

**Components of
Inventory Change
And Rental Dynamics:
San Antonio
1995-2004**

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Components of Inventory Change and Rental Market Dynamics: San Antonio 1995-2004

Overview

Components of Inventory Change (CINCH) and rental market dynamics are two techniques for explaining how changes that take place in a housing market over time came about in physical (bricks and mortar) terms. CINCH focuses first on the overall number and then the characteristics of units at different times. Using CINCH methods, analysts answer such question as: “What happened to the x units that disappeared from the housing stock between the beginning and the end of the period?” or “Where did the increase in owner-occupied units come from?” Rental market dynamics, which is really a type of CINCH analysis, focuses on the rental market with particular emphasis on the affordability of rental housing. Using rental market dynamics techniques, analysts answer such questions as: “Have the number of rental units affordable to households with very low incomes increased or decreased over the period?” or “What happened to the rental units that were affordable to low-income households at the beginning of the period?”

This report focuses on the San Antonio metropolitan housing market over the period between 1995 and 2004. It is one of 13 reports based on local American Housing Surveys conducted in 2004; these 13 metropolitan areas were previously surveyed in either 1995 or 1996.¹

CINCH and rental market dynamics have both forward-looking and backward-looking components. The forward-looking component starts with the housing stock available at the beginning of the period and then, looking at the end of the period, attempts to explain what happened to those units. Possible answers include some units still exist and serve the same market, some units still exist but serve a different market, some units have been demolished or destroyed in natural disasters, or some units are being used for nonresidential purposes. The backward-looking component starts with the housing stock available at the end of the period and, looking at the beginning of the period, attempts to explain where those units came from. Possible answers include some units existed at the beginning of the period and served the same market, some units existed at the beginning of the period but served a different market, some units were newly constructed over the period, or some units were being used for nonresidential purposes at the beginning of the period. Neither CINCH nor rental market dynamics try to track the experience of a unit over the entire period; both are interested only in the beginning and the end of the period. For example, a housing unit in 1995 may have become a medical office in 1997 but returned to being a housing unit in 2000. CINCH would record this unit as having

¹ See <http://www.huduser.org/datasets/cinch.html> for examples of previous CINCH and rental dynamics studies.

undergone no change over the period from 1995 to 2004. In research jargon, CINCH and rental market dynamics are *comparative static* analyses.

Ideally one would want to combine the forward-looking and backward-looking analyses to produce a complete accounting that can explain the beginning and the end consistently in terms of units that existed in both periods, losses from the stock over the period, and additions to the stock over the period. The research in this report uses the AHS, which is a sample of units at both points in time, and previous research has shown that creating sample weights that take both periods into account can generate some inconsistent or inaccurate results. For this reason, recent CINCH and rental market dynamics studies have separated the forward-looking and backward-looking components. This paper will do the same. (Weighting is explained briefly in Appendix B and more fully in a separate paper referenced in that appendix.)

The remainder of this report consists of four sections:

- An explanation of how to read the CINCH tables.
- Two sets of four tables each: a set of forward-looking tables tracing the movement of units from 1995 to 2004 and identifying how units were lost to the housing stock; and a set of backward-looking tables tracing where 2004 units came from and distinguishing between units that were part of the stock in 1995 and units that were additions to the stock since 1995.
- Two tables and accompanying discussion that highlight interesting changes in the San Antonio housing stock between 1995 and 2004.
- A brief discussion of the rental market dynamics results using CINCH-like tables.

Two appendices explain how the results were tested and how the weights were created.

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.

The forward-looking tables are concerned with what happened to the 1995 housing stock by 2004. There are three basic dispositions of 1995 units: units that continue to exist in 2004 with the same characteristics (or serving the same market), units that continue to exist in 2004 but with different characteristics (or serving a different market), and units that were lost to the stock.

The backward-looking tables are concerned with where the 2004 housing stock came from in reference to 1995. There are three basic sources of 2004 units: units that existed in 1995 with the same characteristics (or serving the same market),

units that existed in 1995 but with different characteristics (or serving a different market), and units that are additions to the housing stock.

The essence of the CINCH analysis lies in the columns because they specify the state of a unit in the other time period.

Columns Common to both Forward-Looking and Backward-Looking Tables:

- The first and last columns contain the row numbers. The row numbers are identical for the same tables in the forward-looking and backward-looking sets.

Columns A through E 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, row 2 of Table 1 focuses on occupied units; row 15 focuses on units built in 1985 through 1989.
- Column B gives the estimate published in the AHS report for the number of units that satisfy the conditions specified in column A. For example, the 1995 AHS report for San Antonio counted 484,800 occupied units (row 2, column B, forward-looking Table 1); the 2004 AHS report counted 586,900 occupied units (row 2, column B, backward-looking Table 1).
- Column C gives the CINCH estimate of the number of units that satisfy two conditions: (a) being part of the housing stock in the relevant year (1995 for the forward-looking tables and 2004 for the backward-looking tables), and (b) satisfying the condition in column A. CINCH uses different weights than those used in preparing the published AHS reports. Therefore, CINCH estimates can differ from AHS estimates for particular subsets of the housing stock. As explained in the appendix, the weights were created to match AHS published totals for rows 2 through 4 of Table 1 and rows 2 and 4 of Table 4. This perfect match will not be true of other rows.²
- Column D is the CINCH estimate of the number of units from column C 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. For example, column D of row 2 of forward-

² Columns B and C will also match, except for rounding, in row 1 of Table 1 because row 1 is defined as the sum of rows 2 through 4. Categories for which the CINCH weights seem consistently to have trouble matching the published numbers were: the number of mobile homes, units built between 2000-2004, units built between 1995-1999, rental units that do not have a cash rent, and monthly housing costs less than \$350 for owners. In a few other cases, the weighted numbers consistently fail to match the published totals, but the authors believe the differences result because the Census Bureau created the published totals using information not available on the public use files or because of coding differences. These cases are: the reasons for incomplete plumbing and households receiving welfare or SSI payment.

looking Table 1 estimates that 430,200 of the occupied units from 1995 were also occupied in 2004.

- Column E is the CINCH estimate of the number of units from column C 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. Column E of row 2 indicates that 40,600 units that were occupied in 1995 are still part of the housing stock in 2004 but are no longer occupied. 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 are characteristics that are considered impossible or unlikely to change.

Columns Unique to Forward-Looking Tables

In forward-looking tables, columns F through K track what happened to units that were lost from 1995 to 2004.

- Column F is the CINCH estimate of the number of units from column C that are not in the 2004 housing stock because they were merged with other units or converted into multiple units. Among occupied units, 1,100 were lost to mergers and conversions.
- Column G is the CINCH estimate of the number of mobile homes from column C that were moved out during the period. Among occupied units, 1,400 mobile homes were moved out.³
- Column H is the CINCH estimate of the number of units that from column C 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.⁴ Among occupied units, 1,300 became nonresidential.
- Column I is the CINCH estimate of the number of units from column C that were demolished or were destroyed by fires or natural disasters by 2004. In this case, 6,300 units were demolished or destroyed.
- Column J is the CINCH estimate of the number of units from column C that by 2004 were condemned or that were no longer usable for housing because of extensive damage. In San Antonio, 1,100 occupied units were lost because of damage or similar cause.

