
25	\$100,000 or more	158,000	83,200	74,600	0	0	200	0	0	0	25

**Backward-Looking Table A: Housing Characteristics, San Diego**

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 2002	Change in characteristics	2011 units added by conversion/merger	2011 house or mobile home moved in	2011 units added from nonresidential use	2011 units added by new construction	2011 units added from temporary losses in 2002 stock	2011 units added in other ways	Row
1	Housing stock	1,186,000	1,080,000	0	1,500	200	2,900	99,600	300		1
	Occupancy status										
2	Occupied	1,093,500	936,100	63,800	1,500	200	2,000	88,100	300		2
3	Vacant	78,400	9,700	59,700	0	0	1,000	8,100	0		3
4	Seasonal	14,100	1,900	8,800	0	0	0	3,400	0		4
	Units in structure										
5	1, detached	615,900	564,200	0	400	200	300	49,300	300		5
6	1, attached	112,500	94,400	0	400	0	0	17,400	0		6
7	2 to 4	89,600	82,500	0	700	0	600	5,900	0		7
8	5 to 9	113,700	107,500	0	0	0	300	5,900	0		8
9	10 to 19	88,900	83,700	0	0	0	700	4,500	0		9
10	20 to 49	64,300	58,900	0	0	0	300	5,000	0		10
11	50 or more	58,800	47,000	0	0	0	600	11,200	0		11
12	Manufactured/mobile home	42,200	41,800	0	0	0	0	400	0		12

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 2002	Change in characteristics	2011 units added by conversion/merger	2011 house or mobile home moved in	2011 units added from nonresidential use	2011 units added by new construction	2011 units added from temporary losses in 2002 stock	2011 units added in other ways	Row
	Year built										
13	2010–2014	7,000	0	0	0	0	0	7,000	0		13
14	2005–2009	54,000	0	0	0	0	0	54,000	0		14
15	2000–2004	75,100	39,800	0	400	0	0	34,900	0		15
16	1995–1999	42,700	40,200	0	0	0	0	2,500	0		16
17	1990–1994	54,900	53,700	0	0	0	300	900	0		17
18	1985–1989	166,200	165,900	0	0	0	300	0	0		18
19	1980–1984	81,600	81,600	0	0	0	0	0	0		19
20	1975–1979	139,900	139,900	0	0	0	0	0	0		20
21	1970–1974	142,400	142,000	0	0	0	400	0	0		21
22	1960–1969	190,200	188,800	0	700	0	300	0	0		22
23	1950–1959	118,800	117,500	0	0	200	300	0	0		23
24	1940–1949	61,900	60,200	0	400	0	300	400	300		24
25	1930–1939	32,000	31,300	0	0	0	600	0	0		25
26	1920–1929	11,400	11,400	0	0	0	0	0	0		26
27	1919 or earlier	7,900	7,600	0	0	0	300	0	0		27



	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 2002	Change in characteristics	2011 units added by conversion/merger	2011 house or mobile home moved in	2011 units added from nonresidential use	2011 units added by new construction	2011 units added from temporary losses in 2002 stock	2011 units added in other ways	Row
	Rooms										
28	1	3,700	400	2,600	0	0	300	0	0		28
29	2	14,100	5,900	6,000	400	0	900	900	0		29
30	3	129,000	99,200	20,700	1,100	200	800	7,000	0		30
31	4	283,400	184,500	82,800	0	0	300	15,000	300		31
32	5	240,900	110,200	111,400	0	0	0	18,900	0		32
33	6	222,300	77,300	123,200	0	0	600	20,900	0		33
34	7	140,400	47,900	79,600	0	0	0	12,900	0		34
35	8	89,800	32,400	47,500	0	0	0	9,800	0		35
36	9	45,000	9,400	26,300	0	0	0	9,300	0		36
37	10 or more	17,500	4,100	8,400	0	0	0	5,000	0		37
	Bedrooms										
38	None	12,700	4,400	6,700	0	0	1,000	400	0		38
39	1	160,400	136,200	12,100	1,100	200	1,000	9,500	300		39
40	2	394,900	326,200	42,900	400	0	300	24,700	0		40
41	3	376,700	291,600	55,700	0	0	300	28,200	0		41
42	4 or more	241,300	170,800	33,400	0	0	300	36,800	0		42
43	Multiunit structures	415,400	379,500	0	700	0	2,600	32,600	0		43
	Stories in structure										
44	1	56,300	53,200	0	400	0	0	2,700	0		44
45	2	262,200	252,300	0	400	0	1,600	8,000	0		45
46	3	52,400	42,800	0	0	0	0	9,500	0		46
47	4 to 6	29,200	22,300	0	0	0	300	6,500	0		47
48	7 or more	15,300	8,800	0	0	0	600	5,800	0		48

