



Residential Demographic Multipliers in Connecticut (2016 data update)

Residents and School-Age Children by Housing Type, Housing Size, and Housing Price

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In 2006, the Center for Urban Policy Research at Rutgers University released the “Fannie Mae Foundation Residential Demographic Multipliers: Projections of the Occupants of New Housing”, a report which analyzed Year 2000 census data to show occupancy patterns associated with different types of housing. The report has been widely used to make predictions about how many residents, and particularly how many school children, would come to live in newly constructed housing, and showed how household characteristics differed depending on the type of housing (single-family vs multifamily), location, and housing cost.

This analysis replicates the 2006 study and presents revised findings for Connecticut based on data from the 2012-2016 American Community Survey (ACS). 5-year ACS data is collected via small sample surveys conducted on a yearly basis and aggregated into a rolling average. While the methodology used to update the demographic multipliers is the same as that used in the 2006 paper, the authors of this update have not performed tests of statistical significant difference. The data used in this update are provided for illustrative purposes only.

Description, Definition, and Organization of Residential Demographic Multipliers

The demographic multipliers include the following data fields and organization:

1. Household Size (HS): Total persons per housing unit.
2. Age distribution of the household members organized into the following age cohorts: 0–4, 5–13, 14–17, 18–24, 25–44, 45–64, 65–74, 75+.
3. Total school-age children (SAC) or number of persons in the household of school age, defined as those 5 to 17 years old. (The SAC is the same as the combined number of household members in the 5–13 and 14–17 age cohorts.)

The demographic fields shown above are differentiated by housing type, housing size, housing price, and housing tenure—four variables that have been found by Rutgers University to be associated with statistically significant differences in the HS, and SAC.

The housing or structure types include the following: single-family detached; single-family attached, sometimes referred to as townhouses or townhomes; larger (5-or-more-unit) multifamily buildings, such as garden apartments or stacked flats; and smaller multifamily structures (2 to 4 units), such as a starter two-family home.

Housing-unit size is measured by the number of bedrooms, and data are presented for housing units ranging from 1 to 5+ bedrooms. There is a match between housing type and bedroom number, and the demographic multiplier tables present the common configurations for each housing type. For instance, demographic data are shown for 0- through 3-bedroom multifamily units and not for 4- to 5-bedroom units because the multifamily housing tends to be built with fewer rather than more bedrooms. The opposite is the case for single-family detached homes; in this instance, data are presented for 2- to 5-bedroom units as opposed to 1-bedroom units because detached housing is typically built with more rather than fewer bedrooms.

Housing is additionally classified by tenure: ownership or rental. According to the census, “A housing unit is owner-occupied if the owner or co-owner lives in the unit even if it is mortgaged or not fully paid for. . . . All occupied housing units that are not owner-occupied, whether they are rented for cash rent or occupied without payment of cash rent, are classified as renter-occupied.”

There is a further differentiation of the demographic profiles by housing value or rent. The census definitions for “value” and “rent” are shown on the Definitions page; with regard to the latter, the current study indicates the “gross rent” (rent with utilities) rather than the “contract rent.”

The 2012 to 2016 American Community Survey-indicated values and gross rents are updated to 2016 dollars using an inflation adjustment value, as provided in the PUMS by the Census Bureau.

The demographic profiles by 2016 housing values and gross rents are organized following a four-tiered classification: all value or rent housing, and then housing arrayed by terciles (thirds) of value or rent (units at the 1st–33rd percentile of value or rent; units at the 33rd through 66th percentile of value or rent; and units at the 67th–100th percentile of value or rent.)