³ The AHS does not trace where the mobile home is moved to. The move may be within the metropolitan area or outside the metropolitan area. Similarly, column G in the backward-looking tables does not distinguish between move-ins from within or from outside the metropolitan area.

⁴ 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. So nonresidential means strictly no residential use.

- Column K is the CINCH estimate of the number of units from column C that were lost by 2004 for other reasons. These include units that the Census Bureau eliminated for sampling purposes and other miscellaneous losses. Among occupied units, there were 2,700 units lost for these miscellaneous reasons.

The columns form a closed system. Column C counts the number of units tracked; columns D through K account for all the possible outcomes. Therefore, column C minus the sum of columns D through K always equals zero, except for rounding.⁵

Columns Unique to Backward-Looking Tables

In backward-looking tables, columns G through K track where units came from that are part of the housing stock in 2004 but were not part of the 1995 housing stock.⁶

- Column G is the CINCH estimate of the number of mobile homes from column C that were moved in during the period. Among occupied units, 1,800 mobile homes were moved in (row 2, column G, of backward-looking Table 1).⁷
- Column H is the CINCH estimate of the number of units from column C that had been nonresidential in 1995. Among occupied units, 300 had been nonresidential.
- Column I is the CINCH estimate of the number of units from column C that were newly constructed between 1995 and 2004. Among occupied units, 69,900 units were newly constructed.
- Column J is the CINCH estimate of the number of units from column C that were added by 2004 by the recovery of units that had been temporarily lost to the housing stock because occupancy was prohibited in 1995, or the interior of the unit was exposed to the elements, or for reasons “not classified.” The 2004 occupied housing stock includes 1,100 recovered units.
- Column K includes units added by the Census Bureau as sample adjustments. Sample adjustments represent 6,000 occupied units in 2004.

⁵ The weighted numbers are rounded to the nearest 100 to match practices used by the Census Bureau in the AHS publications.

⁶ The backward-looking tables do not contain a column F for units added through mergers and conversions. In 2004, the Census Bureau did not code the variable that would normally identify units created from mergers and conversions (REUAD=7 or 8).

⁷ In 2004, the Census Bureau did not code the variable that would normally identify mobile home move-ins (REUAD=4). We estimated these from another variable (NOINT=13).

Table 1

Table 1 focuses on the general housing characteristics of the stock. Row 1 provides the highest level CINCH overview of the stock. For this row, column A specifies no conditions other than being part of the stock in the relevant year.

Rows 2-4 divide the housing stock by use. By Census Bureau definition, the number of occupied non-seasonal units equals the number of households. Because households are the basis for all the analyses in Tables 2 through 4, it is important to get a good starting point for these estimates. For this reason, the weights are designed to match published AHS totals for occupied units (by owner-occupied and renter-occupied), vacant units, and seasonal units.

Rows 5-12 divide the housing stock by type of structure to see what type of units account for losses.⁸ Column E is forced to be zero on the grounds that changes in structure types are extremely rare and that any observed changes are most likely data errors. The Census Bureau sometimes suppresses data to protect the confidentiality of respondents. For some metropolitan areas, suppression results in zero estimates for certain multiunit structures in the public data file, whereas the published tables contain estimates for these multiunit classes. In San Antonio, units in structures with 50 or more units are listed in row 10 instead of row 11 in forward-looking Table 1 because of suppression.

Rows 13-24 divide the housing stock by year built.⁹ The published reports use the categories 1990-1994, 1995-1999, and 2000-2004; this report uses 1990-1995 and 1995-1999, and 2000-2004 to isolate units newly constructed since the previous AHS survey.¹⁰ Column E is again forced to be zero.

Rows 25-31 and 32-36 divide the housing stock by two different measures of interior space, the number of rooms and the number of bedrooms.¹¹

Rows 37-42 focus on multiunit structures only and divide them by number of stories. Column E is forced to be zero and, depending on the metropolitan area, the Census Bureau may suppress information, forcing some rows to be zero. For the 1995 San Antonio AHS public use file, the Census Bureau reported all units in structures with 4 or more stories in row 40 and reported no units in rows 41 and 42 in Forward-Looking Table 1. The published reports contain matching data for row 37 only.

⁸ In general, the CINCH estimates exceed published AHS estimates for single-family detached units and fall short of the published AHS estimates for manufactured homes by roughly equal amounts.

⁹ Rows 13 and 14 are not included in Forward-Looking Table 1, because the 1995 housing stock cannot contain units built after 1995.

¹⁰ We use REUAD=3 and not year built to identify new construction. For this reason, there are units built after 1995 that are not considered new construction. Year built is obtained from the respondent and may be inaccurate.

¹¹ Because of small sample sizes in the losses and additions columns, we combined room categories that the published reports list separately.

Rows 43-44 divide the housing stock between central cities units and suburban residences to see how the observed changes vary by location. Rows 45-46 divide the housing stock by whether or not the occupants have moved in within the last 2 calendar years to see if certain units consistently have high turnover, and to see if high turnover units are more susceptible to loss.

Table 2

This table looks at issues related to the physical quality of units. Row 1 repeats the analysis from row 2 in Table 1. All the subsequent rows are based on row 1.

Rows 2-3 look at whether the units have complete kitchens, that is, have an installed sink with piped water, a mechanical refrigerator, and built-in burners for the exclusive use of the occupants. Rows 4-5 look at whether the units have complete plumbing facilities, that is, hot and cold piped water, a flush toilet, and a bathtub or shower inside the structure for the exclusive use of the occupants. Rows 6-9 look at each of these requirements separately.¹² In the 1995 AHS, the published reports separate out the “exclusive use” category; in the data used for this report, these units show up in row 8. Rows 2-3, 4-5, and 6-9 separate out good units from the least desirable units based on kitchen and bath equipment.

Rows 10-15 look at how units obtain water and dispose of sewage.

Rows 16-21 look at units with severe physical problems. Rows 17-21 identify specific types of serious deficiencies. Row 16 counts the units having one or more of these deficiencies. Rows 22-27 look at units with moderate problems. Rows 23-27 identify specific types of deficiencies. Row 22 counts the units having one or more of these deficiencies.¹³ These rows are in the analysis to answer two questions: whether poor-quality units in one year are also poor-quality units in the other year, and whether poorer quality units are more likely to be lost.

Table 3

This table pertains to the characteristics of occupants. Row 1 repeats the analysis from row 2 in Table 1. All the subsequent rows are based on row 1. In all cases, the analysis seeks to find out how stable occupancy characteristics are over time, and what part of the market was served by units that were lost between 1995 and 2004.

¹² Row 9 is not included in Forward-Looking Table 2, because the public use file does not contain the information needed to identify facilities available “for exclusive use” of the household.

¹³ For definitions of serious and moderate problems, see pages 990 and 991 of the AHS Codebook, version 1.78, at http://www.huduser.org/intercept.asp?loc=/Datasets/ahs/AHS_Codebook.pdf.

Rows 2-3 look at the age of the householder. Rows 4-5 look at whether or not the household includes children. Rows 6-11 look at the race or ethnicity of the householder.¹⁴ Rows 12-14 look at three possible sources of household income.

Table 4

Table 4 pertains to tenure, income, and housing costs. Row 1 repeats the analysis from row 2 in Table 1. All the subsequent rows are based on row 1.

