



Housing Inventory and Affordability Analysis

City of Tempe

REPORT

REPORT

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Tempe Housing Inventory and Affordability Analysis

Prepared for

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Housing Inventory and Affordability Analysis

In May of 2017, the City of Tempe contracted with BBC Research & Consulting (BBC) to conduct a housing inventory and affordability analysis for city. The primary purpose of the study is to help the city understand current affordability of existing housing stock (both single family and multifamily) to inform future decision-making related to housing affordability.

The study begins with a demographic profile of Tempe to provide context for the housing market analysis. The for-sale and rental markets are discussed separately and are followed by a housing gaps analysis.

A note about methodology. This analysis is based on the most current, readily available secondary data on Tempe’s and surrounding communities’ housing markets. The data used in this analysis include:

- Demographic and housing market data from the U.S. Census and American Community Survey (ACS), collected directly from the Census website;
- Multiple List Service (MLS) data on homes listed and for sale from Q3 2106 through Q2 2017, provided by Redfin; and
- A survey of rental listings in Tempe posted online during June and July of 2017.

The income ranges for analysis are based on 2016 HUD income data and the city’s internal income categories. According to HUD, the area median income (AMI) for Tempe is \$62,900. The HUD AMI reflects the median for a 4-person household and income limits are adjusted by household size. This report analyzes income limits for both 1-person households and 3-person households. Figure 1 presents the income categories and upper limits used in this analysis.

Figure 1.
Income Categories Used in This Report

Household Income by Percent of AMI	City of Tempe Housing Category	Income Upper Limit	
		1-person household	3-person household
0 to 50% of AMI	Subsidized Housing	\$22,050	\$28,350
50% to 80% of AMI	Subsidized Housing	\$35,250	\$45,300
80% to 120% of AMI	Workforce Housing	\$52,920	\$68,040
120% to 250% of AMI	Market Rate Housing	\$110,250	\$141,750
250% or more of AMI	Luxury Housing	no max	no max

Note: HUD 2016 AMI for Tempe is \$62,900. Tempe is part of the Phoenix-Mesa-Scottsdale, AZ MSA and shares the same HUD AMI as the rest of the MSA.

Source: HUD Income Limits data and BBC Research & Consulting.

A note about students. It is difficult, given data limitations, to easily separate out residents who are students and may receive assistance paying rent from parents, student loans and/or other non-income sources. The ACS indicates that a total of 10,258 renter households are headed by someone aged 15 to 24. It is likely that some—though not all—of those household could be students. (Note that students would not be counted as Tempe residents if they report another place of residence—such as their parents’ address—on the Census survey). Students affect the rental market in a number of ways but their true economic need for affordable units is unknown.

Executive Summary of Market Analysis Findings

This summary presents the top findings from the Affordable Housing Inventory Analysis conducted by BBC Research & Consulting (BBC) for the City of Tempe. It is organized around key housing research questions addressed by the study.

What is the inventory of homes (owner and rental) in Tempe by affordability category?

Figure 2 estimates the existing inventory of homes in Tempe by affordability range using data from the Maricopa County Assessor (owner stock) and the ACS (rental stock). Data are shown for Tempe overall as well as by ZIP code. The inventory for each income category is presented as a range to reflect the different income levels of 1-person and 3-person households.

For example, a 1-person household earning less than 50 percent of AMI can afford a maximum home price of \$82,758. There are 412 homes in Tempe that are valued below \$82,758. A 3-person household earning less than 50 percent AMI can afford a maximum home price of \$106,403 and there are 2,158 homes in Tempe valued below \$106,403. Therefore, the inventory of homes in Tempe for households earning less than 50 percent AMI ranges from 412 to 2,158 homes, depending on household size and the associated income range.

Figure 2.
Number of Housing Units in Affordability Ranges

Household Income by percent of AMI	Tempe		ZIP 85281		ZIP 85282		ZIP 85283		ZIP 85284	
	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh
Ownership Housing Stock										
0 to 50% of AMI	412	2,158	220	838	192	897	0	423	0	0
50% to 80% of AMI	4,151	6,663	1,420	2,092	1,538	2,281	1,189	2,186	4	104
80% to 120% of AMI	9,254	14,240	2,846	2,929	3,280	5,589	2,731	4,685	397	1,037
120% to 250% of AMI	16,612	8,079	2,149	832	5,194	1,444	4,920	1,581	4,349	4,222
250% or more of AMI	1,256	545	100	44	9	2	75	40	1,072	459
Total	31,685	31,685	6,735	6,735	10,213	10,213	8,915	8,915	5,822	5,822
Rental Housing Stock										
0 to 50% of AMI	1,606	5,416	819	3,222	428	1,387	343	774	16	33
50% to 80% of AMI	14,447	23,294	7,831	9,860	4,030	7,209	2,555	6,187	31	38
80% to 120% of AMI	18,435	11,800	6,544	4,378	5,903	3,421	5,863	3,609	125	392
120% to 250% of AMI	9,765	3,891	3,685	1,408	2,638	1,095	2,712	963	730	425
250% or more of AMI	224	75	76	36	82	14	63	25	3	0
Total	44,476	44,476	18,955	18,905	13,081	13,126	11,535	11,557	906	888
Total Housing Stock										
0 to 50% of AMI	2,018	7,574	1,039	4,060	620	2,284	343	1,197	16	33
50% to 80% of AMI	18,598	29,957	9,251	11,952	5,568	9,490	3,744	8,373	35	142
80% to 120% of AMI	27,689	26,040	9,390	7,307	9,183	9,010	8,594	8,294	522	1,429
120% to 250% of AMI	26,377	11,970	5,834	2,240	7,832	2,539	7,632	2,544	5,079	4,647
250% or more of AMI	1,480	620	176	80	91	16	138	65	1,075	459
Total	76,161	76,161	25,690	25,640	23,294	23,339	20,450	20,472	6,728	6,710

Note: "1p hh" means 1-person household; "3p hh" means 3-person household. Affordability thresholds restrict housing costs to 30% of household income. The maximum affordable home prices assume a 30-year mortgage and an interest rate of 3.98 percent. Households earning less than 120 percent of AMI are modeled with a 10 percent downpayment and households earning more than 120 percent of AMI are modeled with a 20 percent downpayment. The estimates also incorporate property taxes, insurance and utilities (assumed to collectively account for 30% of the monthly payment); private mortgage insurance is also incorporated for households earning less than 120 percent AMI (assumed to account for an additional 5% of the monthly payment).

Source: HUD Income Limits, Maricopa County Assessor, 2015 5-year ACS and BBC Research & Consulting.

Has the income distribution of Tempe residents changed since 2010, compared to the income distribution of residents in peer communities?

According to the ACS, the median household income in Tempe was \$51,688 in 2015, up from \$45,151 in 2010.¹ Between 2010 and 2015 renter incomes increased faster than owner incomes; however this trend may reflect ownership households converting to renters and/or higher earning renters staying out of the ownership market (consistent with the decline in ownership rates in Tempe over the same period). Similar trends were evident in the peer communities of Boulder, Durham and Provo as well as in Maricopa county overall. The income distribution in Tempe is similar to peer communities, particularly Durham, NC. In both communities about one-third of households earn less than \$35,000, about 45 percent earn between \$35,000 and \$100,000 and the remaining 22 percent earn more than \$100,000.

How much diversity currently exists in product choice—and how does that impact affordability? How do these choice sets differ from those in peer communities?

About 43 percent of Tempe’s housing stock is single family detached homes and 57 percent is attached housing (26% in structures with fewer than 10 units, 15% in structures with 10 to 20 units and 14% in structures with 20 or more units); 2 percent of the housing stock is mobile homes.

However, most of that product diversity is concentrated in the rental market. A lack of product diversity in the ownership/for-sale market can impact market affordability as attached homes tend to hold affordability longer than detached products. Boulder, CO has more product diversity and higher densities but other peer communities have housing stock profiles similar to Tempe.

How does Tempe compare to peer communities in terms of affordability?

Tempe’s median home value of \$246,200 is somewhat higher than Durham (\$193,100) and Provo (\$227,600) and but substantially lower than Boulder (\$583,600). Similar to the ownership market, median rent in Tempe (\$972) is slightly higher than in Durham (\$929) and Provo (\$790) but substantially lower than in Boulder (\$1,394). Both Durham and Provo have more rentals priced below \$750 per month and fewer rentals priced over \$1,000 per month than Tempe.

Figure 3 displays the proportion of housing units (both rental and owner occupied) by affordability category for Tempe and peer communities. Affordability thresholds were calculated using AMIs for each individual community (AMI income limits are also shown in the figure). Tempe has a lower proportion of rental and owner housing priced for households earning less than 50 percent AMI than the peer communities.

¹ Inflation over the same period was about 9.5 percent; thus income growth at the median slightly exceeded inflation.

Figure 3.
Percent of Housing Units in Affordability Ranges for Tempe and Peer Communities

Household Income by percent of AMI	Percent of Housing Units in Affordability Range							
	Tempe		Boulder, CO		Durham, NC		Provo, UT	
	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh
HUD AMI	\$44,100	\$56,700	\$66,400	\$85,400	\$49,500	\$63,700	\$47,400	\$60,900
Ownership Housing Stock								
0 to 50% of AMI	1% - 7%		9% - 11%		10% - 19%		8% - 12%	
50% to 80% of AMI	13% - 21%		4% - 6%		23% - 35%		14% - 29%	
80% to 120% of AMI	29% - 45%		11% - 16%		31% - 26%		32% - 31%	
120% to 250% of AMI	52% - 25%		51% - 54%		32% - 19%		41% - 25%	
250% or more of AMI	4% - 2%		25% - 13%		4% - 2%		6% - 3%	
Total	100%	100%	100%	100%	100%	100%	100%	100%
Rental Housing Stock								
0 to 50% of AMI	4% - 12%		14% - 36%		16% - 37%		23% - 52%	
50% to 80% of AMI	32% - 52%		28% - 28%		48% - 47%		48% - 33%	
80% to 120% of AMI	41% - 27%		41% - 31%		29% - 12%		21% - 12%	
120% to 250% of AMI	22% - 9%		16% - 5%		7% - 3%		8% - 3%	
250% or more of AMI	1% - 0%		1% - 0%		0% - 0%		0% - 0%	
Total	100%	100%	100%	100%	100%	100%	100%	100%
Total Housing Stock								
0 to 50% of AMI	3% - 10%		12% - 24%		13% - 28%		16% - 35%	
50% to 80% of AMI	24% - 39%		16% - 18%		35% - 41%		34% - 31%	
80% to 120% of AMI	36% - 34%		27% - 24%		30% - 19%		25% - 20%	
120% to 250% of AMI	35% - 16%		33% - 29%		20% - 11%		22% - 12%	
250% or more of AMI	2% - 1%		12% - 6%		2% - 1%		2% - 1%	
Total	100%	100%	100%	100%	100%	100%	100%	100%

Note: "1p hh" means 1-person household; "3p hh" means 3-person household. Affordability thresholds restrict housing costs to 30% of household income. The maximum affordable home prices assume a 30-year mortgage and an interest rate of 3.98 percent. Households earning less than 120 percent of AMI are modeled with a 10 percent downpayment and households earning more than 120 percent of AMI are modeled with a 20 percent downpayment. The estimates also incorporate property taxes, insurance and utilities (assumed to collectively account for 30% of the monthly payment); private mortgage insurance is also incorporated for households earning less than 120 percent AMI (assumed to account for an additional 5% of the monthly payment).