**Backward-Looking Table B: Unit Quality, San Diego**

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 2002	Change in characteristics	2011 units added by conversion/ merger	2011 house or mobile home moved in	2011 units added from nonresidential use	2011 units added by new construction	2011 units added from temporary losses in 2002 stock	2011 units added in other ways	Row
1	Occupied units	1,093,500	936,100	63,800	1,500	200	2,000	88,100	300	1,093,500	1
2	With complete kitchen	1,052,000	885,400	77,100	800	200	700	86,500	300	1,052,000	2
3	Lacking complete kitchen facilities	41,500	2,300	35,100	700	0	1,300	1,600	0	41,500	3
4	With complete plumbing	1,075,600	914,200	67,900	1,500	0	2,000	88,100	300	1,075,600	4
5	Lack some plumbing	17,900	800	17,000	0	200	0	0	0	17,900	5
6	No hot piped water	500	0	400	0	200	0	0	0	500	6
7	No bathtub/shower	400	400	0	0	0	0	0	0	400	7
8	No flush toilet	400	400	0	0	0	0	0	0	400	8
9	No exclusive use	0	21,100	-21,100	0	0	0	0	0	0	9
	Water										
10	Public/private water	1,073,300	921,900	62,500	1,500	0	2,000	84,400	300	1,073,300	10
11	Well serving 1 to 5 units	18,700	13,500	1,300	0	200	0	3,000	0	18,700	11
12	Other water source	1,500	0	700	0	0	0	800	0	1,500	12
	Sewer										
13	Public sewer	1,034,700	881,200	68,800	1,500	0	2,000	80,200	300	1,034,700	13
14	Septic tank/cesspool	58,800	41,800	8,100	0	200	0	8,000	0	58,800	14
15	Other										15

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 2002	Change in characteristics	2011 units added by conversion/merger	2011 house or mobile home moved in	2011 units added from nonresidential use	2011 units added by new construction	2011 units added from temporary losses in 2002 stock	2011 units added in other ways	Row
16	Severe problems	23,200	1,100	21,500	0	200	0	400	0	23,200	16
17	Plumbing	17,900	800	17,000	0	200	0	0	0	17,900	17
18	Heating	4,400	300	3,700	0	0	0	400	0	4,400	18
19	Electric										19
20	Upkeep	900	0	900	0	0	0	0	0	900	20
21	Moderate problems	55,100	3,000	47,700	700	0	1,300	2,000	0	55,100	21
22	Plumbing	2,600	0	2,600	0	0	0	0	0	2,600	22
23	Heating	1,800	1,100	700	0	0	0	0	0	1,800	23
24	Kitchen	41,500	2,300	35,100	700	0	1,300	1,600	0	41,500	24
25	Upkeep	12,000	0	11,600	0	0	0	400	0	12,000	25