Rows 2-4 focus on tenure to see the extent to which units change tenure characteristics and whether rental or owner-occupied units are more likely to be lost.

Rows 5-10 characterize the rental stock using 6 categories based on monthly housing costs. Row 10 identifies units provided to tenants for no cash rents, e.g., units provided to maintenance or management personnel or units provided to relatives. Rows 16-20 identify owner-occupied units by total monthly housing costs.

Rows 11-15 track rental units by household income; rows 21-25 track owner-occupied units by household income.¹⁵

¹⁴ In compliance with new federal guidelines, the 2004 AHS used different categories for recording race. For 2004, this paper defined “White” as “White only”; Black as “Black only”; and “other” as all other answers.

¹⁵ The published reports list more categories for both monthly housing costs and household income. This report combined categories for two reasons. First, the sample size in each metropolitan area is small, and therefore larger categories provide more stable measurement of the various types of losses and additions. Second, columns D and E track whether the units in each category remain occupied and stay in the same cost or income category. The combined categories create more interesting analysis because bigger changes in monthly housing costs or income are needed to move between broader categories.

Components of Inventory Change and Rental Market Dynamics:
San Antonio 1995–2004

Forward-Looking Table 1: Structural and Location Characteristics – All Housing Units

	A Characteristics	B Published Numbers	C Present in 95	D 95 units present in 2004	E Changed in characteristics	F 95 units affected by conversion /merger	G 95 mobile homes moved out	H 95 units changed to nonresidential use	I 95 units lost through demolition or disaster	J 95 units badly damaged or condemned	K 95 units lost in other ways	
1	Total	538,700	538,800	520,600	0	1,100	1,900	1,700	8,500	1,800	3,300	1
	Occupancy Status											
2	Occupied	484,800	484,800	430,200	40,600	1,100	1,400	1,300	6,300	1,100	2,700	2
3	Vacant	51,000	51,000	9,100	38,200	0	100	400	2,100	700	300	3
4	Seasonal	3,000	3,000	500	1,900	0	300	0	0	0	300	4
	Units in Structure											
5	1, detached	351,100	362,000	353,200	0	400	1,100	1,000	4,000	1,000	1,300	5
6	1, attached	10,000	9,400	9,000	0	300	0	0	0	0	100	6
7	2 to 4	40,000	41,100	38,000	0	300	0	400	1,600	400	400	7
8	5 to 9	40,900	41,400	39,600	0	0	0	0	1,500	100	100	8
9	10 to 19	40,600	39,700	39,100	0	0	0	100	300	0	100	9
10	20 to 49	18,800	25,000	24,600	0	100	0	100	100	0	0	10
11	50 or more	7,000	0	0	0	0	0	0	0	0	0	11
12	Mobile Home/Trailer	30,300	20,100	17,100	0	0	700	0	900	300	1,100	12
	Year Built											
15	1990-1995	31,700	27,700	27,000	0	0	300	0	100	0	300	15
16	1985-1989	53,800	50,200	48,500	0	0	300	300	800	0	300	16
17	1980-1984	63,300	60,000	58,800	0	0	100	300	100	100	400	17
18	1970-1979	172,100	172,900	168,400	0	400	600	100	1,700	600	1,100	18
19	1960-1969	76,700	78,900	76,500	0	100	300	100	1,100	300	400	19
20	1950-1959	58,400	62,200	60,700	0	0	0	100	1,200	0	100	20
21	1940-1949	36,700	38,800	36,400	0	300	100	300	1,300	100	300	21
22	1930-1939	15,100	15,800	14,600	0	100	0	0	600	400	100	22
23	1920-1929	8,300	8,400	8,100	0	0	0	0	100	0	100	23
24	1919 or earlier	22,600	24,000	21,600	0	100	100	400	1,400	300	0	24

Components of Inventory Change and Rental Market Dynamics:
San Antonio 1995–2004

Forward-Looking Table 1 (continued): Structural and Location Characteristics – All Housing Units

	A Characteristics	B Published Numbers	C Present in 95	D 95 units present in 2004	E Changed in characteristics	F 95 units affected by conversion /merger	G 95 mobile homes moved out	H 95 units changed to nonresidential use	I 95 units lost through demolition or disaster	J 95 units badly damaged or condemned	K 95 units lost in other ways	
	Rooms											
25	1 – 4 rooms	168,700	167,800	125,400	32,400	1,000	900	1,000	4,300	1,200	1,700	25
26	5 rooms	125,300	126,300	64,200	58,300	100	400	100	2,200	0	800	26
27	6 rooms	120,800	122,800	59,900	59,900	0	300	100	1,500	600	600	27
28	7 rooms	69,800	68,900	28,000	40,200	0	300	0	300	0	100	28
29	8 rooms	34,400	34,100	10,600	23,200	0	0	300	0	0	0	29
30	9 rooms	12,000	12,000	3,200	8,600	0	0	100	0	0	0	30
31	10 rooms or more	7,800	6,800	2,300	4,400	0	0	0	100	0	0	31
	Bedrooms											
32	None	4,400	5,300	900	3,700	0	100	100	100	100	100	32
33	1	88,000	87,700	70,200	13,000	800	400	700	1,600	400	600	33
34	2	155,400	154,900	113,900	34,400	100	400	400	3,600	600	1,400	34
35	3	219,400	219,200	181,000	32,800	100	700	300	2,700	500	1,000	35
36	4 or more	71,600	71,700	56,500	14,300	0	100	100	400	100	100	36
37	Multiunit Structures	147,300	147,300	141,400	0	400	0	700	3,600	500	700	37
	Stories in Structures											
38	1	NA	25,100	23,400	0	300	0	100	800	300	300	38
39	2	NA	94,900	91,000	0	0	0	500	2,600	300	400	39
40	3	NA	27,200	27,000	0	100	0	0	100	0	0	40
41	4 to 6	NA	0	0	0	0	0	0	0	0	0	41
42	7 or more	NA	0	0	0	0	0	0	0	0	0	42
	Metro Status											
43	In central cities	NA	379,200	368,800	0	1,100	400	1,300	5,000	1,100	1,500	43
44	In suburbs	NA	159,600	151,900	0	0	1,400	400	3,500	700	1,700	44
	Mover Status											
45	Moved in last 2 years	NA	125,800	43,600	78,100	300	100	600	1,800	600	700	45
46	Not a Recent Mover	NA	359,000	349,100	0	800	1,300	700	4,500	600	2,000	46

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Forward-Looking Table 2: Condition of Unit – All Occupied Units

