

American Housing Survey

**Components of Inventory Change and
Rental Dynamics Analysis:
San Jose, 1998–2011**

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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 Jose metropolitan area changed between 1998 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 Jose and on their occupants in both 1998 and 2011.

In 1998 the San Jose metropolitan area contained 590,900 housing units, including vacant units. By 2011 the number of housing units had increased to 655,900. Part of this increase was due to a redefinition of the metropolitan area that added San Benito County. Using the American Community Survey (2011, 5-year data) at the county level, we estimate that the 2011 count of housing units for the metropolitan area as defined in 1998 would be 638,000. This represents an overall increase of 8.0 percent, which translates to an average annual increase of 0.6 percent over the 13-year period.

Between 1998 and 2011, only 4,600 units left the housing stock. Of these, 1,000 are clearly permanent losses—the original unit is gone, and major construction would be required to replace it with a new unit. Another 1,400 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 2,200 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 1998 and 2011 AHS surveys, 91,700 units were added to the housing stock. Eighty-two percent of these additions were newly constructed units. The 2011 AHS did not track move-ins of mobile homes in San Jose. Also, 2,700 new units were formed from the conversion or merger of 1998 units. We classified 9,300 units as recovered because these units had been in the housing stock at some point but were classified in 1998 as nonresidential (9,100) or uninhabitable (200). Finally, 4,000 units were added in other unclassified ways.

The San Jose metropolitan area lost 0.8 percent of all 1998 housing units by 2011; additions between 1998 and 2011 represent 14.0 percent of the 2011 housing stock. Losses and additions varied across portions of the San Jose 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:

- Units that were vacant in 1998 had a high loss rate.
- Small units (1 room or no bedrooms) had very high loss rates, while large units (7 rooms or 3 bedrooms) had low loss rates.

- Units that were vacant in 2011 had a rate of addition over twice the average rate.
- Single-family detached units had a lower-than-average rate of addition, while single-family attached units had a rate almost twice the average rate.
- Overall multifamily units had a higher-than-average rate of addition. Within multifamily units, the rate of addition varied by structure size. Units in small multifamily buildings (2 to 9 units or 2 floors) had low rates of addition; units in large multifamily buildings (20 or more units or 3 to 6 floors) had very high rates of addition.
- The rate of addition varied by unit size. Both small (1 to 3 rooms or no or 1 bedroom) units and large units (9 or more rooms) had high rates of addition. Moderate-sized units (5 to 8 rooms or 3 bedrooms) had lower-than-average rates of addition.
- The rate of addition was high among units in 2011 lacking complete kitchen facilities. There was a small group of units lacking complete plumbing that also had very high rates of addition.
- Units requiring septic systems had a high rate of addition.
- Units in 2011 with Asian householders had a high rate of addition; units with Hispanic, American Indian, or multiracial householders had low rates of addition. Units occupied in 2011 by households receiving public assistance had a low rate of addition.
- Units that were owner-occupied in 2011 had a lower-than-average rate of addition. The only subgroup of owner-occupied units with a rate of addition greater than the average was the subgroup of units whose households earned more than \$100,000.
- Units that were renter-occupied in 2011 had a rate of addition greater than that of all occupied units. The pattern among renter subgroups was interesting. Units occupied by low-income renters (less than \$15,000) and rental units with low monthly housing costs (less than \$800) had very high rates of addition. Units with modest-income renters (\$30,000 to \$49,999) and rental units with moderate monthly housing costs (\$800 to \$1,249) had low rates of addition. Units with high-income renters (\$100,000 or more) and expensive rental units (\$1,250 or more) had higher-than-average rates of addition.

The 1998 rental stock in San Jose was not affordable. Of the 231,700 rental units in 1998, 51,500 were extremely low rent or very low rent units. In addition, 40,000 units were non-market; that is, they were either assisted or offered for no cash rent. These three categories accounted for 39.5 percent of the 1998 rental stock. The three highest rent categories comprised 38.8 percent of the rental stock. Moves to a less affordable category (sometimes called gentrification) were slightly greater than moves to a more affordable category (sometimes called filtration)—31.4 percent of all 1998 units compared to 28.5 percent. By 2011, 15.7 percent of the 231,700 rental units in 1998 were no longer in the rental stock. The largest proportion of these losses was due to changes in tenure.

The rental stock in San Jose was even less affordable in 2011 than in 1998. Of the 283,900 rental units in 2011, 53,500 were extremely low rent or very low rent units. In addition, 35,400 units were non-market; that is, they were either assisted or offered for no cash rent. These three categories accounted for 31.3 percent of the 2011 rental stock. The three highest rent categories comprised 32.3 percent of the rental stock. Moves from a more affordable category (sometimes called gentrification) were slightly greater than moves from a less affordable category (sometimes called filtration)—23.7 percent of all 2011 units compared to 22.3 percent. Of the 283,900 rental units in 2011, 35.4 percent were not rental in 1998. Changes in tenure, new construction, and additions other than new construction all made important contributions to the rental stock.

Components of Inventory Change and Rental Dynamics Analysis: San Jose, 1998–2011

1. Introduction

This report describes how the housing stock in the San Jose metropolitan area changed between 1998 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 Jose and on their occupants in both 1998 and 2011.¹

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.²

CINCH reports present both forward-looking analysis (what happened to the 1998 units by 2011) and backward-looking analysis (where the 2011 units came from in terms of 1998).³ 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 Jose.
- Section 3 explains the changes in the housing stock between 1998 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.

¹ 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.

² 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>.

³ 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 5 breaks the rental housing stock into eight affordability categories and tracks what happened to units in each of those categories between 1998 and 2011.
- Section 6 summarizes the changes to the housing stock of the San Jose metropolitan area between 1998 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 1998–2011 period began toward the end of the longest recorded business cycle (March 1991 to November 2001), 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 Jose

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 1998 the San Jose metropolitan area contained 590,900 housing units, including vacant units. By 2011 the number of housing units had increased to 655,900. Part of this increase was due to a redefinition of the metropolitan area that added San Benito County. Using the American Community Survey (2011, 5-year data) at the county level, we estimate that the 2011 count of housing units for the metropolitan area as defined in 1998 would be 638,000. This represents an overall increase of 8.0 percent, which translates to an average annual increase of 0.6 percent over the 13-year period.

The change in the geographical definition of San Jose affects the interpretation of the information presented in this report. Our analysis applies only to that portion of the metropolitan area that was common to the San Jose metropolitan area as defined in both 1998 and 2011, but the application to the common area is not precise, as explained in Appendix A.

Sample size

Both CINCH and rental dynamics require that, if a sample unit is in both the 1998 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 2,666 sample units that were common to the 1998 and 2011 AHS San Jose surveys and satisfied all the analytical requirements.⁴ Between 1998 and 2011, 28 sample units in the common area meeting the analytical requirements were lost to the stock; thus, the forward-looking analysis is based on a maximum of 2,694 sample units. Between 1998 and 2011, 434 sample units meeting the analytical requirements were added to the AHS 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 3,100 sample units. In the forward-looking analysis, the average weight of a sample unit is approximately 219 units; in the backward-looking analysis, the average weight of a sample unit is approximately 212 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 Jose, 13 years separate the 2011 sample from the 1998 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.

⁴ The 1998 AHS surveyed 4,804 units in the San Jose metropolitan area; 3,495 of these units were in the 2011 AHS public use file (PUF). Of the 1,309 sample units no longer in the survey, 61 were legitimate temporary or permanent losses to the housing stock and were considered for the analysis. The remaining 1,248 cases are coded as “sample reduction for the current survey year” with no further explanation.