Definitions of Data Contained in the U.S. Census of Population and Housing Public Use Microdata Sample (PUMS) 2012-2016 American Community Survey (ACS)

Terms	Definitions/Comment
Bedrooms (BR)	The number of rooms that would be listed as bedrooms if the house [or] apartment...were listed on the market for sale or rent even if these rooms are currently used for other purposes.
Housing Categories (Structure Type)	<p>Single-family, detached. This is a 1-unit structure detached from any other house; that is, with open space on all four sides. Such structures are considered detached if they have an adjoining shed or garage.</p> <p>Single-family attached. This is a 1-unit structure that has one or more walls extending from ground to roof separating it from adjoining structures. In row houses (sometimes called townhouses), double houses, or houses attached to nonresidential structures, each house is a separate, attached structure if the dividing or common wall goes from ground to roof.</p> <p>2-4 units. These are units in structures containing 2, 3, or 4 housing units.</p> <p>5+ units. These are units in structures containing 5 or more housing units.</p>
Household Size	The total number of persons in a housing unit.
Housing Tenure (Ownership or Rental)	A housing unit is occupied if the owner or co-owner lives in the unit even if it is mortgaged or not fully paid for. All occupied housing units that are not owner-occupied, whether they are rented for cash rent or occupied without payment of cash rent, are classified as renter-occupied.
Housing Unit	A housing unit may be a house, an apartment, a group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy as separate living quarters).
Housing Value (Rent)	Housing value is the census respondent's estimate of how much the property would sell for if it were for sale. In the current study, the value of a rented unit in a 1- to 4-unit structure is estimated to be 100 times the monthly gross rent. The housing value and rents indicated by the 2012-2016 American Community Survey were updated to 2016 dollars using an inflation index as provided in the PUMS by the Census Bureau. Housing value or rent is categorized into a four-tier classification: all value (or rent) housing, and then housing units arrayed by terciles (thirds) of value (or rent).
Housing Rent (Contract Rent)	Contract rent is the monthly rent agreed to or contracted for, regardless of any furnishings, utilities, fees, meals, or services that may be included.
Housing Rent (Gross Rent)	Gross rent is the contract rent plus the estimated average monthly cost of utilities (electric, gas, water and sewer) and fuels (oil, coal, kerosene, wood, and the like) if these are paid by the renter (or paid for the renter by someone else). In the current study, the monthly gross rents are indicated in the demographic table.
Insufficient Sample	This notation in a table means that fewer than 600 weighted observations were counted for a housing type/bedroom/value combination or for an entire housing type/bedroom combination.
Residential Demographic Multipliers	Multipliers show the population associated with different housing categories as well as housing differentiated by housing value, housing size (bedrooms), and housing tenure.
School-Age Children (SAC)	The household members of elementary and secondary school age, defined here as those 5 through 17 years of age.

All Persons in Unit: Total Persons and Persons by Age (Connecticut, 2016)