	A Characteristics	B Published Numbers	C Present in 95	D 95 units present in 2004	E Changed in characteristics	F 95 units affected by conversion /merger	G 95 mobile homes moved out	H 95 units changed to nonresidential use	I 95 units lost through demolition or disaster	J 95 units badly damaged or condemned	K 95 units lost in other ways	
1	Occupied Units	484,800	484,800	430,200	40,600	1,100	1,400	1,300	6,300	1,100	2,700	1
	Kitchen											
2	With complete kitchen	479,600	480,900	421,700	45,500	1,100	1,400	1,100	6,200	1,100	2,700	2
3	Lacking complete kitchen facilities	5,200	3,900	300	3,300	0	0	100	100	0	0	3
	Plumbing											
4	With all plumbing facilities	482,900	482,900	422,900	46,000	1,100	1,400	1,300	6,300	1,100	2,700	4
5	Lack some plumbing	600	1,900	200	1,800	0	0	0	0	0	0	5
6	No hot piped water	500	600	0	600	0	0	0	0	0	0	6
7	No bathtub/shower	300	200	0	200	0	0	0	0	0	0	7
8	No flush toilet	1,200	1,400	200	1,300	0	0	0	0	0	0	8
	Water											
10	Public/private water	468,100	467,200	413,900	40,600	1,100	700	1,100	6,200	1,100	2,400	10
11	Well	15,900	16,800	11,700	4,000	0	600	100	100	0	300	11
12	Other water source	700	800	200	500	0	100	0	0	0	0	12
	Sewer											
13	Public sewer	427,400	431,000	382,000	38,500	1,100	400	1,000	5,600	1,000	1,400	13
14	Septic tank/cesspool	57,300	53,800	40,100	10,200	0	1,000	300	700	100	1,300	14
15	Other or none	0	0	0	0	0	0	0	0	0	0	15
	Severe Problems											
16	Severe Problems	4,200	5,400	600	4,300	0	0	0	300	100	0	16
17	Plumbing	1,800	1,900	200	1,800	0	0	0	0	0	0	17
18	Heating	700	2,600	500	2,100	0	0	0	0	0	0	18
19	Electric	300	300	0	200	0	0	0	100	0	0	19
20	Upkeep	1,700	800	0	500	0	0	0	100	100	0	20
21	Hallways	0	0	0	0	0	0	0	0	0	0	21
	Moderate problems											
22	Moderate problems	68,100	69,300	19,000	46,900	700	100	300	1,300	400	600	22
23	Plumbing	1,900	2,200	0	2,200	0	0	0	0	0	0	23
24	Heating	48,300	53,700	16,000	35,000	600	100	0	1,000	600	400	24
25	Kitchen	4,000	3,900	300	3,300	0	0	100	100	0	0	25
26	Upkeep	18,300	15,900	1,400	13,200	100	0	300	700	0	100	26
27	Hallways	500	200	0	200	0	0	0	0	0	0	27

Components of Inventory Change and Rental Market Dynamics:
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Forward-Looking Table 3: Household Characteristics – All Occupied Units

	A Characteristics	B Published Numbers	C Present in 95	D 95 units present in 2004	E Changed in characteristics	F 95 units affected by conversion /merger	G 95 mobile homes moved out	H 95 units changed to nonresidential use	I 95 units lost through demolition or disaster	J 95 units badly damaged or condemned	K 95 units lost in other ways	
1	Occupied units	484,800	484,800	430,200	40,600	1,100	1,400	1,300	6,300	1,100	484,800	1
	Age of Householder											
2	Under 65	386,900	383,900	299,200	73,600	800	900	1,300	5,300	1,000	386,900	2
3	65 or older	97,900	100,900	50,800	47,200	300	600	0	1,000	100	97,900	3
	Children											
4	Some	200,600	201,400	100,100	94,500	300	600	400	4,100	600	200,600	4
5	None	284,200	283,400	187,700	88,500	800	900	800	2,300	600	284,200	5
	Race/Origin of Householder											
6	White	434,500	433,300	361,700	59,300	700	1,400	1,000	5,600	1,100	434,500	6
7	Hispanic	185,200	190,400	137,200	47,500	600	0	100	3,400	1,100	185,200	7
8	NonHispanic	249,400	242,900	154,300	82,000	100	1,400	800	2,300	0	249,400	8
9	Black	28,000	28,000	13,500	13,600	100	0	100	600	0	28,000	9
10	Other	22,200	23,400	2,100	20,600	300	0	100	100	0	22,200	10
11	Total Hispanics	200,400	206,900	153,400	47,000	800	0	300	3,500	1,100	200,400	11
	Income Source											
12	Wages and salaries	371,400	369,000	287,600	72,000	700	600	1,300	4,500	800	371,400	12
13	Welfare or SSI	143,800	148,100	75,600	68,500	400	700	100	1,400	100	143,800	13
14	Social security or pension	34,400	35,500	2,800	30,700	400	0	0	1,300	0	34,400	14

Components of Inventory Change and Rental Market Dynamics:
San Antonio 1995–2004

Forward-Looking Table 4: Market Dynamics and Affordability – All Occupied Units

	A Characteristics	B Published Numbers	C Present in 95	D 95 units present in 2004	E Changed in characteristics	F 95 units affected by conversion /merger	G 95 mobile homes moved out	H 95 units changed to nonresidential use	I 95 units lost through demolition or disaster	J 95 units badly damaged or condemned	K 95 units lost in other ways	
1	Occupied units	484,800	484,800	430,200	40,600	1,100	1,400	1,300	6,300	1,100	2,700	1
	Tenure											
2	Owner occupied	298,300	298,300	247,100	45,300	100	1,200	600	2,200	100	1,700	2
3	Percent own occpd	61.5%	61.5%									3
4	Renter occupied	186,500	186,500	119,000	59,400	1,000	300	700	4,200	1,000	1,000	4
	Renter Monthly Housing Costs											
5	Less than \$350	47,500	50,900	13,800	32,500	700	100	100	2,200	700	700	5
6	\$350 to \$599	77,800	78,500	29,300	48,100	100	100	100	700	0	0	6
7	\$600 to \$799	31,600	29,700	10,000	19,400	0	0	0	100	100	0	7
8	\$800 to \$1,249	13,800	16,000	5,300	10,200	0	0	100	300	100	0	8
9	\$1,250 or more	2,600	0	0	0	0	0	0	0	0	0	9
10	No cash rent	13,200	11,400	1,300	8,600	100	0	300	800	0	300	10
	Renter Hsd Income											
11	Less than \$15,000	65,400	66,200	18,100	43,100	700	100	300	2,400	600	800	11
12	\$15,000 to \$29,999	57,400	58,200	12,500	44,300	100	100	100	1,000	0	0	12
13	\$30,000 to \$49,999	41,400	40,900	7,500	31,900	100	0	300	700	300	100	13
14	\$50,000 to \$99,999	20,000	19,200	3,800	15,200	0	0	0	100	100	0	14
15	\$100,000 or more	2,200	2,000	200	1,900	0	0	0	0	0	0	15
	Owner Monthly Housing Costs											
16	Less than \$350	104,800	112,100	44,400	64,500	100	400	300	1,400	100	900	16
17	\$350 to \$599	71,200	70,700	17,100	52,400	0	400	0	600	0	300	17
18	\$600 to \$799	43,600	43,900	7,900	35,600	0	0	100	0	0	300	18
19	\$800 to \$1,249	55,000	52,200	20,100	31,700	0	0	0	100	0	300	19
20	\$1,250 or more	23,500	19,300	11,900	6,900	0	300	100	0	0	0	20
	Owner Hsd Income											
21	Less than \$15,000	47,600	50,500	13,200	36,000	0	0	0	600	100	600	21
22	\$15,000 to \$29,999	74,400	74,400	18,700	53,200	0	600	100	1,000	0	700	22
23	\$30,000 to \$49,999	69,000	69,600	18,700	49,900	100	300	100	100	0	300	23
24	\$50,000 to \$99,999	86,400	84,800	30,300	53,500	0	300	100	400	0	100	24
25	\$100,000 or more	20,900	19,100	8,600	10,300	0	0	100	0	0	0	25