Source: HUD Income Limits, Maricopa County Assessor, 2015 5-year ACS and BBC Research & Consulting.

How has the opportunity to own a home in Tempe changed since 2010? How difficult is it for renters, especially low income renters, to find rental units they can afford today?

The Maricopa County Assessor shows that home values in Tempe (and the County) peaked in 2008 at a median of about \$220,000 then fell to \$107,000 in 2013 (\$102,000 for the County). Values have increased since then, reaching \$200,000 for the 2018 tax year. Even so, home values in Tempe and Maricopa County overall have not yet fully recovered to pre-recession levels. Self-reported values in Tempe are higher than assessor reported values, revealing a high level of confidence in the market among Tempe homeowners. Despite value and price increases, the market still provides opportunities for ownership for households earning more than 120 percent AMI. The market also provides some opportunities for 3-person households earning over 80 percent AMI to purchase a home, contingent on their willingness to purchase attached housing products.

Between 1999 and 2010 renters in Tempe lost purchasing power as rents increased faster than incomes. However, between 2010 and 2015, renter incomes actually increased faster than rents restoring some affordability to the market. Even so, nearly half of all Tempe renters are cost burdened (spending 30% or more of their income on housing). Renters earning less than 50

percent of AMI can afford a max of \$551 (1-person) or \$709 (3-person) in monthly rent. Very few rentals actually exist in those price ranges reflecting a significant undersupply in the low income rental market.

What options exist in the city's market, for both rental and ownership housing, by price point, size, product type (attached/detached) and location? How many units are affordable to households in various income categories?

The average home listed/sold in Tempe had 3 bedrooms, almost 1,700 square feet, was built in 1980 and has a median sale price of \$253,000. Attached homes comprised about one-third of all sales and had a lower median sale price (\$171,000) than single family detached homes (\$278,000). The 85281 ZIP code had the lowest median sale price (\$220,000) and the 85284 ZIP code had the highest median price (\$388,000).

- For a 1-person household, the for-sale market in Tempe primarily serves those earning between 120 percent and 250 percent AMI: 69 percent of homes listed/sold were priced in their affordability range. Affordability for 1-person households earning less than 120 percent AMI is contingent on a willingness to purchase attached homes.
- For 3-person households in Tempe, 18 percent of homes are priced affordably for those earning 80 to 120 percent AMI and 46 percent of homes are priced in the affordability range of households earning 120 to 250 percent of AMI.

According to ACS data, the median rent in Tempe was \$972 in 2015, up from \$832 in 2010—a 17 percent increase. The median ranges from about \$850 for a studio or one-bedroom to \$1,500 for a four- or five-bedroom unit. Market prices of available units have higher average rents (ranging from \$1,008 for studios/one-bedrooms to \$1,785 for a four-bedroom+ unit).

- Households earning less than 50 percent of AMI can afford a max of \$551 (1-person) or \$709 (3-person) in monthly rent. Just 1,600 rentals citywide (4% of all rentals) are priced affordably for a 1-person household at 50 percent AMI and 5,400 rentals citywide (12% of all rentals) are priced affordably for a 3-person household at 50 percent AMI.
- A 1-person household earning between 50 and 80 percent AMI can afford about one-third of the rental units in Tempe; a 3-person household earning 50 to 80 percent AMI can afford about half of Tempe's rental units.

What are the current rental and ownership housing gaps in Tempe?

The city has a shortage of rental units priced affordably for renters earning less than 50 percent of AMI per year—a shortage of 8,595 units. These households may include some students but many are working residents earning low wages, residents who are unemployed and residents who are disabled and cannot work.

The for sale gaps analysis shows the Tempe market to be relatively affordable for renters earning more than 120 percent of AMI per year, and to a lesser extent, renters earning between 80 and 120 percent of AMI. For renters earning between 50 and 80 percent of AMI, the market does offer limited affordability but it is contingent on a willingness to consider townhomes and condos—88% of the affordable units in their price range are attached housing options.

Demographic Analysis

This section discusses the demographics of the City of Tempe with a focus on how the city has changed over time and how it compares to peer communities.

Population. According to the state demographer there are 176,584 people living in Tempe (as of July 2016). Since 2010, the city has grown by about 14,600 residents—a 9 percent increase. That rate of growth is on par with the county overall, which experienced an 8 percent increase in population between 2010 and 2016. As of 2016, Tempe accounted for about 4 percent of the county population. Figure 4 displays the total population and population growth for Tempe and surrounding communities from 1980 through 2016.

Figure 4.
Population Growth, City of Tempe and Surrounding Communities, 1980 through 2016

	Total Population					Percent Change from Previous			
	1980	1990	2000	2010	2016	1990	2000	2010	2016
Tempe	107,215	142,035	158,671	161,974	176,584	32%	12%	2%	9%
Maricopa County	1,515,700	2,130,400	3,092,927	3,824,058	4,137,076	41%	45%	24%	8%
Avondale	8,175	16,345	36,400	76,468	80,073	100%	123%	110%	5%
Buckeye	3,455	5,040	6,697	51,019	65,509	46%	33%	662%	28%
Chandler	30,330	91,310	178,398	236,687	250,547	201%	95%	33%	6%
Gilbert	5,575	29,810	111,250	209,048	239,931	435%	273%	88%	15%
Glendale	93,640	148,655	219,392	227,217	237,723	59%	48%	4%	5%
Goodyear	2,745	6,300	19,700	65,404	78,189	130%	213%	232%	20%
Mesa	155,465	288,750	400,491	439,929	467,532	86%	39%	10%	6%
Phoenix	796,745	987,285	1,324,016	1,449,242	1,560,020	24%	34%	9%	8%
Scottsdale	88,945	130,885	204,060	217,365	237,969	47%	56%	7%	9%
Surprise	3,730	7,150	32,667	117,688	128,182	92%	357%	260%	9%

Source: Office of Employment & Population Statistics, Arizona Department of Administration and BBC Research & Consulting.

Tenure. In 2015, the ACS estimated that 40 percent of Tempe householders were owners and 60 percent were renters. This reflects a decrease in ownership from the 2010 Census, which reported a homeownership rate of 45 percent.

Due to the presence of the university, Tempe’s homeownership rate remains well below that of other surrounding communities and the county as a whole (59% owners). Figure 5 compares the homeownership rate of Tempe with Maricopa County and also with peer communities that have large universities (Boulder, CO; Durham, NC; and Provo, UT). Tempe has a similar proportion of owners as Provo but fewer owners than Boulder and Durham.

**Figure 5.
Tenure, City of
Tempe and Peer
Communities,
2015**

Source:
2015 1-year ACS and BBC
Research & Consulting.

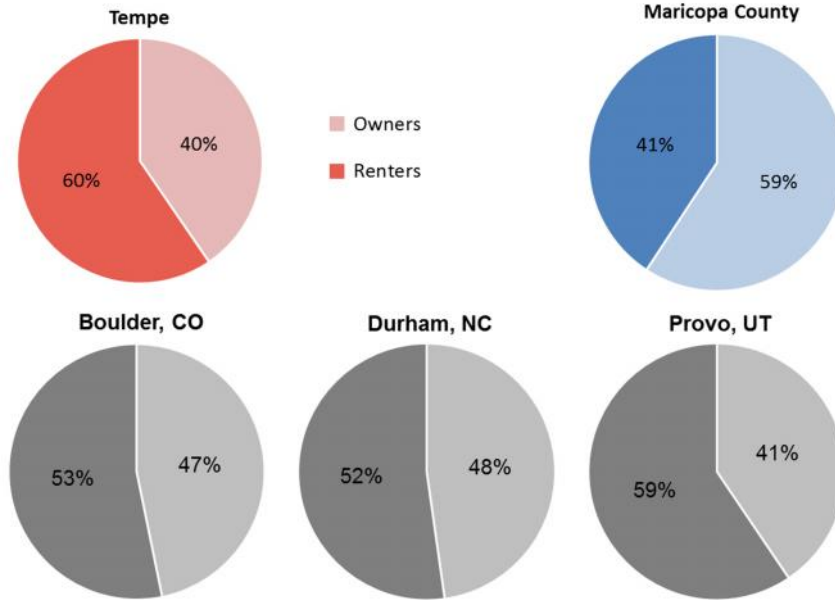
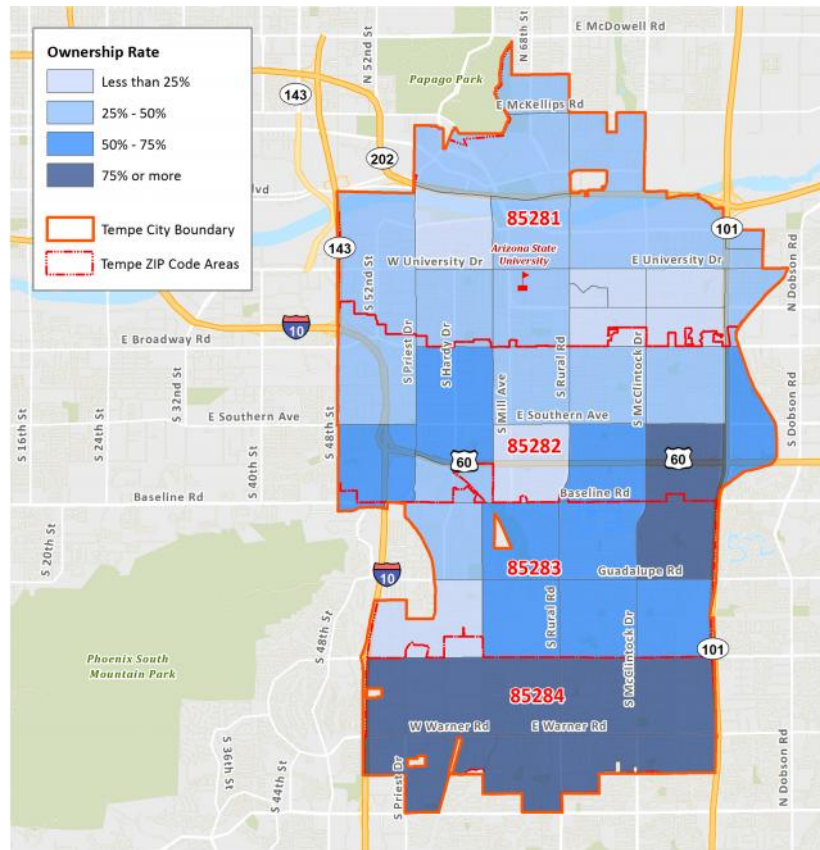


Figure 6 shows the ownership rate in Tempe by Census tract. Neighborhoods surrounding Arizona State University (ASU) tend to have lower levels of homeownership. The highest rates of homeownership occur in neighborhoods across the south and southeast portions of the city.

**Figure 6.
Ownership Rate by
Census Tract,
City of
Tempe, 2015**

Source:
2015 1-year ACS and BBC Research
& Consulting..