3. Changes to the Housing Stock: 1998–2011

Losses between 1998 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 1998 and 2011, only 4,600 left the housing stock.⁵ Of these, 1,000 are clearly permanent losses—the original unit is gone, and major construction would be required to replace it with a new unit. Another 1,400 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 2,200 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 1998 San Jose Housing Units in 2011⁶

Present in 1998	590,900
1998 units present in 2011	586,300
Units no longer in the stock	4,600
1998 units lost due to conversion/merger	400
1998 house or mobile home moved out	0
1998 units lost through demolition or disaster	700
Permanent losses	1,000
1998 units changed to nonresidential use	800
1998 units badly damaged or condemned	600
Temporary losses	1,400
1998 units lost in other ways	2,200

Demolitions and natural disasters accounted for 700 of the permanent losses, while mergers and conversions contributed another 400 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. Unfortunately, the 2011 AHS survey in San Jose did not track mobile home move-outs, probably because the long time between surveys makes it difficult to determine whether the current mobile home was the same mobile home as in 1998.

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.

⁵ With the caveats noted in Appendix A, this analysis applies to the area common to both the 1998 and 2011 definitions of the metropolitan area.

⁶ Numbers may not add consistently due to rounding. Counts were rounded to the nearest hundred.

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 1998. For each subgroup, these tables detail how many of the 1998 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 1998–2011 period.

Additions between 1998 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 1998 and 2011.⁷

Table 2: Sources for 2011 San Jose Housing Stock⁸

2011 housing stock	655,900
2011 units present in 1998	564,200
Total additions to stock	91,700
Units added by new construction	75,700
House or mobile home moved in	0
Units added by conversion/merger	2,700
New or reconstructed units	78,400
Units added from nonresidential use	9,100
Units added from temporary losses	200
Recovered units	9,300
Units added in other ways	4,000

In the period between the 1998 and the 2011 AHS surveys, 91,700 units were added to the housing stock. Eighty-two percent of these additions were newly constructed units. The 2011 AHS did not track move-ins of mobile homes in San Jose. Also, 2,700 new units were formed from the conversion or merger of 1998 units.

We classified 9,300 units as recovered because these units had been in the housing stock at some point but were classified in 1998 as nonresidential (9,100) or uninhabitable (200). Finally, 4,000 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 1998, 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 1998–2011 period.

⁷ With the caveats noted in Appendix A, this analysis applies to the area common to both the 1998 and 2011 definitions of the metropolitan area. Inconsistencies between Tables 1 and 2 result from a combination of (1) changes in metropolitan boundaries, (2) changes in control housing counts between censuses, and (3) different weights.

⁸ Numbers may not add consistently due to rounding. Counts were rounded to the nearest hundred.

4. Components With Atypical Losses or Additions

The San Jose metropolitan area lost 0.8 percent of all 1998 housing units by 2011, but the loss rate varied across sectors of the stock. For example, the occupied housing stock lost 0.6 percent of its units between 1998 and 2011.

We examined all of the components of the 1998 San Jose 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 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 Jose, 1998–2011⁹

Characteristics	Present in 1998	Total lost	Percent lost
<i>Housing stock</i>	590,900	4,600	0.8%
<i>Occupancy status</i>			
Occupied	565,900	3,300	0.6%
Vacant	24,500	1,100	4.5% **
<i>Rooms</i>			
1	3,700	700	17.8% *
7	77,000	200	0.2% *
<i>Bedrooms</i>			
None	4,400	700	15.3% *
3	197,600	700	0.3% *
<i>Tenure</i>			
Owner-occupied	343,800	1,200	0.3%
Renter-occupied	222,100	2,200	1.0%

* 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.

Table 3 identifies loss rates that were both atypical of the overall housing stock and statistically significant. Only five segments of the San Jose housing market had loss rates statistically different from their benchmarks. The low overall loss rate and the small sample of units that were lost probably caused these limited results.

⁹ 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.

The only interesting findings were:

- Units that were vacant in 1998 had a high loss rate.
- Small units (1 room or no bedrooms) had very high loss rates, while large units (7 rooms or 3 bedrooms) had low loss rates.

The 91,700 additions reported in Table 2 represent 14.0 percent of the 2011 housing stock. The rate of addition varied by the characteristics of the housing. Additions represented 13.2 percent of occupied units.

We examined all of the components of the 1998 San Jose 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 Jose, 1998–2011¹⁰

Characteristics	Present in 2011	Total additions	Percent additions
<i>Housing stock</i>	655,900	91,700	14.0%
<i>Occupancy status</i>			
Occupied	624,100	82,100	13.2%
Vacant	31,000	9,400	30.4% ***
<i>Units in structure</i>			
1, detached	368,400	34,200	9.3% ***
1, attached	55,700	15,200	27.2% ***
2 to 4	53,400	2,400	4.5% ***
5 to 9	41,200	1,400	3.5% ***
20 to 49	39,500	10,600	26.8% ***
50 or more	38,700	22,400	57.9% ***
Manufactured/mobile home	20,000	100	0.7% ***
<i>Rooms</i>			
1	4,900	2,200	45.2% ***
2	13,400	6,600	49.2% ***
3	77,300	15,000	19.4% ***
5	121,600	12,200	10.0% ***
6	118,400	10,300	8.7% ***
7	95,200	9,300	9.8% ***
8	64,500	6,800	10.5% *
9	26,000	5,200	20.1% *
10 or more	15,700	4,700	30.3% ***
<i>Bedrooms</i>			
None	10,700	3,700	34.9% ***
1	99,800	23,000	23.0% ***
3	203,000	19,600	9.7% ***
<i>Multunit structures</i>	211,800	42,100	19.9% ***
<i>Stories in structure</i>			
2	115,000	9,500	8.3% ***
3	41,500	14,700	35.5% ***
4 to 6	16,800	12,200	72.6% ***
<i>Lacking complete kitchen facilities</i>	10,800	2,800	25.6% **
<i>Lacking some plumbing</i>			
No hot piped water	800	700	77.9% ***
No bathtub/shower	1,100	900	83.0% ***
No flush toilet	800	700	77.9% ***
<i>Sewer</i>			
Septic tank/cesspool	17,000	4,100	24.2% **
<i>Moderate problems</i>			
Kitchen	10,800	2,800	25.6% **

¹⁰ 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>Age of householder</i>			
65 to 74	69,900	4,900	7.0%***
<i>Race and ethnicity</i>			
American Indian or Alaska Native alone	8,200	400	4.7%**
Asian alone	191,500	31,900	16.7%**
Two or more races	11,200	800	6.7%*
Hispanic or Latino (any race)	117,500	11,000	9.4%***
<i>Income sources of families and primary individuals</i>			
Public assistance or public welfare	8,000	400	5.4%**
<i>Tenure</i>			
Owner-occupied	354,900	38,900	10.9%**
Renter-occupied	269,200	43,300	16.1%**
<i>Renter monthly housing costs</i>			
Less than \$350	13,300	3,600	26.9%**
\$600 to \$799	12,800	3,000	23.5%*
\$800 to \$1,249	53,700	4,600	8.5%**
\$1,250 or more	166,800	27,200	16.3%**
<i>Renter household income</i>			
Less than \$15,000	39,900	10,200	25.5%***
\$30,000 to \$49,999	41,200	3,600	8.6%**
\$100,000 or more	61,200	12,800	20.8%***
<i>Owner monthly housing costs</i>			
\$600 to \$799	28,900	600	2.0%***
\$800 to \$1,249	34,100	2,600	7.7%**
<i>Owner household income</i>			
Less than \$15,000	21,300	900	4.0%***
\$15,000 to \$29,999	27,500	1,400	5.0%***
\$30,000 to \$49,999	36,400	1,400	3.8%***
\$50,000 to \$99,999	87,700	6,700	7.6%***
\$100,000 or more	182,100	28,500	15.7%*

* 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.