Components of Inventory Change and Rental Market Dynamics:
San Antonio 1995–2004

Backward-Looking Table 1: Structural and Location Characteristics – All Housing Units

	A Characteristics	B Published Numbers	C Present in 2004	D 04 units present in 95	E Changed in characteristics	G 04 mobile homes moved in	H 04 units derived from nonresidential use	I 04 units added through new construction	J 04 units added from temporary losses	K 04 units added by other means	
1	Total	648,600	648,600	557,800	0	1,800	300	79,300	1,500	8,000	1
	Occupancy Status										
2	Occupied	586,900	586,900	463,900	43,900	1,800	300	69,900	1,100	6,000	2
3	Vacant	58,000	58,000	9,300	38,000	0	0	8,700	400	1,600	3
4	Seasonal	3,700	3,700	400	2,300	0	0	600	0	300	4
	Units in Structure										
5	1, detached	434,600	447,500	382,100	0	100	100	60,200	900	3,900	5
6	1, attached	13,700	13,500	10,800	0	100	0	2,500	0	100	6
7	2 to 4	43,400	45,200	43,000	0	0	0	1,400	400	400	7
8	5 to 9	41,700	42,000	38,900	0	0	0	3,000	100	0	8
9	10 to 19	42,500	41,300	35,700	0	0	0	5,500	0	0	9
10	20 to 49	22,400	21,300	16,100	0	0	0	5,200	0	0	10
11	50 or more	10,200	10,900	10,300	0	0	100	400	0	0	11
12	Mobile Home/Trailer	40,200	27,000	20,800	0	1,500	0	1,000	0	3,600	12
	Year Built										
13	2000-2004	62,100	52,000	4,400	0	100	0	45,600	0	1,800	13
14	1995-1999	50,800	43,300	13,500	0	700	0	27,500	100	1,400	14
15	1990-1994	32,200	29,400	22,400	0	600	0	5,800	100	500	15
16	1985-1989	61,800	62,500	62,000	0	0	0	0	300	300	16
17	1980-1984	75,100	75,600	74,500	0	100	0	300	0	700	17
18	1970-1979	126,400	129,200	128,200	0	0	0	0	100	900	18
19	1960-1969	89,300	94,500	93,300	0	100	100	0	300	700	19
20	1950-1959	68,700	74,100	73,000	0	100	100	0	0	800	20
21	1940-1949	42,700	46,100	45,400	0	0	0	0	0	700	21
22	1930-1939	19,400	20,900	20,500	0	0	0	0	100	200	22
23	1920-1929	11,600	11,700	11,600	0	0	0	0	100	0	23
24	1919 or earlier	8,700	9,300	9,100	0	0	0	0	200	0	24

Components of Inventory Change and Rental Market Dynamics:
San Antonio 1995–2004

Backward-Looking Table 1 (continued): Structural and Location Characteristics – All Housing Units

	A Characteristics	B Published Numbers	C Present in 2004	D 04 units present in 95	E Changed in characteristics	G 04 mobile homes moved in	H 04 units derived from nonresidential use	I 04 units added through new construction	J 04 units added from temporary losses	K 04 units added by other means	
	Rooms										
25	1 – 4 rooms	183,900	184,700	133,600	34,000	700	300	13,200	700	2,300	25
26	5 rooms	162,400	161,800	68,900	74,800	600	0	14,500	300	2,800	26
27	6 rooms	144,400	146,500	64,400	62,300	300	0	18,000	300	1,200	27
28	7 rooms	83,300	82,000	30,300	35,200	300	0	14,800	300	1,200	28
29	8 rooms	38,200	37,800	11,500	16,900	0	0	9,200	0	100	29
30	9 rooms	17,800	17,300	3,500	8,100	0	0	5,500	0	300	30
31	10 rooms or more	18,700	18,500	2,400	11,900	0	0	4,200	0	0	31
	Bedrooms										
32	None	2,700	3,100	1,000	1,700	0	0	100	0	200	32
33	1	94,000	94,700	74,700	11,100	300	300	7,400	300	600	33
34	2	161,500	162,800	121,800	27,500	600	0	10,100	500	2,300	34
35	3	279,100	277,900	194,700	40,500	800	0	37,400	600	4,000	35
36	4 or more	111,300	110,100	61,000	23,700	100	0	24,300	100	800	36
37	Multiunit Structures	160,200	160,600	144,000	0	0	100	15,600	500	400	37
	Stories in Structures										
38	1	NA	21,500	19,900	0	0	0	1,000	100	400	38
39	2	NA	98,400	93,100	0	0	0	4,900	400	0	39
40	3	NA	34,800	26,000	0	0	0	8,800	0	0	40
41	4 to 6	NA	1,600	1,300	0	0	0	400	0	0	41
42	7 or more	NA	4,300	3,800	0	0	100	400	0	0	42
	Metro Status										
43	In central cities	NA	453,000	395,200	0	1,000	300	53,800	1,300	1,300	43
44	In suburbs	NA	195,600	162,600	0	800	0	25,400	100	6,700	44
	Mover Status										
45	Moved in last 2 years	NA	157,200	46,800	82,800	700	0	25,600	100	1,100	45
46	Not a Recent Mover	NA	429,700	288,900	89,200	1,100	300	44,300	1,000	4,900	46

Components of Inventory Change and Rental Market Dynamics:
San Antonio 1995–2004

Backward-Looking Table 2: Condition of Unit – All Occupied Units

	A Characteristics	B Published Numbers	C Present in 2004	D 04 units present in 95	E Changed in characteristics	G 04 mobile homes moved in	H 04 units derived from nonresidential use	I 04 units added through new construction	J 04 units added from temporary losses	K 04 units added by other means	
1	Occupied Units	586,900	586,900	463,900	43,900	1,800	300	69,900	1,100	6,000	1
	Kitchen										
2	With complete kitchen	577,700	577,600	454,700	44,800	1,700	300	69,400	1,100	5,800	2
3	Lacking complete kitchen facilities	9,200	9,300	300	8,000	100	0	500	0	300	3
	Plumbing										
4	With all plumbing facilities	579,400	579,000	456,000	44,400	1,800	300	69,400	1,100	6,000	4
5	Lack some plumbing	7,500	7,900	200	7,100	0	0	500	0	0	5
6	No hot piped water	1,400	1,500	0	1,400	0	0	100	0	0	6
7	No bathtub/shower	300	300	0	300	0	0	0	0	0	7
8	No flush toilet	600	700	200	500	0	0	0	0	0	8
9	No exclusive use	5,600	5,800	0	5,400	0	0	400	0	0	9
	Water										
10	Public/private water	569,600	567,800	446,300	46,600	1,800	100	66,500	1,100	5,300	10
11	Well	16,200	17,900	12,600	1,400	0	100	3,100	0	700	11
12	Other water source	1,200	1,100	200	700	0	0	300	0	0	12
	Sewer										
13	Public sewer	521,000	525,800	411,800	47,400	1,400	100	61,900	1,100	2,100	13
14	Septic tank/cesspool	65,800	60,900	43,300	5,100	400	100	8,000	0	4,000	14
15	Other	200	200	0	200	0	0	0	0	0	15
	Severe Problems										
16	Severe Problems	11,300	12,000	700	10,700	0	0	500	0	0	16
17	Plumbing	7,500	7,900	200	7,100	0	0	500	0	0	17
18	Heating	3,200	3,400	500	2,900	0	0	0	0	0	18
19	Electric	0	0	0	0	0	0	0	0	0	19
20	Upkeep	900	1,000	0	1,000	0	0	0	0	0	20
21	Hallways	0	0	0	0	0	0	0	0	0	21
	Moderate problems										
22	Moderate problems	51,900	54,900	20,500	32,500	300	0	1,000	100	600	22
23	Plumbing	2,500	2,900	0	2,900	0	0	0	0	0	23
24	Heating	30,800	34,200	17,200	16,200	100	0	300	100	300	24
25	Kitchen	8,700	9,300	300	8,000	100	0	500	0	300	25
26	Upkeep	15,000	16,600	1,600	14,400	0	0	300	0	400	26
27	Hallways	800	800	0	800	0	0	0	0	0	27