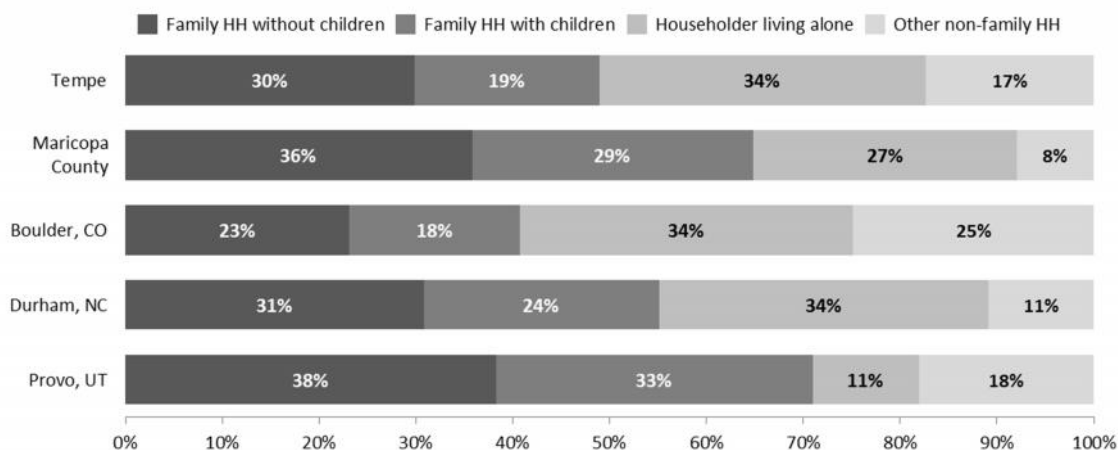


Household type. The average household size in Tempe is 2.44 persons per household. Family households are larger, on average, with 3.2 persons per household. Among the 67,325 households in Tempe, nearly half (49%) are family households and the other half (51%) are non-family households. Figure 7 displays the distribution of household types in Tempe (family households without children, family households with children, householders living alone and other non-family households). The Figure also provides a comparison to Maricopa County overall and peer communities.

In Tempe, about 30 percent of households are family households without children, 19 percent are family households with children, 34 percent are householders living alone and 17 percent are other non-family households (including unmarried partner households, roommates, etc.).

Compared to the County overall, Tempe has a higher proportion of non-family households and a lower proportion of family households—especially those with children. The three peer communities (Boulder, Durham and Provo) each have unique household composition profiles and Tempe is most similar to Durham, NC.

Figure 7.
Household Composition, City of Tempe and Peer Communities, 2015



Source: 2015 1-year ACS and BBC Research & Consulting..

Age. As shown in Figure 8, Tempe’s 2015 population distribution by age was as follows:

- 16 percent was under the age of 18;
- 26 percent was 18 to 24 (many are university students);
- 29 percent was 25 to 44;
- 19 percent was 45 to 64; and
- 10 percent was 65 or older.

Changes in the age cohorts in Tempe between 2010 and 2015 reflect an increase in residents age 18 to 24 and an increase in middle-aged adults (aged 45 to 64). The senior population held at 10 percent while the proportion of children under 18 declined.

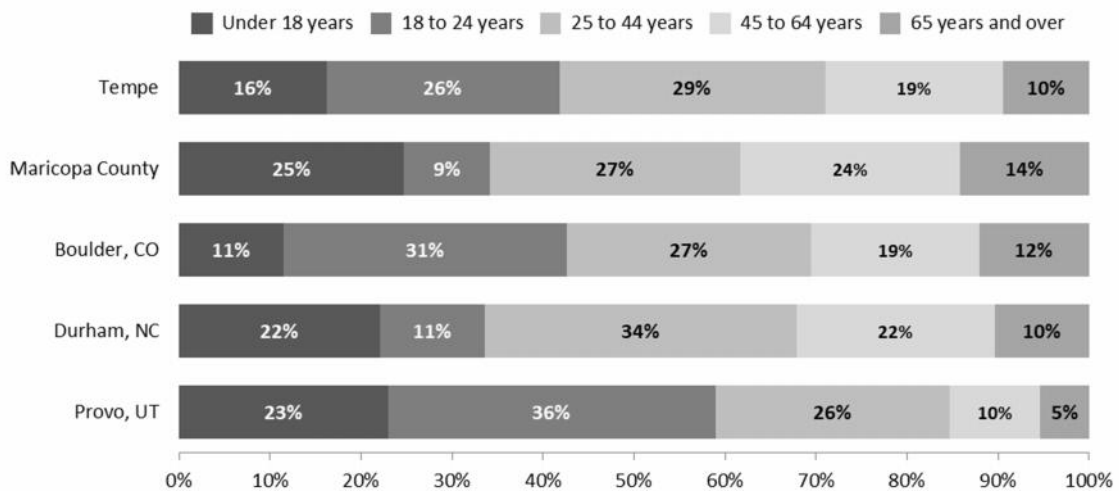
**Figure 8.
Population by Age,
City of Tempe,
2010 and 2015**

Source:
2015 1-year ACS and BBC
Research & Consulting..

Age Cohort	2010		2015		Difference		
	Num.	Pct.	Num.	Pct.	Num.	Pct.	Pts.
Under 18 years	27,208	19%	28,474	16%	1,266	-3%	
18 to 24 years	41,712	24%	45,005	26%	3,293	2%	
25 to 44 years	46,543	30%	51,444	29%	4,901	-1%	
45 to 64 years	32,596	17%	34,185	19%	1,589	3%	
65 years and over	13,660	10%	16,718	10%	3,058	0%	

Figure 9 compares the age distribution of Tempe with Maricopa County and peer communities.

**Figure 9.
Population by Age, City of Tempe and Peer Communities, 2015**



Source: 2015 1-year ACS and BBC Research & Consulting..

Income. According to the ACS, the median household income in Tempe was \$51,688 in 2015, up from \$45,151 in 2010 and \$42,199 in 1999. Median income for renters is just over half that of owners—\$41,000 compared to \$77,000 in 2015.

As shown in Figure 10, income gains between 1999 and 2005 were primarily captured by owner households and between 2005 and 2010 incomes remained relatively flat for both renters and owners (due to the economic downturn). Between 2010 and 2015 renter incomes appear to have increased faster than owner incomes; however this trend may reflect ownership households converting to renters and/or higher earning renters staying out of the ownership market (consistent with the decline in ownership rates in Tempe over the same period).

The figure also shows inflation in each period to provide context for changes in income.

**Figure 10.
Median
Household
Income, City of
Tempe, 1999 -
2015**

Source:
2000 Census; 2005,
2010 and 2015 1-
year ACS; and BBC
Research &
Consulting.

	All Households		Owner Households		Renter Households		Inflation from Prev. Period
	Median Income	Percent Change	Median Income	Percent Change	Median Income	Percent Change	
1999	\$42,199		\$60,147		\$30,388		
2005	\$45,644	8%	\$69,656	16%	\$29,557	-3%	17%
2010	\$45,151	-1%	\$70,160	1%	\$30,076	2%	12%
2015	\$51,688	14%	\$77,004	10%	\$41,333	37%	9%
Total change 1999 to 2015	\$9,489	22%	\$16,857	28%	\$10,945	36%	43%

Figure 11 displays the income distribution of Tempe in 2010 and 2015 by owners and renters. Since 2010, the proportion of owners earning between \$20,000 and \$75,000 declined, offset by an increase in the proportion of owners earning over \$75,000 annually (the proportion earning less than \$20,000 remained flat). Among renters, there was a substantial increase in the proportion earning between \$35,000 and \$75,000 as well as a large increase in the proportion earning over \$150,000 annually. The increases were offset by a decline in the proportion of renter households at nearly all income levels below \$35,000 per year.

**Figure 11.
Income
Distribution, City
of Tempe, 2010
and 2015**

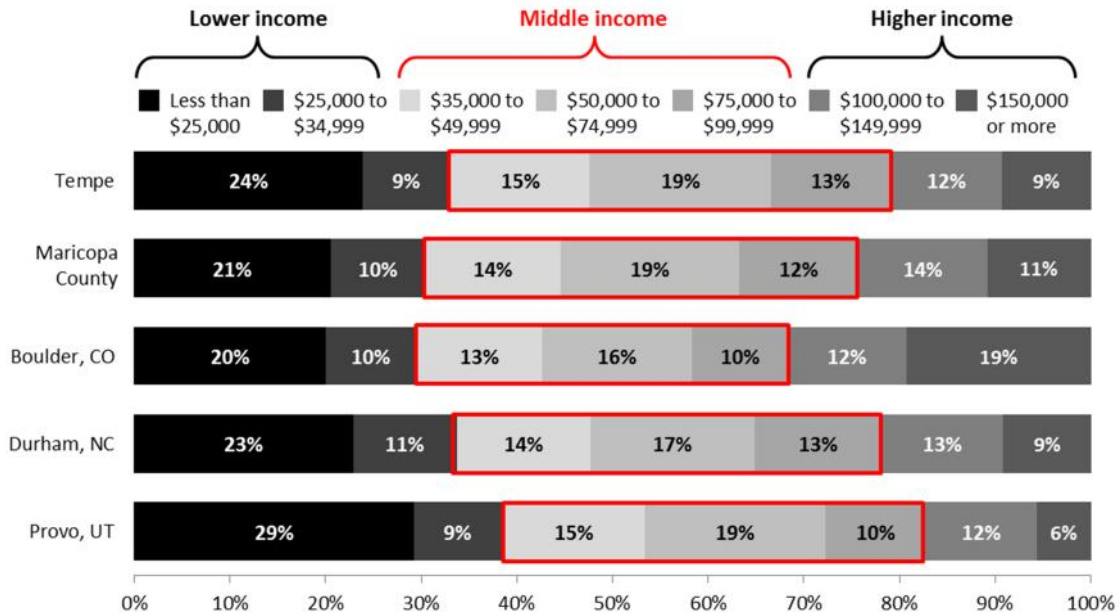
Note:
Inflation between 2010
and 2015 was about 9.5
percent

Source:
2010 and 2015 1-year
ACS and BBC Research &
Consulting.

Household Income	Owner Households			Renter Households		
	2010	2015	Pct. Pt. Diff.	2010	2015	Pct. Pt. Diff.
Less than \$5,000	3%	4%	1%	10%	9%	-1%
\$5,000 to \$9,999	1%	2%	1%	6%	5%	-1%
\$10,000 to \$14,999	2%	2%	0%	10%	6%	-4%
\$15,000 to \$19,999	2%	3%	0%	8%	5%	-3%
\$20,000 to \$24,999	3%	2%	-1%	7%	7%	0%
\$25,000 to \$34,999	8%	7%	-2%	17%	11%	-6%
\$35,000 to \$49,999	13%	12%	-1%	13%	16%	4%
\$50,000 to \$74,999	22%	17%	-5%	14%	20%	6%
\$75,000 to \$99,999	15%	16%	1%	9%	10%	1%
\$100,000 to \$149,999	18%	20%	1%	6%	6%	1%
\$150,000 or more	12%	16%	4%	1%	5%	4%
	100%	100%		100%	100%	

Compared to Maricopa County, Tempe has a similar proportion of “middle income” households—those earning \$35,000 up to \$100,000—but a smaller proportion of higher income households and a larger proportion of lower income households. This profile is typical of communities with large student populations who skew toward lower incomes. Tempe’s income profile is similar to peer communities shown in Figure 12, although Boulder has a substantially higher proportion of high income households.