Table 4 identifies rates of addition that were both atypical of the overall housing stock and statistically significant:

- Units that were vacant in 2011 had a rate of addition over twice the average rate.
- Single-family detached units had a lower-than-average rate of addition, while single-family attached units had a rate almost twice the average rate.
- Overall multifamily units had a higher-than-average rate of addition. Within multifamily units, the rate of addition varied by structure size. Units in small multifamily buildings (2 to 9 units or 2 floors) had low rates of addition; units in large multifamily buildings (20 or more units or 3 to 6 floors) had very high rates of addition.

- The rate of addition varied by unit size. Both small (1 to 3 rooms or no or 1 bedroom) units and large units (9 or more rooms) had high rates of addition. Moderate-sized units (5 to 8 rooms or 3 bedrooms) had lower-than-average rates of addition.
- The rate of addition was high among units in 2011 lacking complete kitchen facilities. There was a small group of units lacking complete plumbing that also had very high rates of addition.
- Units requiring septic systems had a high rate of addition.
- Units in 2011 with Asian householders had a high rate of addition; units with Hispanic, American Indian, or multiracial householders had low rates of addition. Units occupied in 2011 by households receiving public assistance had a low rate of addition.
- Units that were owner-occupied in 2011 had a lower-than-average rate of addition. The only subgroup of owner-occupied units with a rate of addition greater than the average was the subgroup of units whose households earned more than \$100,000.
- Units that were renter-occupied in 2011 had a rate of addition greater than that of all occupied units. The pattern among renter subgroups was interesting. Units occupied by low-income renters (less than \$15,000) and rental units with low monthly housing costs (less than \$800) had very high rates of addition. Units with modest-income renters (\$30,000 to \$49,999) and rental units with moderate monthly housing costs (\$800 to \$1,249) had low rates of addition. Units with high-income renters (\$100,000 or more) and expensive rental units (\$1,250 or more) had higher-than-average rates of addition.

5. Rental Market Dynamics: 1998–2011

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.¹¹ 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 1998 rental units by how affordable they were in 1998. 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 Jose

Affordability categories	1998 rental units	To more affordable categories in 2011	In same affordability category in both years	To less affordable categories in 2011	1998 rental units non-rental in 2011
Non-market	40,000	NA	30.9%	57.4%	11.7%
Extremely low rent	10,800	5.8%	5.8%	72.9%	15.4%
Very low rent	40,700	13.4%	22.1%	49.7%	14.8%
Low rent	39,500	24.0%	25.7%	37.8%	12.5%
Moderate rent	10,700	39.8%	35.7%	12.6%	12.0%
High rent	76,300	49.2%	24.4%	6.4%	19.9%
Very high rent	9,500	61.6%	11.2%	4.6%	22.5%
Extremely high rent	4,200	0.0%	0.0%	NA	0.0%
Total	231,700	28.5%	24.4%	31.4%	15.7%

The 1998 rental stock in San Jose was not affordable. Of the 231,700 rental units in 1998, 51,500 were extremely low rent or very low rent units. In addition, 40,000 units were non-market; that is, they were either assisted or offered for no cash rent. These three categories accounted for 39.5 percent of the 1998 rental stock. The three highest rent categories comprised 38.8 percent of the rental stock. Moves to a less affordable category (sometimes called gentrification) were slightly greater than moves to a more affordable category (sometimes called filtration)—31.4 percent of all 1998 units compared to 28.5 percent.

By 2011, 15.7 percent of the 231,700 rental units in 1998 were no longer in the rental stock (36,400 units). The largest proportion of these losses was due to changes in tenure, with 29,900 rental units becoming owner-occupied or vacant for sale in 2011. Another 4,100 units became seasonal units, units occupied by persons with usual residence elsewhere, or units used for

¹¹ Gross rent is equal to rent plus utilities.

migratory workers. Finally, 2,300 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 1998, 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.

The rental stock in San Jose was even less affordable in 2011 than in 1998. Of the 283,900 rental units in 2011, 53,500 were extremely low rent or very low rent units. In addition, 35,400 units were non-market; that is, they were either assisted or offered for no cash rent. These three categories accounted for 31.3 percent of the 2011 rental stock. The three highest rent categories comprised 32.3 percent of the rental stock. Moves from a more affordable category (sometimes called gentrification) were slightly greater than moves from a less affordable category (sometimes called filtration)—23.7 percent of all 2011 units compared to 22.3 percent.

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

Affordability categories	2011 rental units	From more affordable categories in 1998	In same affordability category in both years	From less affordable categories in 1998	2011 rental units non-rental in 1998
Non-market	35,400	NA	31.7%	31.9%	36.4%
Extremely low rent	23,900	5.9%	2.5%	30.6%	61.0%
Very low rent	29,600	18.3%	28.4%	23.0%	30.3%
Low rent	37,100	37.6%	26.1%	23.4%	13.0%
Moderate rent	66,200	39.3%	5.2%	35.7%	19.8%
High rent	66,900	19.8%	26.0%	7.8%	46.4%
Very high rent	15,000	37.5%	6.7%	2.7%	53.1%
Extremely high rent	9,800	17.8%	8.3%	NA	73.8%
Total	283,900	23.7%	18.5%	22.3%	35.4%

Of the 283,900 rental units in 2011, 35.4 percent were not rental in 1998 (100,600 units). A large proportion of these gains was due to changes in tenure, with 47,400 rental units having been owner-occupied or vacant for sale in 1998. Another 3,700 units had been seasonal units, units occupied by persons with usual residence elsewhere, or units used for migratory workers. Finally, 49,400 rental units had not been in the housing stock in 1998. Of these, 35,300 were added by new construction and 14,100 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 Jose Metropolitan Area, 1998–2011

In 1998 the San Jose metropolitan area contained 590,900 housing units, including vacant units. By 2011 the number of housing units had increased to 655,900. Part of this increase was due to a redefinition of the metropolitan area that added San Benito County. Using the American Community Survey (2011, 5-year data) at the county level, we estimate that the 2011 count of housing units for the metropolitan area as defined in 1998 would be 638,000. This represents an overall increase of 8.0 percent, which translates to an average annual increase of 0.6 percent over the 13-year period.

The change in the geographical definition of San Jose affects the interpretation of the information presented in this report. Our analysis applies only to that portion of the metropolitan area that was common to the San Jose metropolitan area as defined in both 1998 and 2011.

Between 1998 and 2011, only 4,600 left the housing stock. Of these, 1,000 are clearly permanent losses—the original unit is gone, and major construction would be required to replace it with a new unit. Another 1,400 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 2,200 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 700 of the permanent losses, while mergers and conversions contributed another 400 permanent losses. The 2011 AHS survey in San Jose did not track mobile home move-outs.

In the period between the 1998 and 2011 AHS surveys, 91,700 units were added to the housing stock. Eighty-two percent of these additions were newly constructed units. The 2011 AHS did not track move-ins of mobile homes in San Jose. Also, 2,700 new units were formed from the conversion or merger of 1998 units. We classified 9,300 units as recovered because these units had been in the housing stock at some point but were classified in 1998 as nonresidential (9,100) or uninhabitable (200). Finally, 4,000 units were added in other unclassified ways.

The San Jose metropolitan area lost 0.8 percent of all 1998 housing units by 2011; additions between 1998 and 2011 represent 14.0 percent of the 2011 housing stock. Losses and additions varied across portions of the San Jose 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:

- Units that were vacant in 1998 had a high loss rate.
- Small units (1 room or no bedrooms) had very high loss rates, while large units (7 rooms or 3 bedrooms) had low loss rates.
- Units that were vacant in 2011 had a rate of addition over twice the average rate.
- Single-family detached units had a lower-than-average rate of addition, while single-family attached units had a rate almost twice the average rate.