Structure Type /Bedrooms/ Value (2016)/Tenure	SAC (5-17)	Age								Total Persons
		0-4	5-13	14-17	18-24	25-44	45-64	65-74	75+	
Single-Family Detached-Own, 2 BR										
All Values	0.13	0.05	0.09	0.04	0.08	0.37	0.76	0.31	0.29	2.00
Less than \$172,500	0.14	0.05	0.09	0.05	0.10	0.43	0.77	0.25	0.24	1.98
\$172,500 to \$253,200	0.13	0.06	0.09	0.04	0.08	0.40	0.77	0.29	0.27	2.01
More than \$253,200	0.12	0.05	0.08	0.04	0.05	0.28	0.75	0.41	0.35	2.00
Single-Family Detached-Own, 3 BR										
All Values	0.39	0.11	0.26	0.14	0.16	0.55	0.94	0.29	0.20	2.65
Less than \$206,100	0.36	0.11	0.23	0.13	0.19	0.57	0.89	0.28	0.22	2.61
\$206,100 to \$304,100	0.40	0.12	0.26	0.14	0.16	0.58	0.94	0.28	0.18	2.66
More than \$304,100	0.43	0.12	0.28	0.15	0.13	0.49	0.99	0.32	0.20	2.69
Single-Family Detached-Own, 4 BR										
All Values	0.68	0.14	0.44	0.23	0.22	0.63	1.09	0.28	0.17	3.21
Less than \$303,800	0.56	0.14	0.35	0.21	0.26	0.72	0.99	0.29	0.22	3.17
\$303,800 to \$466,300	0.70	0.13	0.45	0.25	0.23	0.63	1.12	0.27	0.15	3.22
More than \$466,300	0.78	0.15	0.53	0.25	0.17	0.55	1.15	0.27	0.15	3.23
Single-Family Detached-Own, 5+ BR										
All Values	0.92	0.15	0.59	0.33	0.27	0.63	1.21	0.30	0.22	3.69
Less than \$404,500	0.85	0.15	0.54	0.31	0.38	0.77	1.18	0.32	0.27	3.91
\$404,500 to \$900,000	0.93	0.13	0.59	0.34	0.22	0.61	1.23	0.33	0.23	3.68
More than \$900,000	0.97	0.16	0.64	0.33	0.20	0.51	1.22	0.24	0.16	3.46
Single-Family Attached-Own, 2 BR										
All Values	0.13	0.08	0.10	0.04	0.06	0.45	0.60	0.32	0.22	1.87
Less than \$152,000	0.15	0.10	0.11	0.04	0.07	0.52	0.56	0.30	0.19	1.88
\$152,000 to \$224,800	0.09	0.08	0.07	0.02	0.09	0.45	0.65	0.28	0.18	1.82
More than \$224,800	0.16	0.06	0.11	0.05	0.04	0.40	0.59	0.39	0.29	1.92
Single-Family Attached-Own, 3 BR										
All Values	0.36	0.14	0.23	0.12	0.17	0.59	0.77	0.26	0.22	2.51
Less than \$182,500	0.49	0.15	0.31	0.19	0.30	0.65	0.79	0.19	0.15	2.73
\$182,500 to \$303,800	0.26	0.12	0.19	0.07	0.12	0.60	0.73	0.29	0.21	2.33
More than \$303,800	0.31	0.16	0.20	0.10	0.08	0.51	0.80	0.31	0.30	2.47
2-4 Units-Own, 2 BR										
All Values	0.17	0.06	0.12	0.05	0.09	0.44	0.64	0.30	0.29	1.99
Less than \$139,000	0.15	0.04	0.11	0.04	0.09	0.53	0.63	0.24	0.26	1.93
\$139,000 to \$211,900	0.21	0.06	0.14	0.07	0.08	0.36	0.65	0.31	0.29	1.97
More than \$211,900	0.14	0.09	0.09	0.05	0.09	0.43	0.64	0.35	0.31	2.05
2-4 Units-Own, 3 BR										
All Values	0.46	0.14	0.32	0.14	0.29	0.71	0.92	0.29	0.19	3.00
Less than \$156,800	0.49	0.12	0.30	0.18	0.31	0.72	0.88	0.24	0.13	2.89
\$156,800 to \$249,400	0.46	0.16	0.34	0.12	0.32	0.67	0.87	0.33	0.18	3.00
More than \$249,400	0.44	0.12	0.32	0.13	0.25	0.74	1.00	0.30	0.25	3.10

All Persons in Unit: Total Persons and Persons by Age (Connecticut, 2016)