Figure 12.
Income Distribution, City of Tempe and Peer Communities, 2010 and 2015



Source: 2015 1-year ACS and BBC Research & Consulting.

Figure 13 estimates the proportion of households—both renters and owners—by AMI. The estimate uses income limits for a 3-person household. Over half of renters earn less than 80 percent of AMI, compared to 28 percent of owners. A majority of owners (56%) earn more than 120 percent of AMI.

Figure 13.
Income Distribution by AMI, City of Tempe, 2015

Household Income by Percent of AMI	City of Tempe Housing Category	Income Limit (3-person hh)	Percent of Households		
			Total	Owners	Renters
0 to 50% of AMI	Subsidized Housing	\$28,350	27%	15%	35%
50% to 80% of AMI	Subsidized Housing	\$45,300	16%	13%	18%
80% to 120% of AMI	Workforce Housing	\$68,040	18%	16%	20%
120% to 250% of AMI	Market Rate Housing	\$141,750	27%	37%	21%
250% or more of AMI	Luxury Housing	no max	11%	19%	6%

Source: HUD Income Limit Data, 2015 1-year ACS and BBC Research & Consulting.

Housing Market Analysis

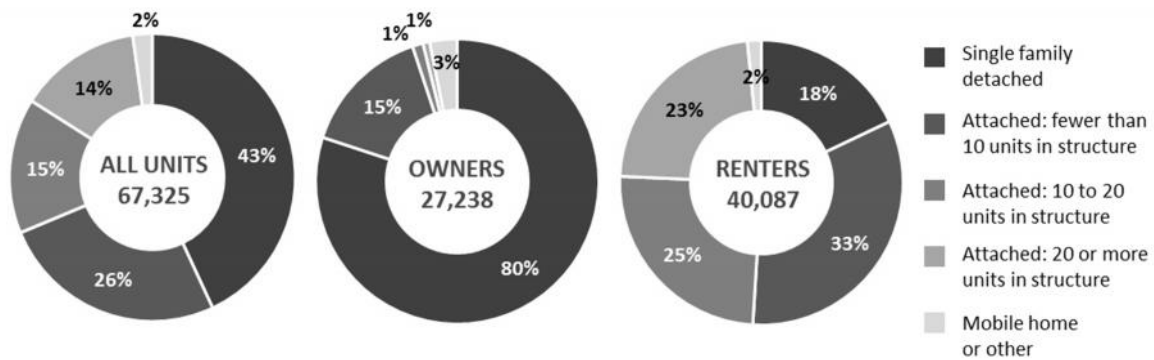
The remainder of this report discusses Tempe’s housing market. It begins with an overview of Tempe’s housing stock, then discuss the for-sale and rental markets, and provides an estimated housing gap (i.e., unit shortage) for units to buy and to rent.

Housing stock. There are 76,450 housing units in Tempe, 67,325 of which are occupied. Overall vacancy in Tempe is 12 percent (according to the ACS)—similar to Maricopa County overall (13%) but higher than peer cities (Boulder is 6%, Provo is 7% and Durham is 8%).

Product type. Tempe currently has a relatively well-balanced and diverse housing stock. About 43 percent of Tempe’s housing stock is single family detached homes and 57 percent is attached housing (26% in structures with fewer than 10 units, 15% in structures with 10 to 20 units and 14% in structures with 20 or more units). In addition, 2 percent of the housing stock is mobile homes.

Most of that product diversity is concentrated in the rental market. Among owner occupied homes, 80 percent is single family detached and 17 percent is attached (15% in structures with fewer than 10 units and 2% in structures with more than 10 units); the remaining 3 percent of owner stock is mobile homes. A lack of product diversity in the ownership/for-sale market can impact overall market affordability as attached homes tend to hold affordability longer than detached products.

Figure 14.
Occupied Housing Stock by Type and Tenure, City of Tempe, 2015



Source: 2015 1-year ACS and BBC Research & Consulting.

Figure 15 compares the product type in Tempe’s owner and rental stock to that of peer communities. Boulder has the most diversity and density (more units in larger structures).

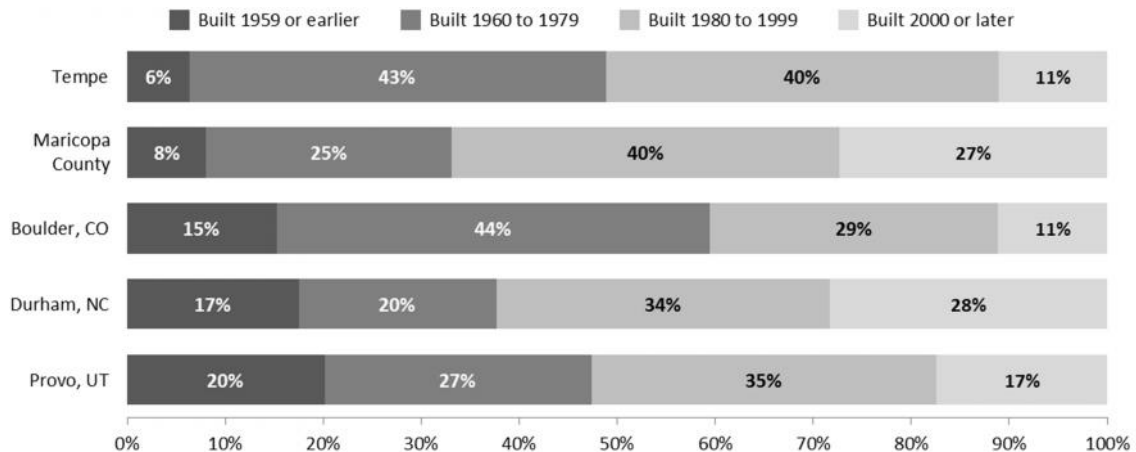
Figure 15.
Housing Stock by Type and Tenure, City of Tempe and Peer Communities, 2015

	Tempe	Boulder, CO	Durham, NC	Provo, UT
Owner-occupied housing				
Single family detached	80%	64%	86%	80%
Attached: fewer than 10 units in structure	15%	19%	12%	15%
Attached: 10 to 20 units in structure	1%	3%	1%	1%
Attached: 20 or more units in structure	1%	5%	1%	0%
Mobile home or other	3%	9%	0%	3%
Renter-occupied housing				
Single family detached	18%	17%	22%	14%
Attached: fewer than 10 units in structure	33%	37%	36%	50%
Attached: 10 to 20 units in structure	25%	14%	24%	19%
Attached: 20 or more units in structure	23%	31%	17%	17%
Mobile home or other	2%	1%	1%	0%

Source: 2015 1-year ACS and BBC Research & Consulting.

Year built. The vast majority—83 percent—of Tempe’s housing stock was built between 1960 and 2000. Just 11 percent of housing was built after 2000, compared to 27 percent in Maricopa County overall. Relative to peer cities, Tempe has fewer old homes (built before 1960) and fewer new homes (built after 2000).

Figure 16.
Age of Housing Stock, City of Tempe and Peer Communities, 2015



Source: 2015 1-year ACS and BBC Research & Consulting.

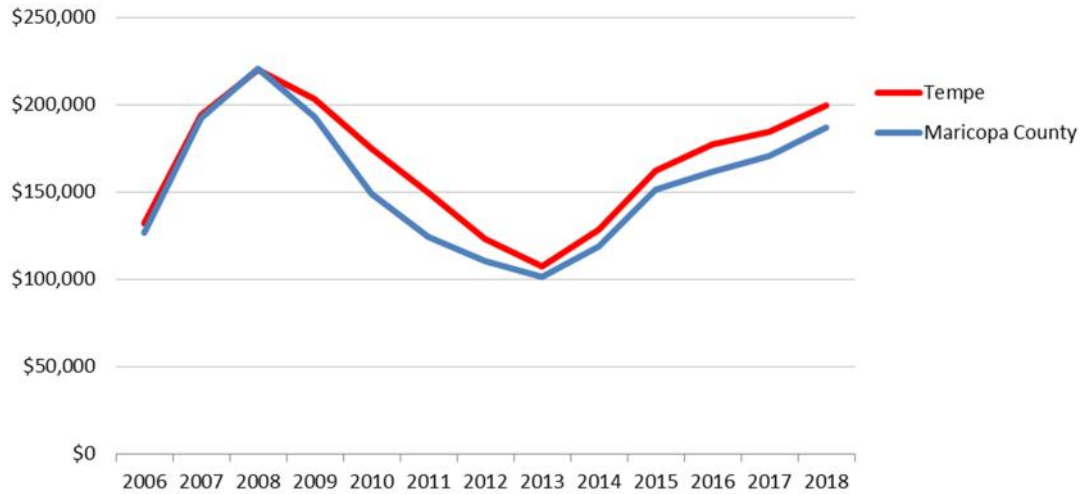
Homeownership Market

This section provides an overview of the homeownership market in Tempe. The discussion focuses on changes in the housing market, particularly since 2010, and compares homeownership opportunities in the City of Tempe to peer communities where possible.

Trends in home value. The Maricopa County Assessor shows that home values in Tempe (and the County) peaked in 2008 at a median of about \$220,000 then fell to \$107,000 in 2013 (\$102,000 for the County). Values have increased since then, reaching \$200,000 for the 2018 tax

year. Even so, home values in Tempe and Maricopa County overall have not yet fully recovered to pre-recession levels.

Figure 17.
Trends in Home Value, City of Tempe and Maricopa County, 2006 - 2018



Source: Maricopa County Assessor.

Another source of home value data is the ACS, which reflects self-reported valuations by owners. According to ACS data between 1999 and 2015, the changes in median home value in Tempe were similar, though less extreme than the county overall. The County experienced higher growth in home values before and after the recession but also experienced larger declines during the recession.

As of 2015, the median self-reported home value in Tempe was \$246,200, up from \$207,600 in 2010. It should be noted that the ACS self-reported values are higher than the full cash value reported by the Maricopa County Assessor, though overall trends are similar. This likely reflects a high level of market confidence among Tempe owners.

Figure 18.
Median Home Value of All Owner Occupied Units, City of Tempe and Maricopa County, 1999 - 2015

Source:
2000 Census; 2005, 2010 and 2015 1-year ACS; and BBC Research & Consulting.

	Tempe		Maricopa County	
	Median Value	Compound Annual Growth Rate	Median Value	Compound Annual Growth Rate
1999	\$126,700		\$122,000	
2005	\$199,300	7.8%	\$212,700	9.7%
2010	\$207,600	0.8%	\$180,800	-3.2%
2015	\$246,200	3.5%	\$228,300	4.8%
Total change 1999 to 2015	\$119,500	4.2%	\$106,300	4.0%

Figure 19, compares the median value in Tempe to the County and peer communities. Boulder, CO has the highest median value—by far—among the peer communities. The median value in Tempe is somewhat higher than the other peer communities of Durham, NC and Provo, UT.

Figure 19.
Median Home Value, City
of Tempe and Peer
Communities, 2015

Source:
 2015 1-year ACS and BBC Research &
 Consulting.