**Backward-Looking Table C: Occupant Characteristics, San Diego**

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 2002	Change in characteristics	2011 units added by conversion/merger	2011 house or mobile home moved in	2011 units added from nonresidential use	2011 units added by new construction	2011 units added from temporary losses in 2002 stock	2011 units added in other ways	Row
1	Occupied units	1,093,500	936,100	63,800	1,500	200	2,000	88,100	300	1,500	1
	Age of householder										
2	Under 65	861,900	660,400	117,400	1,100	0	1,600	79,500	300	1,500	2
3	65 to 74	107,700	11,800	90,600	400	200	0	4,800	0	0	3
4	75 or older	123,900	43,800	75,900	0	0	300	3,800	0	0	4
	Children in household										
5	Some	368,400	188,800	137,100	400	0	0	42,100	0	0	5
6	None	725,100	477,400	196,600	1,100	200	2,000	46,000	300	1,500	6
	Race and ethnicity										
7	White	896,900	640,500	189,500	800	200	2,000	63,400	0	700	7
8	Hispanic	237,300	55,400	161,600	400	0	300	19,200	0	400	8
9	Non-Hispanic	659,600	504,600	108,300	400	200	1,700	44,200	0	300	9
10	Black	58,800	16,000	35,100	400	0	0	7,300	0	0	10
11	Hispanic	4,800	0	4,500	0	0	0	400	0	0	11
12	Non-Hispanic	54,000	15,400	31,400	400	0	0	6,900	0	0	12
13	American Indian or Alaska Native alone	4,800	0	4,800	0	0	0	0	0	0	13
14	Asian or Pacific Islander	117,700	41,300	59,500	400	0	0	15,500	300	800	14
16	Other	15,200	13,200	0	0	0	0	2,000	0	0	16
17	Hispanic or Latino (any race)	257,200	132,500	103,000	400	0	300	20,400	300	400	17

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 2002	Change in characteristics	2011 units added by conversion/merger	2011 house or mobile home moved in	2011 units added from nonresidential use	2011 units added by new construction	2011 units added from temporary losses in 2002 stock	2011 units added in other ways	Row
	Income sources of families and primary individuals										
18	Wages and salaries	793,800	600,500	123,400	1,100	0	1,100	66,900	300	400	18
20	Dividends, interest, or rent	282,500	138,500	126,200	0	0	300	17,500	0	0	20
21	Public assistance or public welfare	26,300	3,200	20,800	400	0	0	1,900	0	0	21

**Backward-Looking Table D: Income and Housing Cost, San Diego**

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 2002	Change in characteristics	2011 units added by conversion/ merger	2011 house or mobile home moved in	2011 units added from nonresidential use	2011 units added by new construction	2011 units added from temporary losses in 2002 stock	2011 units added in other ways	Row
1	Occupied units	1,093,500	936,100	63,800	1,500	200	2,000	88,100	300	1,500	1
	Tenure										
2	Owner-occupied	582,700	468,300	64,500	0	200	0	49,800	0	0	2
3	Homeownership rate	53.3%									3
4	Renter-occupied	510,800	349,700	117,400	1,500	0	2,000	38,300	300	1,500	4
	Renter monthly housing costs										
5	No cash rent	11,100	400	9,500	0	0	0	1,200	0	0	5
6	Less than \$350	24,600	10,300	14,000	0	0	0	400	0	0	6
7	\$350 to \$599	25,300	4,700	17,100	700	0	0	2,000	0	800	7
8	\$600 to \$799	35,400	8,300	24,000	0	0	600	2,600	0	0	8
9	\$800 to \$1,249	167,100	59,100	100,400	800	0	400	5,800	300	300	9
10	\$1,250 or more	247,300	49,500	169,900	0	0	1,000	26,400	0	400	10
	Renter household income										
11	Less than \$15,000	84,700	20,800	56,200	400	0	300	6,400	0	700	11
12	\$15,000 to \$29,999	107,400	25,400	74,700	0	0	600	6,200	0	400	12
13	\$30,000 to \$49,999	112,000	21,500	82,500	400	0	0	7,400	300	0	13
14	\$50,000 to \$99,999	143,700	29,300	103,300	800	0	800	9,700	0	0	14
15	\$100,000 or more	63,000	6,300	47,200	0	0	300	8,800	0	400	15