Components of Inventory Change and Rental Market Dynamics:
San Antonio 1995–2004

Backward-Looking Table 3: Household Characteristics – All Occupied Units

	A Characteristics	B Published Numbers	C Present in 2004	D 04 units present in 95	E Changed in characteristics	G 04 mobile homes moved in	H 04 units derived from nonresidential use	I 04 units added through new construction	J 04 units added from temporary losses	K 04 units added by other means	
1	Occupied units	586,900	586,900	463,900	43,900	1,800	300	69,900	1,100	6,000	1
	Age of Householder										
2	Under 65	479,600	475,800	322,600	81,000	1,700	300	64,500	1,000	4,800	2
3	65 or older	107,400	111,100	54,900	49,300	100	0	5,400	100	1,300	3
	Children										
4	Some	234,900	233,700	108,000	85,600	600	0	36,700	600	2,300	4
5	None	352,100	353,200	202,400	111,800	1,300	300	33,200	500	3,800	5
	Race/Origin of Householder										
6	White	526,600	525,500	390,100	64,700	1,700	300	61,700	1,100	5,900	6
7	Hispanic	264,700	271,700	148,000	95,800	800	0	24,600	800	1,700	7
8	Non-Hispanic	261,800	253,800	166,500	44,500	800	300	37,200	300	4,200	8
9	Black	35,200	35,900	14,500	16,900	0	0	4,500	0	0	9
10	Other	25,100	25,500	3,100	18,400	100	0	3,700	0	100	10
11	Total Hispanics	277,200	284,500	165,500	89,800	800	0	25,800	800	1,700	11
	Income Source										
12	Wages and salaries	480,800	478,300	278,400	131,000	1,700	300	61,500	1,000	4,500	12
13	Welfare or SSI	156,900	160,200	81,600	65,700	600	0	10,500	100	1,700	13
14	Social security or pension	42,700	17,500	3,000	12,900	100	0	1,400	0	0	14

Components of Inventory Change and Rental Market Dynamics:
San Antonio 1995–2004

Backward-Looking Table 4: Market Dynamics and Affordability – All Occupied Units

	A Characteristics	B Published Numbers	C Present in 2004	D 04 units present in 95	E Changed in characteristics	G 04 mobile homes moved in	H 04 units derived from nonresidential use	I 04 units added through new construction	J 04 units added from temporary losses	K 04 units added by other means	
1	Occupied units	586,900	586,900	463,900	43,900	1,800	300	69,900	1,100	6,000	1
	Tenure										
2	Owner occupied	381,600	381,600	267,000	52,000	1,600	100	55,300	600	5,100	2
3	Percent own occpd	65.0%	65.0%								3
4	Renter occupied	205,300	205,300	127,700	61,100	300	100	14,600	500	1,000	4
	Renter Monthly Housing Costs										
5	Less than \$350	26,300	28,500	14,800	12,100	0	0	1,100	100	400	5
6	\$350 to \$599	69,500	70,500	31,400	36,400	0	100	2,000	100	400	6
7	\$600 to \$799	53,600	54,900	10,700	38,900	100	0	4,900	100	0	7
8	\$800 to \$1,249	40,400	38,800	5,700	27,500	100	0	5,300	100	0	8
9	\$1,250 or more	4,700	5,100	0	4,000	0	0	1,100	0	0	9
10	No cash rent	10,800	7,600	1,300	5,900	0	0	300	0	100	10
	Renter Hsd Income										
11	Less than \$15,000	53,700	54,500	19,500	31,400	0	0	3,100	100	400	11
12	\$15,000 to \$29,999	62,300	63,400	13,400	46,500	100	100	3,200	0	0	12
13	\$30,000 to \$49,999	48,900	48,100	8,100	35,900	0	0	3,500	300	400	13
14	\$50,000 to \$99,999	34,100	33,300	4,000	25,200	0	0	3,800	100	100	14
15	\$100,000 or more	6,400	6,000	200	4,700	100	0	1,000	0	0	15
	Owner Monthly Housing Costs										
16	Less than \$350	96,100	89,000	47,900	35,500	700	0	3,300	300	1,300	16
17	\$350 to \$599	79,000	81,200	18,500	54,900	100	0	6,900	0	800	17
18	\$600 to \$799	51,900	52,700	8,500	38,300	600	100	4,000	0	1,300	18
19	\$800 to \$1,249	84,900	88,100	21,700	49,800	100	0	15,300	300	800	19
20	\$1,250 or more	69,700	70,500	12,900	31,000	0	0	25,800	0	800	20
	Owner Hsd Income										
21	Less than \$15,000	45,200	46,600	14,300	29,100	100	0	2,400	0	700	21
22	\$15,000 to \$29,999	69,000	69,600	20,200	42,800	600	0	4,200	0	1,800	22
23	\$30,000 to \$49,999	83,200	84,300	20,200	53,800	600	0	8,500	300	800	23
24	\$50,000 to \$99,999	117,800	117,100	32,700	58,900	300	0	23,900	300	1,000	24
25	\$100,000 or more	66,300	64,000	9,300	37,600	0	100	16,300	0	700	25

Changes in the San Antonio Housing Stock: 1995-2004

Forward-looking Table 5 looks at how losses affected certain portions of the San Antonio housing stock. The rows were selected because of their inherent interest or because an examination of losses in all 13 metropolitan areas showed that these categories typically had high loss rates. In most cases, if a category had a high loss rate, then a category with the opposite characteristic would have a low loss rate, e.g., units with 1-4 rooms and units with 10 or more rooms.