Structure Type /Bedrooms/ Value (2016)/Tenure	SAC (5-17)	Age								Total Persons
		0-4	5-13	14-17	18-24	25-44	45-64	65-74	75+	
5+ Unit-Own, 1 BR										
All Values	0.03	0.02	0.02	0.01	0.02	0.44	0.38	0.20	0.23	1.32
Less than \$96,300	0.04	0.02	0.02	0.02	0.02	0.37	0.40	0.24	0.22	1.32
\$96,300 to \$162,200	0.02	0.01	0.02	0.01	0.01	0.49	0.43	0.18	0.17	1.31
More than \$162,200	0.02	0.02	0.02	0.00	0.01	0.45	0.33	0.18	0.30	1.32
5+ Unit-Own, 2 BR										
All Values	0.13	0.07	0.09	0.04	0.09	0.54	0.56	0.23	0.20	1.82
Less than \$123,600	0.15	0.08	0.09	0.05	0.10	0.54	0.63	0.19	0.17	1.84
\$123,600 to \$198,600	0.16	0.07	0.11	0.05	0.11	0.57	0.53	0.22	0.19	1.85
More than \$198,600	0.09	0.08	0.06	0.03	0.05	0.51	0.51	0.27	0.25	1.76
Single-Family Detached-Rent, 2 BR										
All Values	0.28	0.10	0.18	0.09	0.18	0.69	0.61	0.13	0.14	2.13
Less than \$1,090	0.29	0.15	0.22	0.07	0.16	0.65	0.59	0.15	0.09	2.07
\$1,090 to \$1,480	0.30	0.08	0.21	0.09	0.24	0.85	0.61	0.13	0.06	2.28
More than \$1,480	0.32	0.09	0.18	0.14	0.20	0.71	0.77	0.08	0.12	2.29
Single-Family Detached-Rent, 3 BR										
All Values	0.68	0.20	0.45	0.22	0.33	0.92	0.67	0.12	0.12	3.05
Less than \$1,360	0.51	0.17	0.39	0.12	0.39	0.90	0.59	0.12	0.10	2.78
\$1,360 to \$1,830	0.79	0.25	0.52	0.27	0.37	1.09	0.74	0.07	0.05	3.36
More than \$1,830	1.00	0.27	0.64	0.36	0.35	1.07	0.73	0.07	0.05	3.54
Single-Family Detached-Rent, 4 BR										
All Values	0.92	0.27	0.64	0.28	0.42	1.14	0.75	0.11	0.07	3.68
Less than \$1,580	1.06	0.28	0.70	0.37	0.61	1.17	0.56	0.09	0.02	3.79
\$1,580 to \$2,150	1.02	0.27	0.74	0.28	0.41	1.45	0.83	0.09	0.04	4.10
More than \$2,150	1.02	0.29	0.76	0.26	0.43	1.11	0.90	0.10	0.04	3.90
Single-Family Detached-Rent, 5+ BR										
All Values	1.17	0.53	0.84	0.33	0.57	1.34	0.81	0.14	0.05	4.61
Less than \$1,580	0.98	0.42	0.53	0.45	0.55	1.04	0.46	0.23	0.07	3.75
\$1,580 to \$2,560	1.54	0.71	1.27	0.27	0.79	1.77	0.73	0.06	0.00	5.59
More than \$2,560	1.41	0.56	1.10	0.32	0.59	1.54	1.04	0.07	0.02	5.23
Single-Family Attached-Rent, 2 BR										
All Values	0.35	0.27	0.28	0.07	0.26	0.91	0.48	0.08	0.08	2.43
Less than \$1,130	0.43	0.28	0.36	0.07	0.25	0.72	0.40	0.08	0.09	2.24
\$1,130 to \$1,570	0.36	0.24	0.31	0.05	0.30	1.07	0.47	0.04	0.04	2.53
More than \$1,570	0.29	0.32	0.20	0.10	0.23	0.99	0.58	0.10	0.07	2.57
Single-Family Attached-Rent, 3 BR										
All Values	0.93	0.30	0.63	0.30	0.37	1.09	0.52	0.13	0.04	3.38
Less than \$1,220	0.97	0.30	0.62	0.34	0.46	1.00	0.43	0.18	0.03	3.36
\$1,220 to \$1,620	1.12	0.28	0.83	0.30	0.26	1.17	0.52	0.08	0.04	3.47
More than \$1,620	0.75	0.35	0.49	0.26	0.39	1.20	0.59	0.11	0.04	3.43

All Persons in Unit: Total Persons and Persons by Age (Connecticut, 2016)