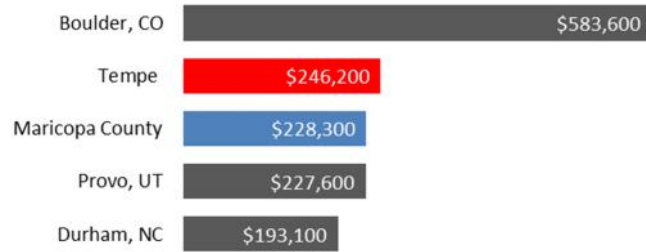
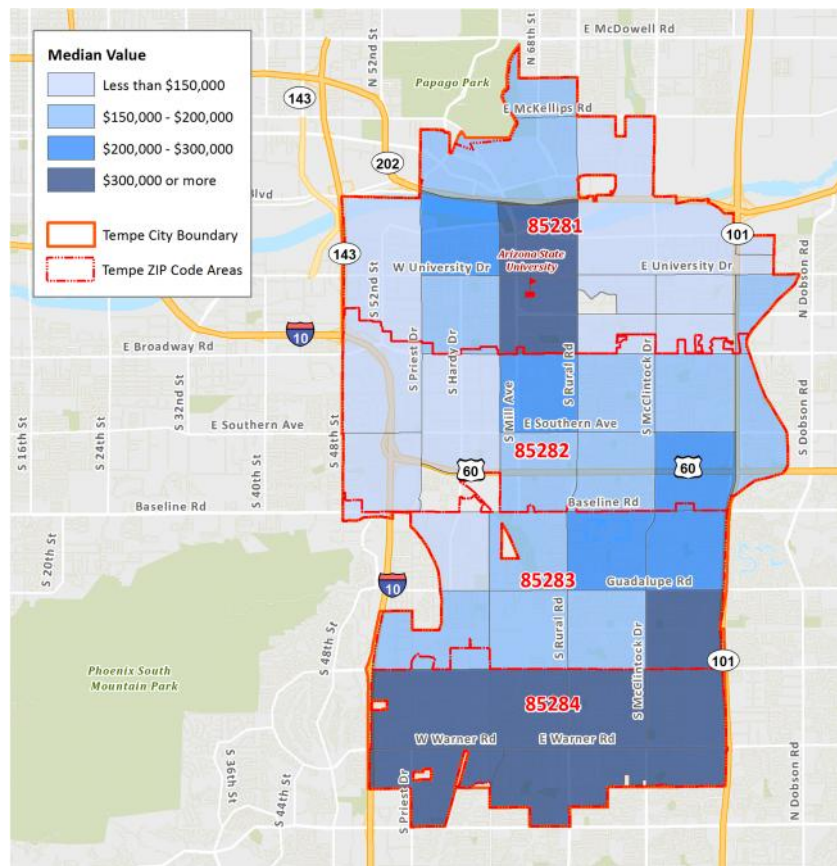


Figure 20 shows the median home value by Census tract in Tempe. The most affordable neighborhoods tend to be northern half of the city—primarily in ZIP codes 85281 and 85282, except for high value areas immediately surrounding ASU. The highest value neighborhoods are in south Tempe, particularly in ZIP code 85284.

Figure 20.
Median Home Value
by Census Tract, City
of Tempe, 2015

Source:
 2015 1-year ACS and BBC
 Research & Consulting.



Market prices. Market prices for homes are typically higher than assessed values as they reflect only the portion of the market that is available for purchase. BBC analyzed multiple list service (MLS) data from the third quarter of 2016 through the second quarter of 2017 to better understand the for-sale market in Tempe.

Over that period, the median sale price of homes listed or sold in Tempe was \$253,000. Attached homes comprised about one-third of all sales and had a lower median sale price (\$171,000) than single family detached homes (\$278,000). The 85281 ZIP code had the lowest median sale price (\$220,000) and the 85284 ZIP code had the highest median price (\$388,000).

Figure 21 shows the average characteristics and median prices of Tempe homes sold in the past year by type and ZIP code. Overall, the average home listed/sold in Tempe had 3 bedrooms, almost 1,700 square feet and was built in 1980.

Figure 21.
Characteristics of Homes
Listed/Sold in Tempe, Q3
2016 – Q2 2017

Source:
 MLS Data and BBC Research &
 Consulting.

	Median List/Sold Price	Average Characteristics		
		Num. of Bedrooms	Square Footage	Year Built
All Homes	\$253,000	3.09	1,695	1980
By Type				
Attached	\$171,000	2.29	1,238	1989
Detached	\$278,000	3.50	1,932	1975
By ZIP				
85281	\$220,000	2.62	1,339	1983
85282	\$248,000	3.18	1,647	1973
85283	\$250,000	3.10	1,690	1979
85284	\$388,000	3.72	2,526	1990

Affordability. The following affordability discussion focuses on the income ranges discussed in the introduction of this report: 1-person and 3-person households earning 50 percent, 80 percent, 120 percent and 250 percent of AMI. The maximum affordable home prices assume a 30-year mortgage and an interest rate of 3.98 percent. Households earning less than 120 percent of AMI are modeled with a 10 percent downpayment and households earning more than 120 percent of AMI are modeled with a 20 percent downpayment. The estimates also incorporate property taxes, insurance and utilities (assumed to collectively account for 30% of the monthly payment); private mortgage insurance is also incorporated for households earning less than 120 percent AMI (assumed to account for an additional 5% of the monthly payment).

Inventory based on home values. Figure 22 estimates the existing inventory of homes in Tempe by affordability range using data from the Maricopa County Assessor. Data include all single family homes and condos that are not rental units. Data are shown for Tempe overall as well as by ZIP code. The inventory for each income category is presented as a range to reflect the different income levels of 1-person and 3-person households.

For example, a 1-person household earning less than 50 percent of AMI can afford a maximum home price of \$82,758. There are 412 homes in Tempe that are valued below \$82,758. A 3-person household earning less than 50 percent AMI can afford a maximum home price of \$106,403 and there are 2,158 homes in Tempe valued below \$106,403. Therefore, the inventory of homes in Tempe for households earning less than 50 percent AMI ranges from 412 to 2,158 homes, depending on household size and the associated income range.

As indicated by the figure:

- Affordable inventory for households earning less than 50 percent of AMI ranges from 412 units to 2,158 units;
- Affordable inventory for households earning between 50 and 80 percent of AMI ranges from 4,151 units to 6,663 units;
- Affordable inventory for households earning between 80 and 120 percent of AMI ranges from 9,254 units to 14,240 units;
- Affordable inventory for households earning between 120 and 250 percent of AMI ranges from 16,612 units to 8,079 units; and
- Affordable inventory for households earning more than 250 percent of AMI ranges from 1,256 units to 545 units.

ZIP codes 85281 and 85282 have the most affordability in lower income categories and ZIP code 85284 has the least.

Figure 22.
Affordable Inventory by Home Value, City of Tempe, 2017

Household Income by percent of AMI	Maximum Affordable Home Value		Number of Homes in Affordability Range									
	1p hh	3p hh	Tempe		ZIP 85281		ZIP 85282		ZIP 85283		ZIP 85284	
			1p hh	3p hh	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh
Ownership Housing Stock												
0 to 50% of AMI	\$82,758	\$106,403	412	2,158	220	838	192	897	0	423	0	0
50% to 80% of AMI	\$132,300	\$170,019	4,151	6,663	1,420	2,092	1,538	2,281	1,189	2,186	4	104
80% to 120% of AMI	\$198,618	\$255,366	9,254	14,240	2,846	2,929	3,280	5,589	2,731	4,685	397	1,037
120% to 250% of AMI	\$486,128	\$625,022	16,612	8,079	2,149	832	5,194	1,444	4,920	1,581	4,349	4,222
250% or more of AMI	no max	no max	1,256	545	100	44	9	2	75	40	1,072	459
Total			31,685	31,685	6,735	6,735	10,213	10,213	8,915	8,915	5,822	5,822

Note: The maximum affordable home prices assume a 30-year mortgage and an interest rate of 3.98 percent. Households earning less than 120 percent of AMI are modeled with a 10 percent downpayment and households earning more than 120 percent of AMI are modeled with a 20 percent downpayment. The estimates also incorporate property taxes, insurance and utilities (assumed to collectively account for 30% of the monthly payment); private mortgage insurance is also incorporated for households earning less than 120 percent AMI (assumed to account for an additional 5% of the monthly payment).

Source: HUD Income Limits, Maricopa County Assessor and BBC Research & Consulting.

Figure 23 compares the percentage of homes in each affordability category in Tempe to peer communities. Affordability thresholds were calculated using AMIs for each individual community (AMI income limits are also shown in the figure). Tempe has a lower proportion of housing priced for households earning less than 50 percent AMI than the peer communities.

Figure 23.
Affordable Ownership Inventory, City of Tempe and Peer Communities

Household Income by percent of AMI	Tempe		Boulder, CO		Durham, NC		Provo, UT	
	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh
HUD AMI	\$44,100	\$56,700	\$66,400	\$85,400	\$49,500	\$63,700	\$47,400	\$60,900
Inventory of Ownership Housing Stock								
0 to 50% of AMI	412 - 2,158		1,805 - 2,289		4,831 - 9,316		1,015 - 1,608	
50% to 80% of AMI	4,151 - 6,663		762 - 1,186		11,141 - 17,071		1,837 - 3,837	
80% to 120% of AMI	9,254 - 14,240		2,216 - 3,260		15,523 - 12,757		4,270 - 4,157	
120% to 250% of AMI	16,612 - 8,079		10,310 - 10,870		15,860 - 9,154		5,511 - 3,319	
250% or more of AMI	1,256 - 545		5,061 - 2,550		2,085 - 1,137		742 - 455	
Total	31,685	31,685	20,154	20,155	49,439	49,435	13,376	13,375
Percent of Ownership Housing Stock								
0 to 50% of AMI	1% - 7%		9% - 11%		10% - 19%		8% - 12%	
50% to 80% of AMI	13% - 21%		4% - 6%		23% - 35%		14% - 29%	
80% to 120% of AMI	29% - 45%		11% - 16%		31% - 26%		32% - 31%	
120% to 250% of AMI	52% - 25%		51% - 54%		32% - 19%		41% - 25%	
250% or more of AMI	4% - 2%		25% - 13%		4% - 2%		6% - 3%	
Total	100%	100%	100%	100%	100%	100%	100%	100%

Note: "1p hh" means 1-person household; "3p hh" means 3-person household. Affordability thresholds restrict housing costs to 30% of household income. The maximum affordable home prices assume a 30-year mortgage and an interest rate of 3.98 percent. Households earning less than 120 percent of AMI are modeled with a 10 percent downpayment and households earning more than 120 percent of AMI are modeled with a 20 percent downpayment. The estimates also incorporate property taxes, insurance and utilities (assumed to collectively account for 30% of the monthly payment); private mortgage insurance is also incorporated for households earning less than 120 percent AMI (assumed to account for an additional 5% of the monthly payment).

Source: HUD Income Limits, Maricopa County Assessor, 2015 5-year ACS and BBC Research & Consulting.

Inventory based on sale prices. Figure 24 displays affordable home prices by income level and the proportion of Tempe's for-sale homes that fall in each income range. Affordable inventory is shown separately for 1-person and 3-person households based on their respective income ranges.