Forward-Looking Table 5: Selected Loss Rates

Category	Based on Columns in Tables 1-4		
	All Losses 1995-2004 (F+G+H+I+J+K)/C	Permanent Losses (I/C)	Potentially Reversible Losses (F+G+H+J+K)/C
All units¹⁶	3.4%	1.6%	1.8%
Vacant units	7.1%	4.1%	2.9%
Units in structures with 2-4 units	7.5%	3.9%	3.6%
Units in structures with 5-9 units	4.1%	3.6%	0.5%
Mobile homes/trailers	14.9%	4.5%	10.4%
Units built 1930-1939	7.6%	3.8%	3.8%
Units built 1920-1929	2.4%	1.2%	1.2%
Units built in 1919 or earlier	9.6%	5.8%	3.8%
Units with 1-4 rooms	6.0%	2.6%	3.5%
Units with no bedrooms	9.4%	1.9%	7.5%
Units in central cities	2.7%	1.3%	1.4%
Units outside of central city	4.8%	2.2%	2.6%
Occupied units¹⁷	2.9%	1.3%	1.6%
Units with severe problems	7.4%	5.6%	1.9%
Units with moderate problems	4.9%	1.9%	3.0%
Units with a White householder	2.8%	1.3%	1.5%
Units with a Black householder	3.2%	2.1%	1.1%
Units with Hispanic householder	3.1%	1.7%	1.4%
Household receives welfare/SSI	5.6%	3.7%	2.0%
Owner-occupied units	2.0%	0.7%	1.2%
Renter-occupied units	4.4%	2.3%	2.1%
Renter-occupied – monthly housing costs less than \$350	8.8%	4.3%	4.5%
Renter-occupied – household income less than \$15,000	7.4%	3.6%	3.8%

¹⁶ All the rows above “Occupied units” refer to portions of the entire housing stock.

¹⁷ All the rows below “Occupied units” refer to portions of the occupied housing stock.

Components of Inventory Change and Rental Market Dynamics:
San Antonio 1995–2004

By 2004, 3.4 percent of the units in the 1995 housing stock was no longer part of the housing stock; 1.6 percent were permanent losses—that is, the units had either been demolished or destroyed by fire or natural disasters—while 1.8 percent were lost in ways that could be reversed, such as nonresidential use.

Units that were vacant in 1995 had a loss rate more than twice the overall loss rate. Units in structures with two to four units and mobile homes also had high loss rates. About two-thirds of the overall loss rate for mobile homes and trailers was potentially reversible. Units built prior to 1940 had a mix of loss rates. Those built between 1930 and 1939 and those built in 1919 or earlier had high loss rates, while units built between 1920 and 1929 had a lower than average loss rate. Small units had higher loss rates; those with no bedrooms had a high proportion of potentially reversible losses. The central city loss rate was almost twice the loss rate in the rest of the metropolitan area.

Among units occupied in 1995, 2.9 percent were lost by 2004. The loss rate was higher for units with physical problems; among those units with severe physical problems, most of the losses were permanent losses. The loss rates for units occupied by Black or Hispanic householders were only slightly higher than the rate of those occupied by White householders. Units with households on welfare or SSI had high loss rates.

The loss rate among rental units was twice the loss rate among owner-occupied units. Low cost rental units and rental units occupied by the lowest income households had high loss rates.

Backward-looking Table 5 presents addition rates for selected areas of the San Antonio housing stock. The rows were selected because of their inherent interest or because an examination of additions in all 13 metropolitan areas showed that these categories typically had high addition rates. In most cases, if a category had a high addition rate, then a category with the opposite characteristic would have a low addition rate, e.g., units with 10 or more rooms and units with no bedrooms.

Of all the units in the San Antonio housing stock in 2004, 14.0 percent were not in the 1995 housing stock. Most of the new units came from new construction; the return to the housing stock of units that were not available in 1995 accounted for a small percentage of the total units in 2004.

Single units in attached structures and mobile homes had a higher than average addition rate. Large units had high addition rates, while units with no bedrooms had a lower than average addition rate. The addition rate in central cities was lower than the addition rate in the rest of the metropolitan area, but less so than in many of the other 2004 AHS survey areas.

New construction formed a higher proportion of the units occupied by Black householders than the proportions occupied by White householders. In fact, all the additions to the stock occupied by Black householders came from new construction. The rate of additions in the owner-occupied stock was more than twice that in the renter-

Components of Inventory Change and Rental Market Dynamics:
San Antonio 1995–2004

occupied stock. The addition rates were high for owner-occupied units with monthly housing costs greater than \$1,250 and owner-occupied units with households with income of \$100,000 or more.

Backward-Looking Table 5: Selected Addition Rates

Category	Based on Columns in Tables 1-4		
	All Additions (G+H+I+J+K)/C	New Construction I/C	Other Additions G+H+J+K/C
All units ¹⁸	14.0%	12.2%	1.8%
Single-unit, attached structure	20.0%	18.5%	1.5%
Mobile homes/trailers	22.6%	3.7%	18.9%
Units with 9 rooms	33.5%	31.8%	1.7%
Units with 10 or more rooms	22.7%	22.7%	0.0%
Units with no bedrooms	9.7%	3.2%	6.5%
Units in central cities	12.7%	11.9%	0.9%
Units outside of central city	16.9%	13.0%	3.9%
Occupied units ¹⁹	13.5%	11.9%	1.6%
Units with a white householder	13.5%	11.7%	1.7%
Units with a Black householder	12.5%	12.5%	0.0%
Units with Hispanic householder	10.2%	9.1%	1.2%
Owner-occupied units	16.4%	14.5%	1.9%
Renter-occupied units	8.0%	7.1%	0.9%
Renter-occupied – monthly housing costs \$800 to \$1,249	14.2%	13.7%	0.5%
Owner-occupied – monthly housing costs \$1,250 or more	37.7%	36.6%	1.1%
Owner-occupied – household income \$100,000 or more	26.7%	25.5%	1.3%

Rental Market Dynamics

Tables A and B present the rental market dynamics analysis. Rental market dynamics differs from the analysis in rows 5-10 in the forward-looking and backward-looking tables in two ways. First, rental market dynamics uses categories (rows) based on affordability instead of absolute dollar amount. Affordability is defined relative to local area median income measured at the same time that monthly housing costs are measured. Tables A and B use the following seven categories:

¹⁸ All the rows above “Occupied units” refer to portions of the entire housing stock.

¹⁹ All the rows below “Occupied units” refer to portions of the occupied housing stock.

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San Antonio 1995–2004

Table A: Forward-Looking Rental Dynamics Analysis, Counts: 1995-2004

Affordability Groups	A Total in 1995	B Non- Market in 2004	C Extremely Low Rent in 2004	D Very Low Rent in 2004	E Low Rent in 2004	F Moderate Rent in 2004	G High Rent in 2004	H Very or Extremely High Rent in 2004	I Owner Occupied in 2004	J Seasonal or Vacant in 2004	K Lost to Stock in 2004
Non-market	38,000	11,600	3,600	5,200	2,500	1,300	0	0	5,900	4,400	3,600
Extremely Low Rent	9,200	500	2,800	1,400	300	200	0	0	1,400	1,300	1,400
Very Low Rent	43,200	2,200	4,400	20,000	1,600	600	0	0	6,900	5,800	1,800
Low Rent	30,000	1,100	1,100	15,200	3,100	500	0	0	3,600	5,000	400
Moderate Rent	38,000	1,900	600	6,900	10,000	4,800	600	200	6,300	6,400	300
High Rent	17,600	800	0	600	2,500	5,500	1,300	200	4,800	1,900	100
Very or Extremely High Rent	10,400	0	200	200	200	900	1,700	1,100	4,800	900	400
Total	186,500	18,000	12,700	49,400	20,200	13,800	3,600	1,400	33,800	25,600	8,100