Structure Type /Bedrooms/ Value (2016)/Tenure	SAC (5-17)	Age								Total Persons
		0-4	5-13	14-17	18-24	25-44	45-64	65-74	75+	
2-4 Units-Rent, 1 BR										
All Values	0.09	0.05	0.07	0.02	0.13	0.54	0.46	0.11	0.11	1.48
Less than \$790	0.05	0.01	0.02	0.02	0.09	0.28	0.46	0.17	0.20	1.25
\$790 to \$1,030	0.08	0.04	0.07	0.01	0.17	0.53	0.43	0.08	0.08	1.41
More than \$1,030	0.13	0.09	0.11	0.02	0.14	0.80	0.49	0.09	0.05	1.79
2-4 Units-Rent, 2 BR										
All Values	0.42	0.21	0.32	0.10	0.24	0.89	0.52	0.09	0.06	2.44
Less than \$970	0.34	0.18	0.26	0.08	0.22	0.69	0.55	0.12	0.08	2.17
\$970 to \$1,240	0.44	0.24	0.31	0.13	0.27	0.91	0.50	0.08	0.05	2.49
More than \$1,240	0.51	0.20	0.40	0.11	0.24	1.08	0.52	0.08	0.05	2.69
2-4 Units-Rent, 3 BR										
All Values	0.95	0.31	0.68	0.27	0.46	1.17	0.58	0.09	0.04	3.59
Less than \$1,090	0.87	0.28	0.67	0.20	0.44	0.98	0.59	0.10	0.05	3.31
\$1,090 to \$1,370	1.05	0.31	0.73	0.32	0.46	1.15	0.54	0.08	0.03	3.62
More than \$1,370	0.97	0.33	0.68	0.29	0.51	1.38	0.61	0.07	0.03	3.91
2-4 Units-Rent, 4 BR										
All Values	1.35	0.28	0.90	0.45	0.70	1.32	0.56	0.09	0.02	4.31
Less than \$1,110	1.12	0.28	0.75	0.37	0.60	1.05	0.47	0.11	0.01	3.64
\$1,110 to \$1,520	1.50	0.29	0.91	0.58	0.70	1.30	0.61	0.13	0.00	4.53
More than \$1,520	1.45	0.29	1.02	0.44	0.84	1.53	0.56	0.03	0.02	4.72
5+ Units-Rent, 0 BR										
All Values	0.03	0.03	0.02	0.01	0.09	0.39	0.35	0.12	0.20	1.20
Less than \$570	0.02	0.00	0.02	0.00	0.04	0.13	0.50	0.22	0.16	1.07
\$570 to \$910	0.02	0.04	0.01	0.01	0.12	0.47	0.37	0.08	0.13	1.21
More than \$910	0.06	0.04	0.02	0.03	0.11	0.58	0.16	0.06	0.31	1.32
5+ Units-Rent, 1 BR										
All Values	0.03	0.04	0.02	0.01	0.12	0.42	0.35	0.15	0.21	1.32
Less than \$730	0.02	0.02	0.02	0.00	0.04	0.11	0.38	0.27	0.33	1.16
\$730 to \$1,050	0.03	0.06	0.03	0.01	0.17	0.45	0.41	0.12	0.14	1.38
More than \$1,050	0.03	0.05	0.02	0.01	0.14	0.70	0.26	0.08	0.17	1.42
5+ Units-Rent, 2 BR										
All Values	0.38	0.20	0.28	0.09	0.25	0.85	0.46	0.11	0.11	2.36
Less than \$990	0.43	0.22	0.34	0.10	0.24	0.68	0.44	0.13	0.14	2.29
\$990 to \$1,340	0.42	0.20	0.30	0.11	0.27	0.92	0.46	0.10	0.08	2.44
More than \$1,340	0.28	0.20	0.21	0.07	0.25	0.98	0.47	0.10	0.10	2.38
5+ Units-Rent, 3 BR										
All Values	1.07	0.32	0.75	0.33	0.46	1.04	0.58	0.08	0.06	3.62
Less than \$1,000	1.29	0.29	0.92	0.38	0.50	0.81	0.46	0.06	0.05	3.47
\$1,000 to \$1,530	1.06	0.33	0.74	0.32	0.46	1.09	0.69	0.10	0.03	3.77
More than \$1,530	0.86	0.31	0.58	0.28	0.44	1.25	0.59	0.09	0.11	3.65