For a 1-person household, the for-sale market in Tempe primarily serves those earning between 120 percent and 250 percent AMI: 69 percent of homes listed/sold were priced in their affordability range. Affordability for 1-person households earning less than 120 percent AMI is contingent on a willingness to purchase attached homes.

For 3-person households in Tempe, 33 percent of homes are priced affordably for those earning 80 to 120 percent AMI and 46 percent of homes are priced in the affordability range of households earning 120 to 250 percent of AMI.

Figure 24.
Affordability of Homes Listed/Sold in Tempe, Q3 2016 - Q2 2017.

Household Income by Percent of AMI	Upper Income Limit	Max Affordable Home Price	Total Homes Listed/Sold (Q316-Q217)		Type of Homes Listed/Sold (Q316-Q217)		Percent of Total that are Attached
			Num.	Pct.	Detached	Attached	
1-person household							
0 to 50% of AMI	\$22,050	\$82,758	4	0%	1	3	75%
50% to 80% of AMI	\$35,250	\$132,300	180	7%	12	168	93%
80% to 120% of AMI	\$52,920	\$198,618	472	18%	119	353	75%
120% to 250% of AMI	\$110,250	\$486,128	1,799	69%	1,466	333	19%
250% or more of AMI	no max	no max	134	5%	116	18	13%
			<u>2,589</u>	<u>100%</u>	<u>1,714</u>	<u>875</u>	<u>34%</u>
3-person household							
0 to 50% of AMI	\$28,350	\$106,403	51	2%	3	48	94%
50% to 80% of AMI	\$45,300	\$170,019	440	17%	52	388	88%
80% to 120% of AMI	\$68,040	\$255,366	848	33%	574	274	32%
120% to 250% of AMI	\$141,750	\$625,022	1,190	46%	1,032	158	13%
250% or more of AMI	no max	no max	60	2%	53	7	12%
			<u>2,589</u>	<u>100%</u>	<u>1,714</u>	<u>875</u>	<u>34%</u>

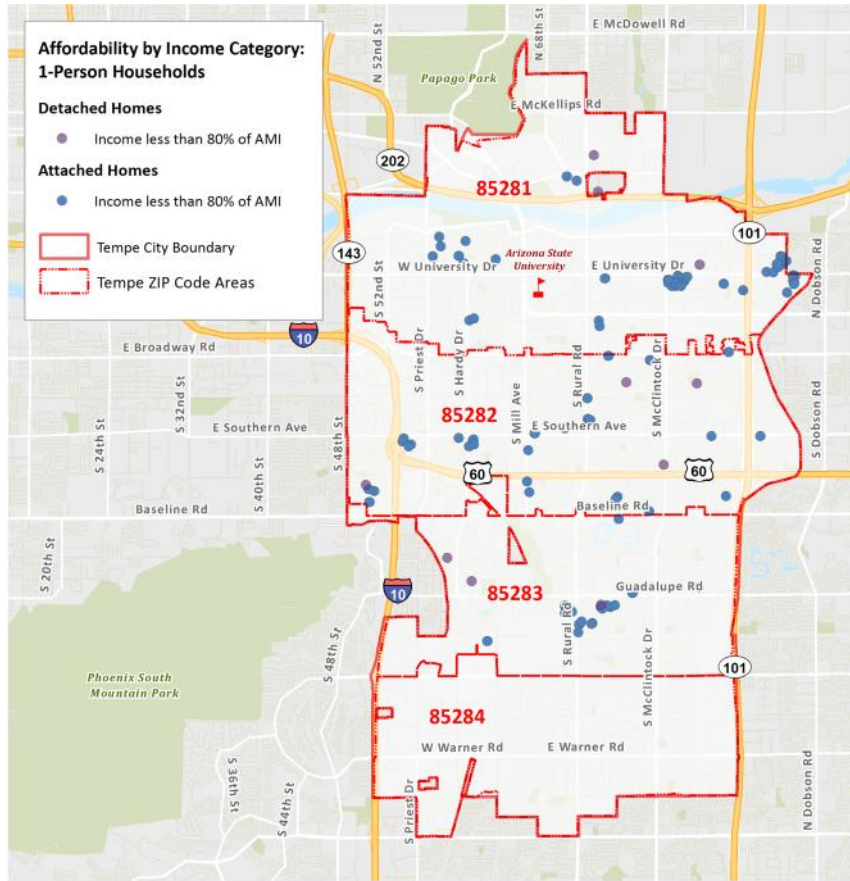
Note: The maximum affordable home prices assume a 30-year mortgage and an interest rate of 3.98 percent. Households earning less than 120 percent of AMI are modeled with a 10 percent downpayment and households earning more than 120 percent of AMI are modeled with a 20 percent downpayment. The estimates also incorporate property taxes, insurance and utilities (assumed to collectively account for 30% of the monthly payment); private mortgage insurance is also incorporated for households earning less than 120 percent AMI (assumed to account for an additional 5% of the monthly payment).

Source: HUD Income Limits, MLS data and BBC Research & Consulting.

Figures 25 through 32 on the following pages map the homes listed/sold in Tempe from Q3 2016 through Q2 2017 by affordability to the specified income ranges. The first map in each series displays affordability by 1-person household income ranges and the second map in each series displays affordability by 3-person household income ranges.

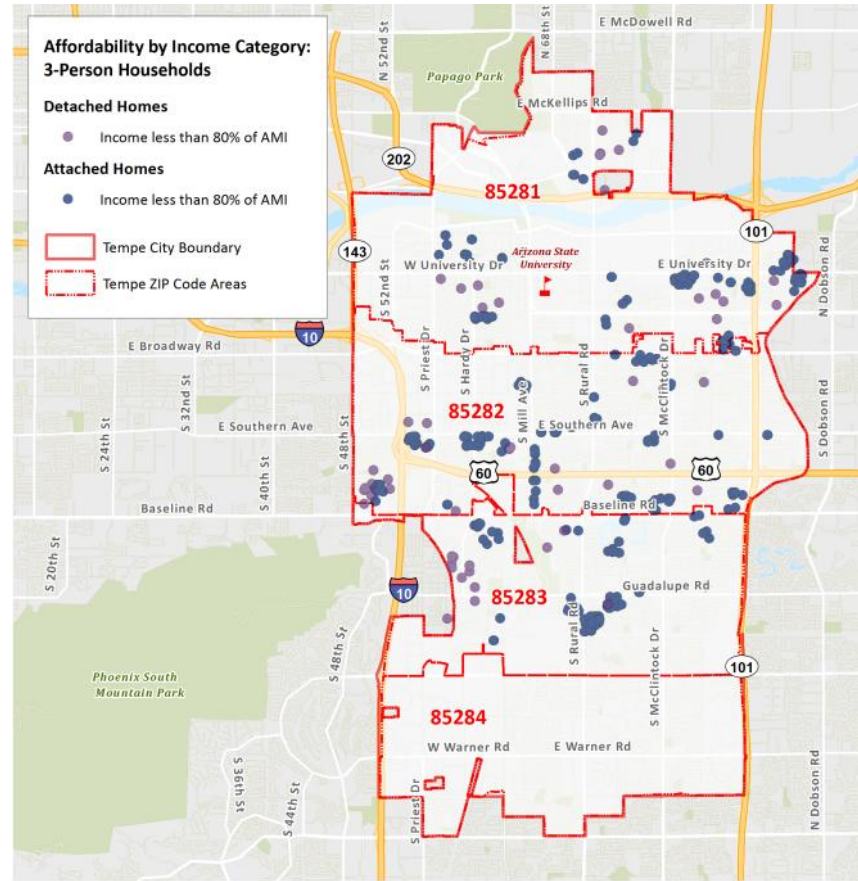
The maps reveal small clusters of affordability west of ASU and in the neighborhoods south of highway 60 and just east of I-10. Affordable attached homes are scattered throughout the city. In general, very few homes are affordable to those earning less than 80 percent AMI and those earning between 80 and 120 percent AMI—particularly for 1-person households.

Figure 25.
Homes Listed/Sold by Affordability to a 1-Person Household with an
Income less than 80% of AMI, City of Tempe, Q3 2016 – Q2 2017



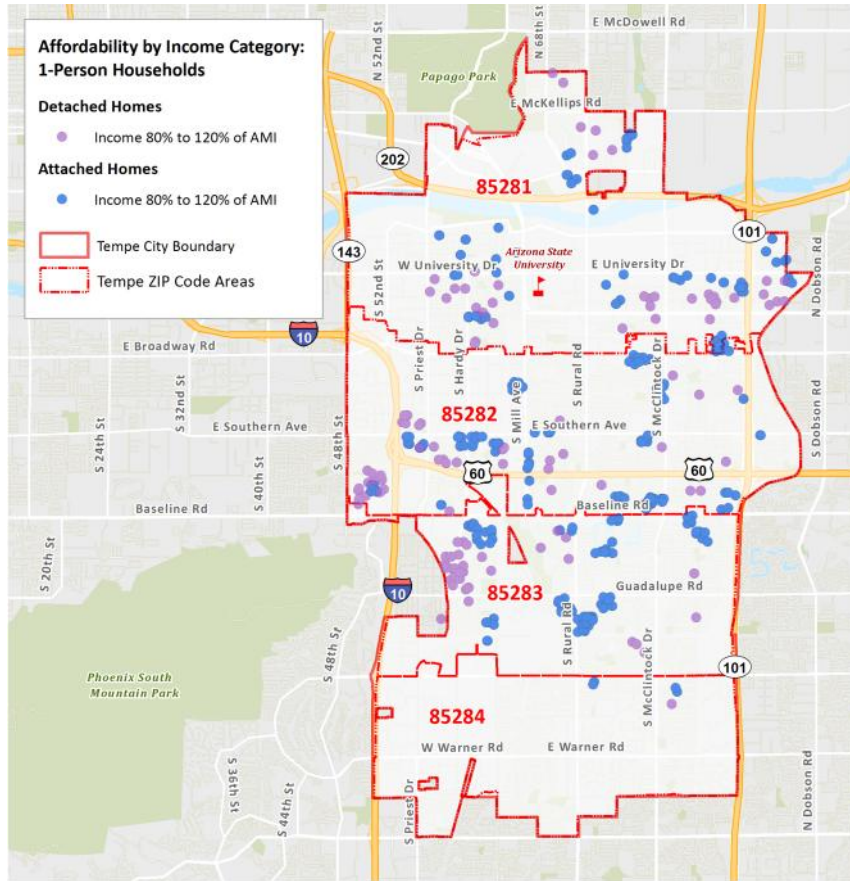
Note: See Figure 20 notes for mortgage affordability assumptions.
 Source: HUD Income Limits, MLS data and BBC Research & Consulting.