- Overall multifamily units had a higher-than-average rate of addition. Within multifamily units, the rate of addition varied by structure size. Units in small multifamily buildings (2 to 9 units or 2 floors) had low rates of addition; units in large multifamily buildings (20 or more units or 3 to 6 floors) had very high rates of addition.
- The rate of addition varied by unit size. Both small (1 to 3 rooms or no or 1 bedroom) units and large units (9 or more rooms) had high rates of addition. Moderate-sized units (5 to 8 rooms or 3 bedrooms) had lower-than-average rates of addition.
- The rate of addition was high among units in 2011 lacking complete kitchen facilities. There was a small group of units lacking complete plumbing that also had very high rates of addition.
- Units requiring septic systems had a high rate of addition.
- Units in 2011 with Asian householders had a high rate of addition; units with Hispanic, American Indian, or multiracial householders had low rates of addition. Units occupied in 2011 by households receiving public assistance had a low rate of addition.
- Units that were owner-occupied in 2011 had a lower than average rate of addition. The only subgroup of owner-occupied units with a rate of addition greater than the average was the subgroup of units whose households earned more than \$100,000.
- Units that were renter-occupied in 2011 had a rate of addition greater than that of all occupied units. The pattern among renter subgroups was interesting. Units occupied by low-income renters (less than \$15,000) and rental units with low monthly housing costs (less than \$800) had very high rates of addition. Units with modest-income renters (\$30,000 to \$49,999) and rental units with moderate monthly housing costs (\$800 to \$1,249) had low rates of addition. Units with high-income renters (\$100,000 or more) and expensive rental units (\$1,250 or more) had higher-than-average rates of addition.

The 1998 rental stock in San Jose was not affordable. Of the 231,700 rental units in 1998, 51,500 were extremely low rent or very low rent units. In addition, 40,000 units were non-market; that is, they were either assisted or offered for no cash rent. These three categories accounted for 39.5 percent of the 1998 rental stock. The three highest rent categories comprised 38.8 percent of the rental stock. Moves to a less affordable category (sometimes called gentrification) were slightly greater than moves to a more affordable category (sometimes called filtration)—31.4 percent of all 1998 units compared to 28.5 percent. By 2011, 15.7 percent of the 231,700 rental units in 1998 were no longer in the rental stock (36,400 units). The largest proportion of these losses was due to changes in tenure, with 29,900 rental units becoming owner-occupied or vacant for sale in 2011.

The rental stock in San Jose was even less affordable in 2011 than in 1998. Of the 283,900 rental units in 2011, 53,500 were extremely low rent or very low rent units. In addition, 35,400 units were non-market; that is, they were either assisted or offered for no cash rent. These three categories accounted for 31.3 percent of the 2011 rental stock. The three highest rent categories

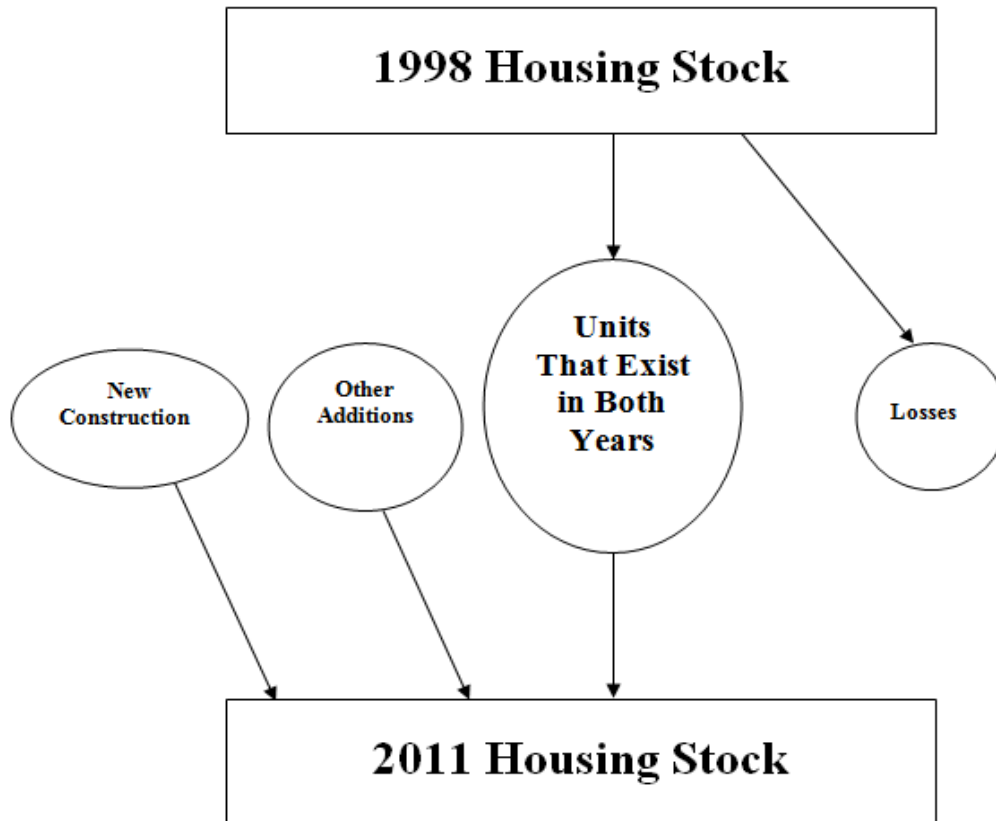
comprised 32.3 percent of the rental stock. Moves from a more affordable category (sometimes called gentrification) were slightly greater than moves from a less affordable category (sometimes called filtration)—23.7 percent of all 2011 units compared to 22.3 percent. Of the 283,900 rental units in 2011, 35.4 percent were not rental in 1998 (100,600 units). A large proportion of these gains was due to changes in tenure, with 47,400 rental units having been owner-occupied or vacant for sale in 1998. Another 49,400 rental units had not been in the housing stock in 1998. Of these, 35,300 were added by new construction and 14,100 by other means.

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 1998 and 2011 housing stocks) and one oval (units added through new construction between 1998 and 2011). No one estimates the other three ovals: the number of units that belong to both the 1998 and 2011 housing stock, units lost to the housing stock between 1998 and 2011, and other additions to the housing stock between 1998 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:¹²

- 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.

¹² 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, 1998, 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 1998 and 2011. In some cases, there may be no status, (e.g., not yet constructed in 1998) 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 1998 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.¹³ For example, the exact accounting might show that 2,500 sample units that were rental in 1998 became owner-occupied or vacant for sale in 2011. To estimate the number of units in the national housing stock that were rental in 1998 and became owner-occupied in 2011, one would need to apply weights. However, using 1998 weights would produce a different estimate than using 2011 weights. There is no conceptual reason to favor the answer using 1998 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 (1998) 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 (1998). 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.

¹³ 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 1998 and 2011, and the application to the common area is not precise for the following reasons:

- For forward-looking analysis (1998 to 2011), we observe only those sample units in the geography common to both 1998 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 1998 geography. Since the common area is smaller than the 1998 geography, the counts are overestimates for the common area.
- For the backward-looking analysis (2011 from 1998), we observe (a) sample units that were in the common area in 1998 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 1998 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 1998 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 1998 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 1998.

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 1998 housing stock by 2011. There are three possible dispositions of 1998 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 1998. There are three possible sources of 2011 units:

- Units that existed in 1998 with the same characteristics (or serving the same market).
- Units that existed in 1998 but with different characteristics (or serving a different market).
- Units that are additions to the housing stock between 1998 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 (1998 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 1998 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.¹⁴
- 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.¹⁵
- 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 1998 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 1998.

¹⁴ 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.

¹⁵ 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.