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 2002	Change in characteristics	2011 units added by conversion/merger	2011 house or mobile home moved in	2011 units added from nonresidential use	2011 units added by new construction	2011 units added from temporary losses in 2002 stock	2011 units added in other ways	Row
	Owner monthly housing costs										
16	Less than \$350	25,700	10,900	14,400	0	200	0	300	0	0	16
17	\$350 to \$599	65,600	15,300	49,500	0	0	0	800	0	0	17
18	\$600 to \$799	43,200	6,400	36,400	0	0	0	400	0	0	18
19	\$800 to \$1,249	64,300	14,100	47,900	0	0	0	2,300	0	0	19
20	\$1,250 or more	384,000	196,400	141,600	0	0	0	46,000	0	0	20
	Owner household income										
21	Less than \$15,000	42,800	6,600	35,200	0	200	0	800	0	0	21
22	\$15,000 to \$29,999	60,600	15,300	43,400	0	0	0	2,000	0	0	22
23	\$30,000 to \$49,999	87,000	21,200	61,100	0	0	0	4,800	0	0	23
24	\$50,000 to \$99,999	181,900	59,900	104,500	0	0	0	17,600	0	0	24
25	\$100,000 or more	210,300	83,400	102,300	0	0	0	24,700	0	0	25

**Forward-Looking Rental Dynamics Table 1: Counts, 2002–2011, San Diego**

Affordability categories	A Total in 2002	B Non-market in 2011	C Extremely low rent in 2011	D Very low rent in 2011	E Low rent in 2011	F Moderate rent in 2011	G High rent in 2011	H Very high rent in 2011	I Extremely high rent in 2011	J Owner- occupied in 2011	K Seasonal or related vacant in 2011	L Lost to stock in 2011
Non-market	83,300	24,200	1,900	4,800	14,500	20,100	6,500	3,600	400	5,800	0	1,500
Extremely low rent	12,600	1,900	700	2,100	1,700	2,500	1,000	700	400	900	300	300
Very low rent	65,500	3,800	1,700	14,200	17,100	12,000	2,600	1,800	1,400	6,800	1,800	2,200
Low rent	91,300	4,800	3,300	9,100	30,000	28,900	3,600	2,100	300	7,600	1,400	200
Moderate rent	110,200	6,300	1,400	3,200	11,000	49,800	14,500	8,800	2,200	9,500	2,600	700
High rent	47,300	1,600	700	1,300	700	4,300	9,800	12,200	4,100	11,600	1,000	0
Very high rent	19,900	1,700	0	0	400	1,200	3,200	6,300	3,200	2,500	1,000	500
Extremely high rent	15,700	400	400	0	0	1,300	1,800	2,400	6,500	2,900	0	0
Total	445,800	44,700	10,100	34,700	75,400	120,100	43,000	37,900	18,500	47,600	8,100	5,400

**Forward-Looking Rental Dynamics Table 2: Row Percentages, 2002–2011, San Diego**

Affordability categories	A Total in 2002	B Non-market in 2011	C Extremely low rent in 2011	D Very low rent in 2011	E Low rent in 2011	F Moderate rent in 2011	G High rent in 2011	H Very high rent in 2011	I Extremely high rent in 2011	J Owner- occupied in 2011	K Seasonal or related vacant in 2011	L Lost to stock in 2011
Non-market	83,300	29.1%	2.2%	5.7%	17.4%	24.1%	7.8%	4.4%	0.4%	7.0%	0.0%	1.8%
Extremely low rent	12,600	14.9%	5.5%	16.8%	13.7%	19.6%	8.0%	5.5%	3.5%	7.1%	2.8%	2.7%
Very low rent	65,500	5.7%	2.6%	21.7%	26.1%	18.2%	4.0%	2.8%	2.2%	10.4%	2.8%	3.4%
Low rent	91,300	5.2%	3.6%	10.0%	32.9%	31.6%	3.9%	2.3%	0.4%	8.4%	1.5%	0.3%
Moderate rent	110,200	5.7%	1.3%	2.9%	10.0%	45.2%	13.2%	8.0%	2.0%	8.6%	2.3%	0.6%
High rent	47,300	3.3%	1.4%	2.8%	1.5%	9.0%	20.7%	25.8%	8.7%	24.7%	2.2%	0.0%
Very high rent	19,900	8.5%	0.0%	0.0%	1.8%	5.8%	15.9%	31.7%	16.1%	12.6%	5.2%	2.4%
Extremely high rent	15,700	2.3%	2.8%	0.0%	0.0%	8.6%	11.2%	15.2%	41.6%	18.4%	0.0%	0.0%
Total	445,800	10.0%	2.2%	7.8%	16.9%	26.9%	9.6%	8.5%	4.2%	10.7%	1.8%	1.2%