Table B: Backward-Looking Rental Dynamics Analysis, Counts: 2004-1995

Affordability Groups	A Total in 2004	B Non- Market in 1995	C Extremely Low Rent in 1995	D Very Low Rent in 1995	E Low Rent in 1995	F Moderate Rent in 1995	G High Rent in 1995	H Very or Extremely High Rent in 1995	I Owner Occupied in 1995	J Seasonal or Vacant in 1995	K New Construc- tion	L Other Additions
Non-market	28,900	12,400	500	2,300	1,200	2,000	800	0	5,200	1,800	2,300	300
Extremely Low Rent	19,300	3,900	3,000	4,700	1,200	700	0	200	1,800	3,000	300	500
Very Low Rent	77,100	5,500	1,500	21,500	16,300	7,400	700	200	7,700	13,900	1,900	500
Low Rent	33,400	2,700	300	1,700	3,400	10,700	2,700	200	3,900	3,900	3,700	300
Moderate Rent	32,700	1,300	200	700	500	5,200	5,900	1,000	7,900	5,700	4,100	300
High Rent	9,000	0	0	0	0	700	1,300	1,800	3,200	700	1,300	0
Very or Extremely High Rent	4,900	0	0	0	0	200	200	1,200	1,800	500	1,100	0
Total	205,300	25,800	5,500	30,900	22,500	26,800	11,600	4,500	31,500	29,500	14,600	1,900

Components of Inventory Change and Rental Market Dynamics:
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- Non-market (either no cash rent or a subsidized rent).
- Extremely low rent (monthly housing costs affordable to renters with incomes less than or equal to 30 percent of local area median income).²⁰
- Very low rent (monthly housing costs affordable to renters with incomes greater than 30 percent but less than or equal to 50 percent of local area median income).
- Low rent (monthly housing costs affordable to renters with incomes greater than 50 percent but less than or equal to 60 percent of local area median income).
- Moderate rent (monthly housing costs affordable to renters with incomes greater than 60 percent but less than or equal to 80 percent of local area median income).
- High rent (monthly housing costs 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 or extremely high rent (monthly housing costs affordable to renters with incomes greater than 100 percent of local area median income).²¹

The second difference is that rental market dynamics uses different columns in order to highlight changes in availability and affordability. Columns A through H duplicate the rows so that one can trace how rental units change their affordability status. Columns I and J track movement into or out of the owner-occupied stock or the seasonal or vacant stock, respectively. In Table A, the various types of losses are combined in column K, while, in Table B, new construction is recorded in column K and all other additions in column L.

Table A shows that there were 186,500 rental units in the San Antonio metropolitan area in 1995. In 2004, 67,500 of those units were no longer rental; 33,800 were owner-occupied, 25,600 were either vacant or being used seasonally, and 8,100 had been lost to the stock. Taken as a proportion of the units in 1995, losses to the stock were highest among extremely low rent units.

Table B shows there were 205,300 rental units in the San Antonio metropolitan area in 2004, of which 77,500 were not rental units in 1995. The new units came from units that had been owner-occupied (31,500), units that had been vacant or in seasonal use (29,500), newly constructed units (14,600), and other additions (1,900). Most of the formerly owner-occupied units went to the moderate rent and very low rent categories;

²⁰ “Affordable” is defined as monthly housing costs less than or equal to 30 percent of the highest income in the category.

²¹ Ideally this final category would be two separate categories with a boundary of 120 percent of local area median income. However, the Census Bureau uses top coding of variables to prevent data users from being able to identify specific units. At the metropolitan area level, top coding of the variables used to calculate housing costs results in monthly housing costs never exceeding the 120-percent boundary in one or both years.

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most of the newly constructed rental units went to the moderate rent and low rent categories.

Looking at both tables, we see that the overall number of rental units increased by approximately 20,000 units. The number of extremely low rent and very low rent units combined grew from approximately 50,000 in 1995 to almost 100,000 in 2004.

Tables A and B paint an interesting picture of the evolution of the rental market in San Antonio between 1995 and 2004. Overall, the number of rental units increased by approximately 10 percent. The totals conceal considerable movement into and out of the rental market. The gross flows sum to almost 150,000 units. Tables A and B also show that there was considerable movement by individual units across the affordability categories. The net effect of the gross flows into and out of the rental stock and the movement across rental categories was a substantial increase in the number of units affordable to the lowest income renters.

Appendix A – Internal and External Checks

For the CINCH analysis, we performed two tests of internal consistency:

- For each row, we tested whether the sum of possible outcomes (columns D through K) equaled the number of units present in the base year (column C). In every case, exact equality was achieved prior to rounding.
- Throughout the tables, various sets of rows are related to each other. For example, the year-built rows (13-24) in Table 1 are a disaggregation of the total stock in row 1. Similarly, rows 6 (Whites), 9 (Blacks), and 10 (Other race) in Table 3 are a disaggregation of row 1 (occupied households). In these cases, there should be equality between the parent row and the sum of the break-out rows for all columns except D and E. The difference between column D in the parent row and the sum of column D for the break-out rows should equal the negative of the difference between column E in the parent row and the sum of column E for the break-out rows. In every case, exact equality was achieved prior to rounding.

Column B provides an external check of how well the CINCH weighting performed. In general, the CINCH estimates are within 5 percent of the AHS published totals, and many of the CINCH estimates are very close to the AHS estimates. Footnote 2 indicates where the CINCH weights or coding used for individual rows does not seem to produce the same results as the published estimates.

Appendix B – Weighting

CINCH separates the AHS samples in 1995 and 2004 into three components: units that exist and are part of the housing stock in both years (SAMES), units that are part of the 1995 housing stock but are not part of the 2004 housing stock (LOSSES), and units that are not part of the 1995 housing stock but are part of the 2004 housing stock (ADDITIONS). ADDITIONS are segmented into NEW CONSTRUCTION and RECOVERIES (structures that existed in 1995 but were not in the housing stock).

Because CINCH looks at various subsets of the housing stock, we need to know the characteristics of units and their occupants. Therefore, we can use only those SAMES observations that were interviewed in both years. For the same reason, we can use only those LOSSES that were interviewed in 1995 and those ADDITIONS that were interviewed in 2004.

For the forward-looking analysis, we started with the AHS pure weights and used the AHS weighted count in 1995 of SAMES to create weights for the interviewed SAMES. We used the AHS weighted count in 1995 of LOSSES to create weights for interviewed LOSSES. We then adjusted the weights of SAMES and LOSSES to equal the AHS published totals for owner-occupied units, renter-occupied units, vacant units, and seasonal units in 1995.

For the backward-looking analysis, we started with the AHS pure weights and used the AHS weighted count in 2004 of SAMES to create weights for the interviewed SAMES. We used the AHS weighted counts in 2004 for NEW CONSTRUCTION and for RECOVERIES to create weights for interviewed NEW CONSTRUCTION and interviewed RECOVERIES. We then adjusted the weights for SAMES, NEW CONSTRUCTION, and RECOVERIES to equal AHS published totals for owner-occupied units, renter-occupied units, vacant units, and seasonal units in 2004.

The logic behind the weighting and the procedures used to create the weights are explained in *Weighting Strategy for 2004 Metropolitan CINCH and Rental Dynamics Analysis*.