- Column H is the CINCH estimate of the number of units from column B that were newly constructed between 1998 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 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 substation 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 1998.¹⁶
- 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 1998 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 1998 housing stock relate to the 2011 housing stock. Column A estimates the number of units in each affordability category in 1998. Columns B through L explain where the 1998 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 1998 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.

¹⁶ These units had codes that identified them as “occupancy prohibited” or “interior exposed to the elements.”

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.

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 1998 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 1998, they will be counted in columns B through I, depending upon how affordable they are in 1998.
- 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 1998 are counted in column K.
- Column L counts rental units that were newly constructed between 1998 and 2011.
- Column M counts rental units that were added to the housing stock after 1998 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 13-year period; for example, a unit that is low rent in 1998 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 1998 and 2011.

Forward-Looking Table A: Housing Characteristics, San Jose

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 1998	1998 units present in 2011	Change in characteristics	1998 units lost due to conversion/merger	1998 house or mobile home moved out	1998 units changed to nonresidential use	1998 units lost through demolition or disaster	1998 units badly damaged or condemned	1998 units lost in other ways	Row
1	Housing stock	590,900	586,300	0	400	0	800	700	600	2,200	1
	Occupancy status										
2	Occupied	565,900	537,400	25,200	400	0	500	500	200	1,800	2
3	Vacant	24,500	2,900	20,500	0	0	200	200	500	300	3
4	Seasonal	500	0	400	0	0	100	0	0	0	4
	Units in structure										
5	1, detached	351,600	348,600	0	400	0	300	700	500	1,200	5
6	1, attached	78,100	77,300	0	0	0	100	0	0	700	6
7	2 to 4	41,300	41,000	0	0	0	0	0	200	200	7
8	5 to 9	33,700	33,700	0	0	0	0	0	0	0	8
9	10 to 19	26,500	26,500	0	0	0	0	0	0	0	9
10	20 to 49	35,300	34,800	0	0	0	300	0	0	200	10
11	50 or more										11
12	Manufactured/mobile home	24,400	24,400	0	0	0	0	0	0	0	12

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 1998	1998 units present in 2011	Change in characteristics	1998 units lost due to conversion/ merger	1998 house or mobile home moved out	1998 units changed to nonresidential use	1998 units lost through demolition or disaster	1998 units badly damaged or condemned	1998 units lost in other ways	Row
	Year built										
16	1995–1999	22,300	22,100	0	0	0	0	0	0	200	16
17	1990–1994	24,200	24,200	0	0	0	0	0	0	0	17
18	1985–1989	41,200	41,100	0	0	0	100	0	0	0	18
19	1980–1984	38,700	38,600	0	0	0	200	0	0	0	19
20	1975–1979	64,000	63,600	0	0	0	0	0	0	500	20
21	1970–1974	85,200	84,700	0	0	0	300	0	0	200	21
22	1960–1969	139,200	138,900	0	0	0	200	0	200	0	22
23	1950–1959	101,700	100,900	0	200	0	0	200	200	300	23
24	1940–1949	38,800	38,000	0	0	0	0	300	200	300	24
25	1930–1939	15,800	15,300	0	0	0	0	0	200	300	25
26	1920–1929	8,100	7,700	0	200	0	0	200	0	0	26
27	1919 or earlier	11,600	11,200	0	0	0	0	0	0	300	27
	Rooms										
28	1	3,700	400	2,600	0	0	0	0	200	500	28
29	2	9,800	3,100	6,200	0	0	0	0	200	300	29
30	3	79,300	55,800	22,700	0	0	500	200	0	200	30
31	4	122,900	76,300	45,800	0	0	100	200	300	200	31
32	5	112,600	59,200	52,500	0	0	0	200	0	700	32
33	6	97,400	45,400	52,000	0	0	0	0	0	0	33
34	7	77,000	33,400	43,400	0	0	0	0	0	200	34
35	8	56,800	27,400	29,200	0	0	0	0	0	200	35
36	9	17,400	7,800	9,600	0	0	0	0	0	0	36
37	10 or more	14,100	6,900	6,500	400	0	200	200	0	0	37

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 1998	1998 units present in 2011	Change in characteristics	1998 units lost due to conversion/merger	1998 house or mobile home moved out	1998 units changed to nonresidential use	1998 units lost through demolition or disaster	1998 units badly damaged or condemned	1998 units lost in other ways	Row
	Bedrooms										
38	None	4,400	1,300	2,400	0	0	0	0	200	500	38
39	1	92,800	76,100	15,500	0	0	300	200	200	500	39
40	2	166,700	136,100	29,200	0	0	300	300	300	500	40
41	3	197,600	158,100	38,800	0	0	0	0	0	700	41
42	4 or more	129,500	116,500	12,300	400	0	200	200	0	0	42
43	Multiunit structures	136,800	136,000	0	0	0	300	0	200	300	43
	Stories in structure										
44	1	24,600	24,300	0	0	0	0	0	200	200	44
45	2	85,200	85,200	0	0	0	0	0	0	0	45
46	3	26,900	26,500	0	0	0	300	0	0	200	46
47	4 to 6										47
48	7 or more										48

Forward-Looking Table B: Unit Quality, San Jose

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 1998	1998 units present in 2011	Change in characteristics	1998 units lost due to conversion/merger	1998 house or mobile home moved out	1998 units changed to nonresidential use	1998 units lost through demolition or disaster	1998 units badly damaged or condemned	1998 units lost in other ways	Row
1	Occupied units	565,900	537,400	25,200	400	0	500	500	200	1,800	1
2	With complete kitchen	556,400	521,800	31,500	400	0	500	500	200	1,500	2
3	Lacking complete kitchen facilities	9,500	800	8,400	0	0	0	0	0	300	3
4	With complete plumbing	559,100	525,200	30,800	400	0	500	500	200	1,500	4
5	Lack some plumbing	6,800	0	6,500	0	0	0	0	0	300	5
6	No hot piped water	800	0	400	0	0	0	0	0	300	6
7	No bathtub/shower	800	0	400	0	0	0	0	0	300	7
8	No flush toilet	800	0	400	0	0	0	0	0	300	8
9	No exclusive use	6,100	0	6,100	0	0	0	0	0	0	9
	Water										
10	Public/private water	559,000	531,100	24,500	400	0	500	500	200	1,800	10
11	Well serving 1 to 5 units	6,600	4,400	2,300	0	0	0	0	0	0	11
12	Other water source	200	200	0	0	0	0	0	0	0	12
	Sewer										
13	Public sewer	550,300	521,400	25,900	400	0	300	500	200	1,700	13
14	Septic tank/cesspool	15,400	11,200	4,000	0	0	200	0	0	0	14
15	Other	200	0	0	0	0	0	0	0	200	15

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 1998	1998 units present in 2011	Change in characteristics	1998 units lost due to conversion/merger	1998 house or mobile home moved out	1998 units changed to nonresidential use	1998 units lost through demolition or disaster	1998 units badly damaged or condemned	1998 units lost in other ways	Row
16	Severe problems	11,300	400	10,200	0	0	0	200	0	500	16
17	Plumbing	6,800	0	6,500	0	0	0	0	0	300	17
18	Heating	3,400	200	2,900	0	0	0	200	0	200	18
19	Electric	900	0	900	0	0	0	0	0	0	19
20	Upkeep	400	0	400	0	0	0	0	0	0	20
21	Moderate problems	15,900	1,300	14,600	0	0	0	0	0	0	21
22	Plumbing	2,500	0	2,500	0	0	0	0	0	0	22
23	Heating	400	200	200	0	0	0	0	0	0	23
24	Kitchen	9,500	800	8,400	0	0	0	0	0	300	24
25	Upkeep	5,500	0	5,500	0	0	0	0	0	0	25