Figure 26.
Homes Listed/Sold by Affordability to a 3-Person Household with Income
less than 80% of AMI, City of Tempe, Q3 2016 – Q2 2017



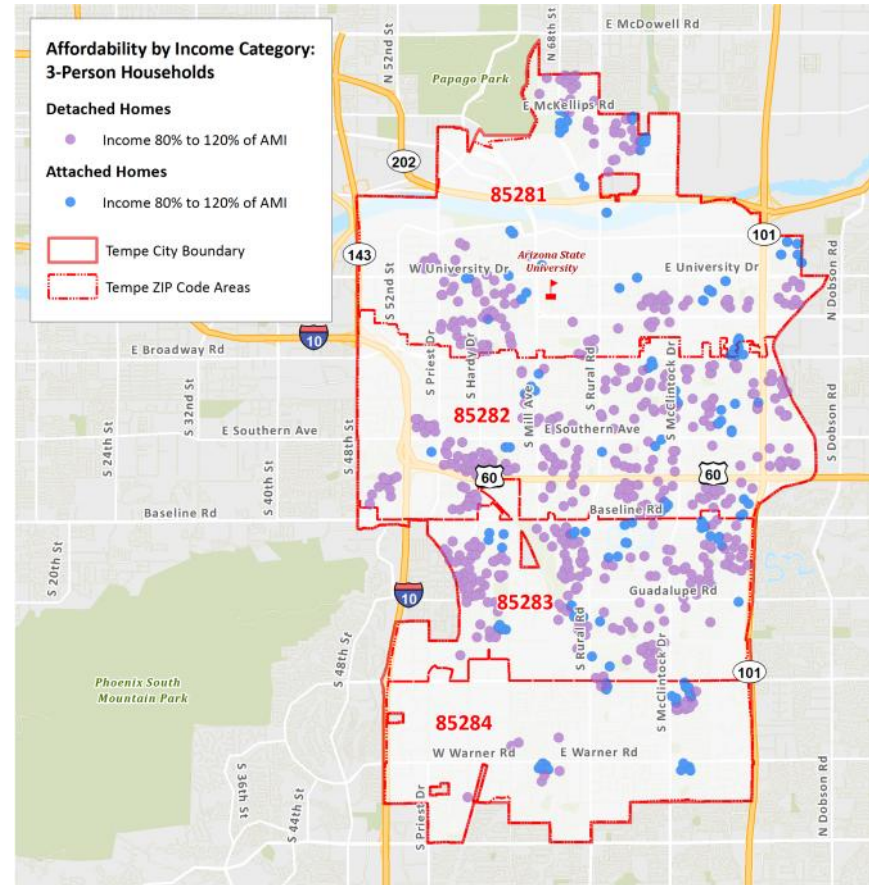
Note: See Figure 20 notes for mortgage affordability assumptions.
 Source: HUD Income Limits, MLS data and BBC Research & Consulting.

Figure 27.
Homes Listed/Sold by Affordability to a 1-Person Household with Income 80% to 120% of AMI, City of Tempe, Q3 2016 – Q2 2017



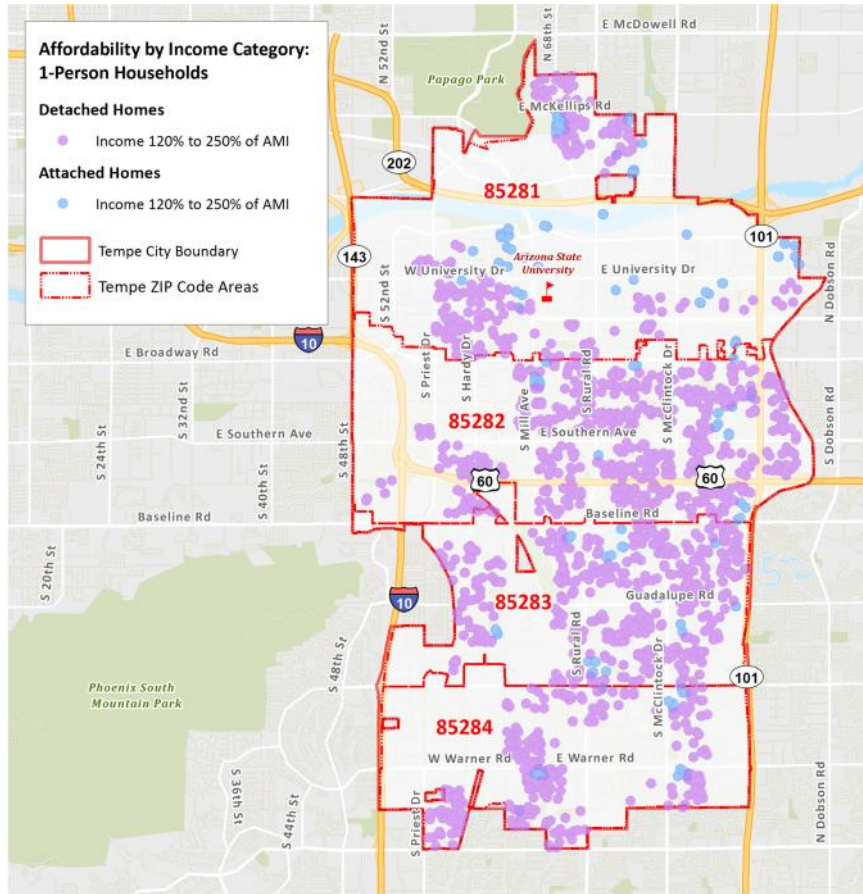
Note: See Figure 20 notes for mortgage affordability assumptions.
 Source: HUD Income Limits, MLS data and BBC Research & Consulting.

Figure 28.
Homes Listed/Sold by Affordability to a 3-Person Household with Income 80% to 120% of AMI, City of Tempe, Q3 2016 – Q2 2017



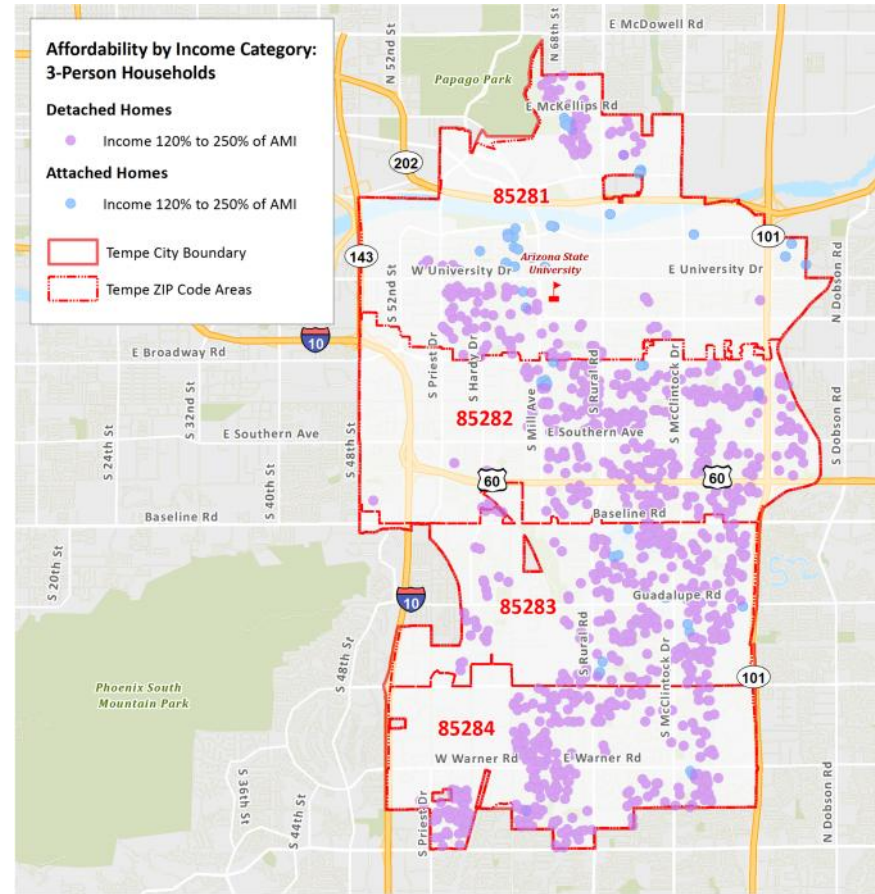
Note: See Figure 20 notes for mortgage affordability assumptions.
 Source: HUD Income Limits, MLS data and BBC Research & Consulting.

Figure 29.
Homes Listed/Sold by Affordability to a 1-Person Household with Income 120% to 250% of AMI, City of Tempe, Q3 2016 – Q2 2017



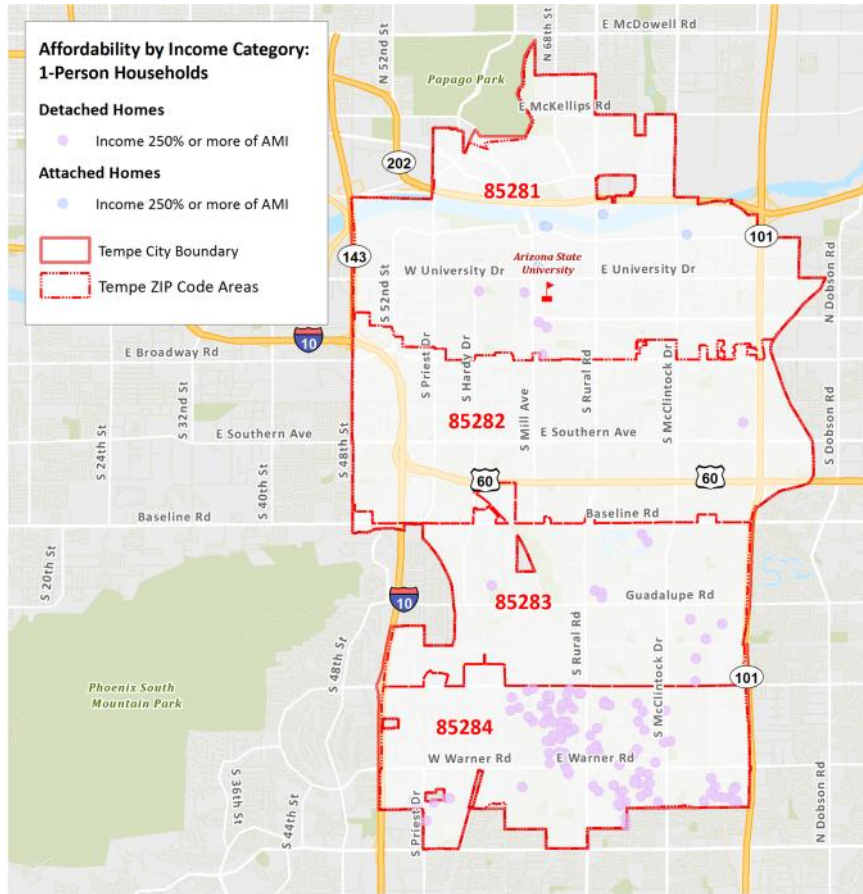
Note: See Figure 20 notes for mortgage affordability assumptions.
 Source: HUD Income Limits, MLS data and BBC Research & Consulting.