**Backward-Looking Rental Dynamics Table 1: Counts, 2002–2011, San Diego**

Affordability categories	A Total in 2011	B Non- market in 2002	C Extremely low rent in 2002	D Very low rent in 2002	E Low rent in 2002	F Moderate rent in 2002	G High rent in 2002	H Very high rent in 2002	I Extremely high rent in 2002	J Owner- occupied in 2002	K Seasonal or related vacant in 2002	L New construction	M Added in other ways
Non-market	63,300	26,100	1,900	3,900	5,000	6,700	1,700	1,800	400	6,800	700	7,200	1,100
Extremely low rent	16,300	1,800	800	1,800	3,500	1,500	800	0	500	3,800	0	800	1,100
Very low rent	46,600	4,800	2,200	14,900	9,600	3,400	1,400	0	0	5,500	1,100	3,300	300
Low rent	86,500	15,400	2,000	18,100	32,100	11,700	800	300	0	2,800	1,100	1,400	800
Moderate rent	148,100	20,700	2,500	12,100	30,300	53,000	4,600	1,200	1,400	17,400	700	3,000	1,300
High rent	68,500	6,700	1,000	2,600	3,800	15,600	10,500	3,500	1,900	14,600	1,100	6,900	300
Very high rent	64,900	3,600	700	1,900	2,100	9,100	13,000	6,400	2,400	18,400	1,500	5,100	700
Extremely high rent	52,800	400	500	1,500	400	2,400	4,400	3,400	7,100	17,200	2,500	13,200	0
Total	546,900	79,600	11,500	56,800	86,700	103,400	37,100	16,600	13,700	86,400	8,800	40,900	5,600

**Backward-Looking Rental Dynamics Table 2: Row Percentages, 2002–2011, San Diego**

Affordability categories	A Total in 2011	B Non- market in 2002	C Extremely low rent in 2002	D Very low rent in 2002	E Low rent in 2002	F Moderate rent in 2002	G High rent in 2002	H Very high rent in 2002	I Extremely high rent in 2002	J Owner- occupied in 2002	K Seasonal or related vacant in 2002	L New construction	M Added in other ways
Non-market	63,300	41.3%	3.0%	6.2%	7.8%	10.6%	2.6%	2.8%	0.6%	10.7%	1.2%	11.4%	1.7%
Extremely low rent	16,300	11.2%	4.6%	11.4%	21.2%	9.0%	4.8%	0.0%	2.8%	23.5%	0.0%	5.0%	6.4%
Very low rent	46,600	10.3%	4.6%	32.0%	20.6%	7.2%	3.1%	0.0%	0.0%	11.9%	2.4%	7.1%	0.6%
Low rent	86,500	17.8%	2.3%	20.9%	37.1%	13.5%	0.9%	0.4%	0.0%	3.2%	1.3%	1.6%	1.0%
Moderate rent	148,100	14.0%	1.7%	8.2%	20.4%	35.8%	3.1%	0.8%	1.0%	11.7%	0.4%	2.0%	0.9%
High rent	68,500	9.7%	1.5%	3.8%	5.6%	22.7%	15.3%	5.1%	2.8%	21.3%	1.6%	10.1%	0.5%
Very high rent	64,900	5.6%	1.0%	2.9%	3.2%	14.0%	20.0%	9.8%	3.8%	28.4%	2.3%	7.8%	1.1%
Extremely high rent	52,800	0.7%	0.9%	2.8%	0.7%	4.6%	8.3%	6.4%	13.4%	32.5%	4.8%	25.0%	0.0%
Total	546,900	14.5%	2.1%	10.4%	15.8%	18.9%	6.8%	3.0%	2.5%	15.8%	1.6%	7.5%	1.0%