Forward-Looking Table C: Occupant Characteristics, San Jose

Row	A	B	C	D	E	F	G	H	I	J	Row
	Characteristics	Present in 1998	1998 units present in 2011	Change in characteristics	1998 units lost due to conversion/merger	1998 house or mobile home moved out	1998 units changed to nonresidential use	1998 units lost through demolition or disaster	1998 units badly damaged or condemned	1998 units lost in other ways	
1	Occupied units	565,900	537,400	25,200	400	0	500	500	200	1,800	1
	Age of householder										
2	Under 65	481,700	379,600	99,300	400	0	500	300	200	1,500	2
3	65 to 74	45,600	1,700	43,500	0	0	0	200	0	200	3
4	75 or older	38,600	11,900	26,500	0	0	0	0	0	200	4
	Children in household										
5	Some	215,500	95,500	119,400	0	0	200	200	0	300	5
6	None	350,400	233,600	114,000	400	0	300	300	200	1,500	6
	Race and ethnicity										
7	White	372,800	270,100	100,600	0	0	500	500	200	1,000	7
8	Hispanic	41,100	20,200	20,800	0	0	0	200	0	0	8
9	Non-Hispanic	331,700	213,400	116,300	0	0	500	300	200	1,000	9
10	Black	15,400	3,900	11,500	0	0	0	0	0	0	10
11	Hispanic	400	0	400	0	0	0	0	0	0	11
12	Non-Hispanic	15,000	3,900	11,100	0	0	0	0	0	0	12
13	American Indian or Alaska Native alone	3,000	400	2,600	0	0	0	0	0	0	13
14	Asian or Pacific Islander	119,700	69,000	50,400	200	0	0	0	0	200	14
16	Other	55,000	900	53,300	200	0	0	0	0	700	16
17	Hispanic or Latino (any race)	86,400	50,400	35,200	200	0	0	200	0	500	17

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 1998	1998 units present in 2011	Change in characteristics	1998 units lost due to conversion/merger	1998 house or mobile home moved out	1998 units changed to nonresidential use	1998 units lost through demolition or disaster	1998 units badly damaged or condemned	1998 units lost in other ways	Row
	Income sources of families and primary individuals										
18	Wages and salaries	459,100	338,400	118,100	400	0	500	300	200	1,300	18
20	Dividends, interest, or rent	276,000	119,900	155,000	0	0	300	200	200	500	20
21	Public assistance or public welfare	21,400	200	21,000	0	0	0	0	0	200	21

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

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 1998	1998 units present in 2011	Change in characteristics	1998 units lost due to conversion/merger	1998 house or mobile home moved out	1998 units changed to nonresidential use	1998 units lost through demolition or disaster	1998 units badly damaged or condemned	1998 units lost in other ways	Row
1	Occupied units	565,900	537,400	25,200	400	0	500	500	200	1,800	1
	Tenure										
2	Owner-occupied	343,800	285,200	57,400	0	0	200	300	200	500	2
3	Homeownership rate	60.8%									3
4	Renter-occupied	222,100	179,400	40,500	400	0	300	200	0	1,300	4
	Renter monthly housing costs										
5	No cash rent	6,400	1,400	4,900	200	0	0	0	0	0	5
6	Less than \$350	12,000	3,000	9,000	0	0	0	0	0	0	6
7	\$350 to \$599	16,000	1,700	14,200	0	0	0	0	0	200	7
8	\$600 to \$799	30,300	1,000	28,400	0	0	300	0	0	500	8
9	\$800 to \$1,249	95,300	20,300	74,200	200	0	0	200	0	500	9
10	\$1,250 or more	62,000	40,100	21,700	0	0	0	0	0	200	10
	Renter household income										
11	Less than \$15,000	36,500	7,400	28,700	0	0	0	0	0	500	11
12	\$15,000 to \$29,999	38,500	7,600	30,200	200	0	200	0	0	300	12
13	\$30,000 to \$49,999	55,700	9,200	46,000	0	0	200	200	0	200	13
14	\$50,000 to \$99,999	68,700	18,500	49,800	200	0	0	0	0	200	14
15	\$100,000 or more	22700	6100	16400	0	0	0	0	0	200	15

	A	B	C	D	E	F	G	H	I	J	
Row	Characteristics	Present in 1998	1998 units present in 2011	Change in characteristics	1998 units lost due to conversion/merger	1998 house or mobile home moved out	1998 units changed to nonresidential use	1998 units lost through demolition or disaster	1998 units badly damaged or condemned	1998 units lost in other ways	Row
	Owner monthly housing costs										
16	Less than \$350	49,000	2,800	46,000	0	0	0	0	0	200	16
17	\$350 to \$599	52,400	7,200	45,100	0	0	0	0	0	200	17
18	\$600 to \$799	28,000	4,000	24,000	0	0	0	0	0	0	18
19	\$800 to \$1,249	48,400	4,500	43,600	0	0	0	200	0	200	19
20	\$1,250 or more	165,900	116,300	49,200	0	0	200	200	200	0	20
	Owner household income										
21	Less than \$15,000	37,800	4,000	33,600	0	0	0	0	0	200	21
22	\$15,000 to \$29,999	36,800	6,900	29,900	0	0	0	0	0	0	22
23	\$30,000 to \$49,999	40,600	5,800	34,600	0	0	0	200	0	0	23
24	\$50,000 to \$99,999	105,400	28,200	76,900	0	0	200	0	0	200	24
25	\$100,000 or more	123,200	67,500	55,200	0	0	0	200	200	200	25

Backward-Looking Table A: Housing Characteristics, San Jose

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 1998	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 1998 stock	2011 units added in other ways	Row
1	Housing stock	655,900	564,200	0	2,700	0	9,100	75,700	200	4,000	1
	Occupancy status										
2	Occupied	624,100	521,700	20,300	2,500	0	8,100	67,700	200	3,600	2
3	Vacant	31,000	2,400	19,200	200	0	900	7,900	0	400	3
4	Seasonal	800	0	700	0	0	100	100	0	0	4
	Units in structure										
5	1, detached	368,400	334,100	0	500	0	1,700	30,400	200	1,400	5
6	1, attached	55,700	40,600	0	1,200	0	600	12,700	0	600	6
7	2 to 4	53,400	51,000	0	800	0	0	1,400	0	300	7
8	5 to 9	41,200	39,800	0	0	0	0	1,300	0	200	8
9	10 to 19	38,900	33,600	0	200	0	600	4,300	0	200	9
10	20 to 49	39,500	28,900	0	0	0	2,000	8,200	0	400	10
11	50 or more	38,700	16,300	0	0	0	4,200	17,300	0	900	11
12	Manufactured/mobile home	20,000	19,800	0	0	0	0	100	0	0	12

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 1998	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 1998 stock	2011 units added in other ways	Row
	Year built										
13	2010–2014	6,000	0	0	0	0	0	6,000	0	0	13
14	2005–2009	29,400	800	0	300	0	200	27,900	0	200	14
15	2000–2004	28,500	200	0	200	0	0	28,000	0	0	15
16	1995–1999	35,200	20,800	0	400	0	200	13,200	200	400	16
17	1990–1994	23,200	22,100	0	0	0	0	300	0	800	17
18	1985–1989	39,400	37,800	0	300	0	900	0	0	400	18
19	1980–1984	37,800	35,900	0	200	0	1,100	0	0	600	19
20	1975–1979	61,200	60,600	0	400	0	200	0	0	0	20
21	1970–1974	85,700	79,700	0	400	0	5,300	0	0	200	21
22	1960–1969	136,800	135,700	0	200	0	200	200	0	400	22
23	1950–1959	100,700	100,100	0	0	0	200	0	0	500	23
24	1940–1949	38,400	37,700	0	300	0	400	0	0	0	24
25	1930–1939	14,000	14,000	0	0	0	0	0	0	0	25
26	1920–1929	7,700	7,500	0	0	0	0	0	0	200	26
27	1919 or earlier	11,900	11,300	0	0	0	300	0	0	300	27

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 1998	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 1998 stock	2011 units added in other ways	Row
	Rooms										
28	1	4,900	400	2,300	0	0	900	1,000	0	400	28
29	2	13,400	2,800	4,000	900	0	4,200	1,100	0	400	29
30	3	77,300	50,600	11,700	900	0	2,000	10,500	0	1,500	30
31	4	118,800	71,100	28,400	400	0	1,100	16,500	0	1,300	31
32	5	121,600	57,000	52,400	400	0	400	11,200	0	200	32
33	6	118,400	44,900	63,200	0	0	0	10,100	200	0	33
34	7	95,200	33,400	52,400	0	0	0	9,300	0	0	34
35	8	64,500	27,600	30,100	0	0	200	6,500	0	0	35
36	9	26,000	7,900	12,900	0	0	0	5,200	0	0	36
37	10 or more	15,700	6,900	4,000	0	0	300	4,300	0	200	37
	Bedrooms										
38	None	10,700	1,100	5,900	0	0	1,300	1,800	0	600	38
39	1	99,800	68,900	7,900	1,600	0	5,800	13,400	0	2,200	39
40	2	164,900	125,500	17,600	800	0	1,300	18,700	0	1,000	40
41	3	203,000	156,800	26,600	200	0	200	19,200	0	0	41
42	4 or more	177,500	117,200	36,700	0	0	500	22,600	200	200	42
43	Multiunit structures	211,800	169,700	0	1,000	0	6,800	32,400	0	2,000	43
	Stories in structure										
44	1	36,700	31,700	0	0	0	1,100	3,500	0	400	44
45	2	115,000	105,500	0	800	0	5,500	3,100	0	200	45
46	3	41,500	26,800	0	200	0	200	13,200	0	1,200	46
47	4 to 6	16,800	4,600	0	0	0	0	12,000	0	200	47
48	7 or more	1,700	1,100	0	0	0	0	700	0	0	48

Backward-Looking Table B: Unit Quality, San Jose

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 1998	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 1998 stock	2011 units added in other ways	Row
1	Occupied units	624,100	521,700	20,300	2,500	0	8,100	67,700	200	3,600	1
2	With complete kitchen	613,300	506,900	27,100	2,000	0	7,200	66,500	200	3,400	2
3	Lacking complete kitchen facilities	10,800	800	7,200	500	0	900	1,200	0	200	3
4	With complete plumbing	617,500	509,900	26,700	2,500	0	7,200	67,500	200	3,400	4
5	Lack some plumbing	6,600	0	5,300	0	0	900	200	0	200	5
6	No hot piped water	800	0	200	0	0	700	0	0	0	6
7	No bathtub/shower	1,100	0	200	0	0	900	0	0	0	7
8	No flush toilet	800	0	200	0	0	700	0	0	0	8
9	No exclusive use	5,500	0	5,100	0	0	0	200	0	200	9
	Water										
10	Public/private water	616,200	515,800	20,700	2,300	0	7,400	66,200	200	3,600	10
11	Well serving 1 to 5 units	7,000	4,400	900	200	0	200	1,300	0	0	11
12	Other water source	900	200	0	0	0	400	200	0	0	12
	Sewer										
13	Public sewer	606,700	506,200	22,700	2,300	0	7,400	64,500	200	3,400	13
14	Septic tank/cesspool	17,000	10,900	2,000	200	0	500	3,200	0	200	14
15	Other	400	0	200	0	0	200	0	0	0	15

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 1998	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 1998 stock	2011 units added in other ways	Row
16	Severe problems	9,100	400	7,500	0	0	900	200	0	200	16
17	Plumbing	6,600	0	5,300	0	0	900	200	0	200	17
18	Heating	2,500	200	2,400	0	0	0	0	0	0	18
19	Electric										19
20	Upkeep										20
21	Moderate problems	15,500	1,500	12,000	500	0	0	1,300	0	200	21
22	Plumbing	1,200	0	1,000	0	0	0	200	0	0	22
23	Heating	400	200	200	0	0	0	0	0	0	23
24	Kitchen	10,800	800	7,200	500	0	900	1,200	0	200	24
25	Upkeep	4,700	200	4,500	0	0	0	0	0	0	25

Backward-Looking Table C: Occupant Characteristics, San Jose

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 1998	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 1998 stock	2011 units added in other ways	Row
1	Occupied units	624,100	521,700	20,300	2,500	0	8,100	67,700	200	3,600	1
	Age of householder										
2	Under 65	493,200	368,100	58,100	2,300	0	2,700	59,600	200	2,300	2
3	65 to 74	69,900	1,700	63,300	200	0	0	4,500	0	200	3
4	75 or older	61,000	11,200	39,700	0	0	5,400	3,600	0	1,200	4
	Children in household										
5	Some	226,400	94,300	103,700	900	0	500	25,600	200	1,300	5
6	None	397,700	223,500	120,600	1,600	0	7,600	42,100	0	2,300	6
	Race and ethnicity										
7	White	391,400	262,700	81,600	1,700	0	7,500	34,800	0	3,200	7
8	Hispanic	95,800	20,200	65,500	900	0	200	8,100	0	900	8
9	Non-Hispanic	295,700	207,300	51,300	900	0	7,300	26,700	0	2,200	9
10	Black	21,800	3,800	16,100	0	0	0	1,900	0	0	10
11	Hispanic	3,100	0	3,100	0	0	0	0	0	0	11
12	Non-Hispanic	18,700	3,800	13,100	0	0	0	1,900	0	0	12
13	American Indian or Alaska Native alone	8,200	400	7,400	0	0	0	200	0	200	13
14	Asian or Pacific Islander	191,500	69,900	89,700	700	0	600	30,100	200	200	14
16	Other	11,200	0	10,400	0	0	0	800	0	0	16
17	Hispanic or Latino (any race)	117,500	49,800	56,700	900	0	200	8,800	0	1,200	17

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 1998	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 1998 stock	2011 units added in other ways	Row
	Income sources of families and primary individuals										
18	Wages and salaries	466,900	329,100	77,600	2,300	0	1,800	54,400	0	1,800	18
20	Dividends, interest, or rent	225,700	117,800	76,400	200	0	3,100	27,000	200	1,000	20
21	Public assistance or public welfare	8,000	200	7,400	0	0	0	200	0	200	21

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

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 1998	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 1998 stock	2011 units added in other ways	Row
1	Occupied units	624,100	521,700	20,300	2,500	0	8,100	67,700	200	3,600	1
	Tenure										
2	Owner-occupied	354,900	279,800	36,300	400	0	400	37,600	0	400	2
3	Homeownership rate	56.9%									3
4	Renter-occupied	269,200	169,700	56,200	2,100	0	7,700	30,100	200	3,300	4
	Renter monthly housing costs										
5	No cash rent	6,200	1,000	3,600	300	0	200	800	0	200	5
6	Less than \$350	13,300	2,600	7,100	0	0	1,700	1,700	0	200	6
7	\$350 to \$599	16,400	1,800	11,200	0	0	500	2,300	0	600	7
8	\$600 to \$799	12,800	900	8,900	700	0	200	1,400	200	500	8
9	\$800 to \$1,249	53,700	19,200	30,000	700	0	400	2,600	0	900	9
10	\$1,250 or more	166,800	38,100	101,500	400	0	4,600	21,400	0	800	10
	Renter household income										
11	Less than \$15,000	39,900	7,000	22,700	200	0	3,300	5,400	0	1,300	11
12	\$15,000 to \$29,999	50,800	7,500	35,500	700	0	2,400	4,000	0	700	12
13	\$30,000 to \$49,999	41,200	8,500	29,100	900	0	200	1,700	200	500	13
14	\$50,000 to \$99,999	76,100	17,400	49,800	0	0	700	7,500	0	800	14
15	\$100,000 or more	61,200	5,700	42,700	200	0	1,100	11,500	0	0	15

	A	B	C	D	E	F	G	H	I	J	
Row	2011 characteristics	Present in 2011	2011 units present in 1998	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 1998 stock	2011 units added in other ways	Row
	Owner monthly housing costs										
16	Less than \$350	6,700	2,800	3,200	0	0	0	400	0	200	16
17	\$350 to \$599	27,500	7,200	20,200	0	0	0	0	0	0	17
18	\$600 to \$799	28,900	4,000	24,300	0	0	0	600	0	0	18
19	\$800 to \$1,249	34,100	4,400	27,000	0	0	0	2,600	0	0	19
20	\$1,250 or more	257,800	115,300	107,500	400	0	400	34,000	0	200	20
	Owner household income										
21	Less than \$15,000	21,300	3,900	16,500	0	0	0	900	0	0	21
22	\$15,000 to \$29,999	27,500	6,200	19,900	0	0	0	1,400	0	0	22
23	\$30,000 to \$49,999	36,400	5,600	29,400	200	0	0	1,200	0	0	23
24	\$50,000 to \$99,999	87,700	27,300	53,700	200	0	200	6,100	0	200	24
25	\$100,000 or more	182,100	67,400	86,100	0	0	300	28,100	0	200	25

Forward-Looking Rental Dynamics Table 1: Counts, 1998–2011, San Jose

Affordability categories	A Total in 1998	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	40,000	12,400	1,500	3,400	3,800	6,600	6,000	1,300	400	3,700	600	400
Extremely low rent	10,800	600	600	2,500	1,500	1,500	2,100	0	200	1,500	0	200
Very low rent	40,700	4,000	1,500	9,000	9,600	7,900	2,600	200	0	4,300	400	1,300
Low rent	39,500	3,000	2,600	4,000	10,200	11,900	2,600	200	200	4,500	400	0
Moderate rent	10,700	900	200	900	2,300	3,800	1,100	200	0	1,100	200	0
High rent	76,300	3,200	1,900	2,100	6,400	24,000	18,600	4,300	600	12,900	2,100	200
Very high rent	9,500	0	1,300	0	0	600	3,900	1,100	400	1,700	200	200
Extremely high rent	4,200	200	200	0	0	400	1,700	400	800	200	200	0
Total	231,700	24,300	9,800	21,900	33,800	56,700	38,600	7,700	2,600	29,900	4,100	2,300

Forward-Looking Rental Dynamics Table 2: Row Percentages, 1998–2011, San Jose

Affordability categories	A Total in 1998	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	40,000	30.9%	3.7%	8.4%	9.5%	16.4%	15.1%	3.1%	1.1%	9.2%	1.6%	0.9%
Extremely low rent	10,800	5.8%	5.8%	23.5%	13.6%	14.0%	19.9%	0.0%	1.9%	13.8%	0.0%	1.6%
Very low rent	40,700	9.8%	3.6%	22.1%	23.6%	19.3%	6.3%	0.5%	0.0%	10.5%	1.1%	3.3%
Low rent	39,500	7.5%	6.5%	10.0%	25.7%	30.2%	6.5%	0.5%	0.5%	11.4%	1.1%	0.0%
Moderate rent	10,700	8.1%	1.9%	8.0%	21.8%	35.7%	10.7%	1.9%	0.0%	10.0%	1.9%	0.0%
High rent	76,300	4.2%	2.5%	2.8%	8.3%	31.4%	24.4%	5.6%	0.8%	16.9%	2.8%	0.2%
Very high rent	9,500	0.0%	13.7%	0.0%	0.0%	6.8%	41.1%	11.2%	4.6%	18.4%	2.4%	1.8%
Extremely high rent	4,200	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	231,700	10.4%	4.2%	9.4%	14.6%	24.5%	16.7%	3.3%	1.2%	12.9%	1.8%	0.9%

Backward-Looking Rental Dynamics Table 1: Counts, 1998–2011, San Jose

Affordability categories	A Total in 2011	B Non- market in 1998	C Extremely low rent in 1998	D Very low rent in 1998	E Low rent in 1998	F Moderate rent in 1998	G High rent in 1998	H Very high rent in 1998	I Extremely high rent in 1998	J Owner- occupied in 1998	K Seasonal or related vacant in 1998	L New construction	M Added in other ways
Non-market	35,400	11,200	600	3,600	2,800	800	3,200	0	200	5,700	0	5,800	1,400
Extremely low rent	23,900	1,400	600	1,500	2,300	200	2,000	1,100	200	5,300	0	6,000	3,200
Very low rent	29,600	3,000	2,400	8,400	4,000	800	2,000	0	0	4,100	700	1,900	2,300
Low rent	37,100	3,600	1,300	9,000	9,700	2,300	6,300	0	0	3,400	0	500	900
Moderate rent	66,200	6,200	1,400	7,300	11,200	3,400	22,600	600	400	7,500	600	2,800	2,100
High rent	66,900	5,500	1,900	2,400	2,400	1,000	17,400	3,600	1,600	14,100	1,700	11,600	3,700
Very high rent	15,000	1,100	0	200	200	200	3,900	1,000	400	2,800	200	4,500	400
Extremely high rent	9,800	400	200	0	200	0	600	400	800	4,500	400	2,200	200
Total	283,900	32,400	8,400	32,400	32,700	8,800	58,200	6,700	3,600	47,400	3,700	35,300	14,100

Backward-Looking Rental Dynamics Table 2: Row Percentages, 1998–2011, San Jose

Affordability categories	A Total in 2011	B Non- market in 1998	C Extremely low rent in 1998	D Very low rent in 1998	E Low rent in 1998	F Moderate rent in 1998	G High rent in 1998	H Very high rent in 1998	I Extremely high rent in 1998	J Owner- occupied in 1998	K Seasonal or related vacant in 1998	L New construction	M Added in other ways
Non-market	35,400	31.7%	1.7%	10.2%	7.9%	2.4%	9.1%	0.0%	0.5%	16.1%	0.0%	16.4%	3.9%
Extremely low rent	23,900	5.9%	2.5%	6.2%	9.5%	0.8%	8.6%	4.7%	0.8%	22.3%	0.0%	25.1%	13.6%
Very low rent	29,600	10.1%	8.2%	28.4%	13.4%	2.7%	6.9%	0.0%	0.0%	13.9%	2.4%	6.3%	7.8%
Low rent	37,100	9.7%	3.6%	24.3%	26.1%	6.3%	17.1%	0.0%	0.0%	9.2%	0.0%	1.5%	2.3%
Moderate rent	66,200	9.4%	2.1%	11.0%	16.9%	5.2%	34.2%	0.9%	0.6%	11.4%	1.0%	4.2%	3.2%
High rent	66,900	8.2%	2.9%	3.6%	3.6%	1.5%	26.0%	5.4%	2.4%	21.0%	2.6%	17.3%	5.5%
Very high rent	15,000	7.2%	0.0%	1.2%	1.5%	1.3%	26.3%	6.7%	2.7%	18.6%	1.5%	30.1%	2.8%
Extremely high rent	9,800	4.2%	1.9%	0.0%	1.9%	0.0%	6.1%	3.8%	8.3%	45.4%	3.9%	22.6%	1.9%
Total	283,900	11.4%	3.0%	11.4%	11.5%	3.1%	20.5%	2.4%	1.3%	16.7%	1.3%	12.4%	5.0%