Figure 30.
Homes Listed/Sold by Affordability to a 3-Person Household with Income 120% to 250% of AMI, City of Tempe, Q3 2016 – Q2 2017



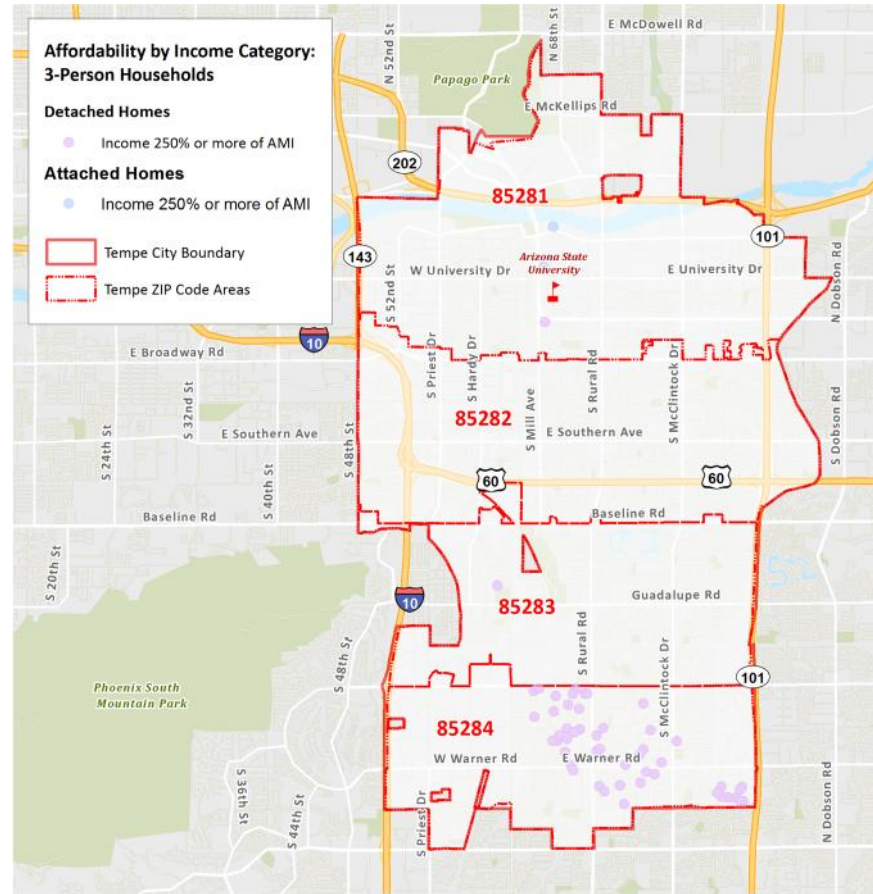
Note: See Figure 20 notes for mortgage affordability assumptions.
 Source: HUD Income Limits, MLS data and BBC Research & Consulting.

Figure 31.
Homes Listed/Sold by Affordability to a 1-Person Household with Income 250% or more of AMI, City of Tempe, Q3 2016 – Q2 2017



Note: See Figure 20 notes for mortgage affordability assumptions.
 Source: HUD Income Limits, MLS data and BBC Research & Consulting.

Figure 32.
Homes Listed/Sold by Affordability to a 3-Person Household with Income 250% or more of AMI, City of Tempe, Q3 2016 – Q2 2017



Note: See Figure 20 notes for mortgage affordability assumptions.
 Source: HUD Income Limits, MLS data and BBC Research & Consulting.

Rental Market

This section discusses characteristics of the rental market in Tempe. Historical trends and comparisons with peer communities are provided where data are available.

Distribution of rents. According to ACS data, the median rent in Tempe was \$972 in 2015, up from \$832 in 2010—a 17 percent increase. The median ranges from about \$850 for a studio or one-bedroom to \$1,500 for a four- or five-bedroom unit.

Median rent in Tempe is similar to the county overall (\$986). As shown in Figure 33 median rent in Tempe is also similar to peer city Durham, NC but lower than in Boulder and higher than in Provo.

Figure 33.
Median Rent, City of
Tempe and Peer
Communities, 2015

Source:
2015 1-year ACS and BBC Research &
Consulting.



Median rent varies substantially across different parts of Tempe. Figure 34 maps median rent by Census tract in the city. Median rents are lowest in the neighborhoods immediately surrounding ASU as well as in one tract in south central Tempe. Most Census tracts in the south part of the city have relatively high median rents.

**Figure 34.
Median Gross Rent
by Census Tract, City
of Tempe, 2015**

Source:
2015 1-year ACS and BBC
Research & Consulting.

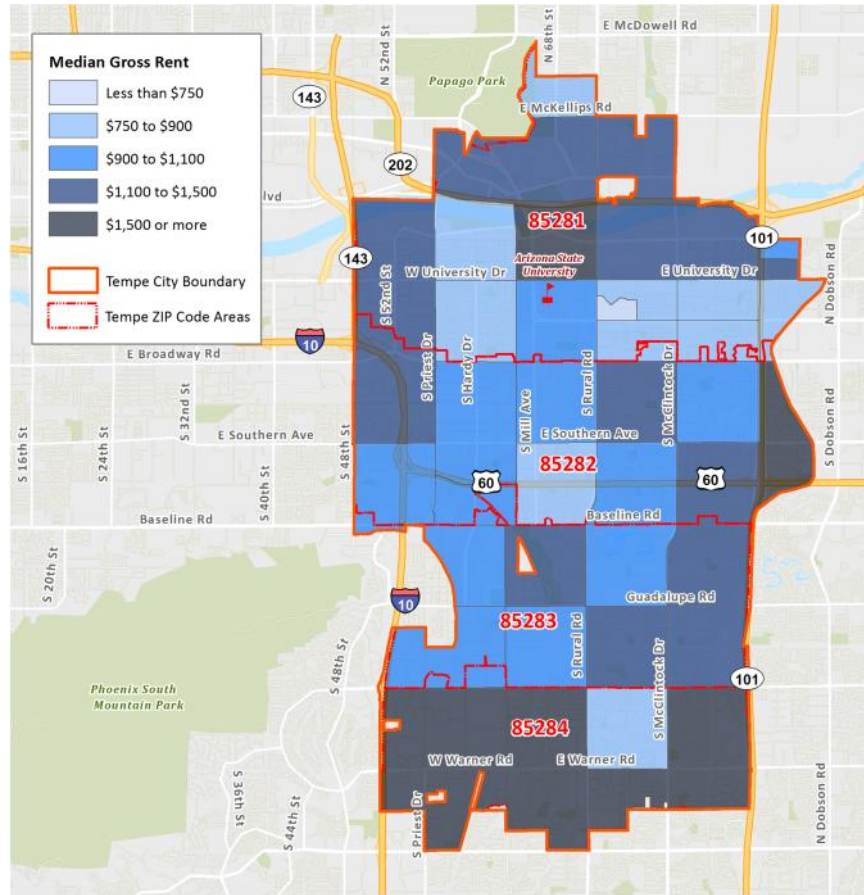
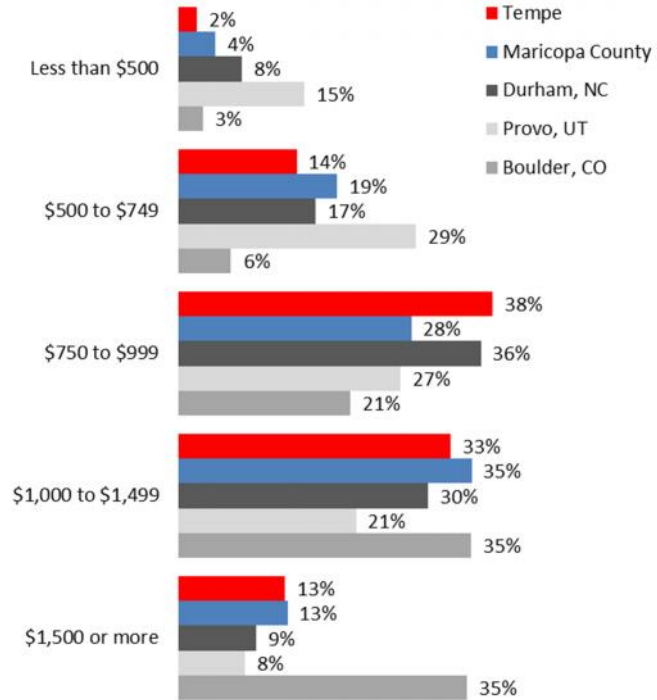


Figure 35 displays the distribution of rents for Tempe, Maricopa County and peer communities. Most Tempe renters (71%) pay between \$750 and \$1,500 for their units. Sixteen percent pay less than \$750 and 13 percent pay more than \$1,500 per month.

Peer communities, excluding Boulder have more rentals priced below \$750 per month and fewer rentals priced over \$1,000 per month than Tempe.

Figure 35.
Gross Rent Distribution,
City of Tempe and Peer
Communities, 2015

Source:
 2015 5-year ACS and BBC Research & Consulting.



Market rates. The ACS data on median rent and rental distribution is a comprehensive analysis of what all renters currently pay for rent. However, those data might not reflect what is available on the market for a household looking to rent. A survey of apartment listings in Tempe—including apartment buildings and single-family rentals—shows that average rents for available units were \$1,352 in June/July of 2017.² Average rent by unit size ranged from \$1,008 for studios/one-bedrooms to \$1,785 for a four-bedroom (or larger) unit. These market-rate rents are higher, in general, than ACS-reported rents.

Figure 36 displays average market rate rents by bedroom size and income required to afford the unit (without being cost burdened). Based on the rental listing survey, average rent for a one-bedroom requires an income of just over \$40,000 and a three-bedroom unit requires an income of nearly \$70,000.

Figure 36.
Rental Affordability by Bedroom, City of
Tempe, 2015

Source:
 BBC 2017 Rental Survey and BBC Research & Consulting.

Rental Size	Average Rent	Income Required
1-bedroom	\$1,008	\$40,338
2-bedroom	\$1,165	\$46,608
3-bedroom	\$1,720	\$68,804
4-bedroom+	\$1,785	\$71,406

Renter affordability. Between 1999 and 2010 renters in Tempe lost purchasing power as rents increased faster than incomes. However, between 2010 and 2015, renter incomes actually increased faster than rents. As a result, renter incomes in 2015 were higher than the income required to afford a median priced rental unit. Figure 37 shows trends in median rents and median renter incomes from 1999 to 2015.

² Data reflect craigslist rental listings in Tempe from June 1 through July 11 2017.

Figure 37.
Rental Affordability
Trends, City of Tempe,
1999 - 2015

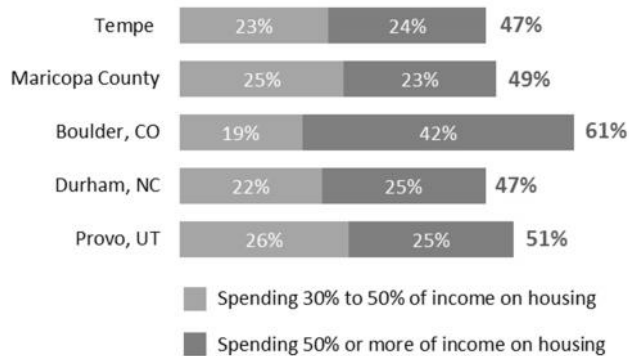
Source:
 2015 5-year ACS and BBC Research &
 Consulting.

	Median Rent	Income Required to Afford Median Rent	Actual Median Renter Income	Compound Annual Growth Rate	
				Median Rent	Median Renter Income
1999	\$715	\$28,600	\$30,388		
2005	\$739	\$29,560	\$29,557	0.6%	-0.5%
2010	\$832	\$33,280	\$30,076	2.4%	0.3%
2015	\$972	\$38,880	\$41,333	3.2%	6.6%
Total change 1999 to 2015	\$257	\$10,280	\$10,945	1.9%	1.9%

Cost burden. Although rental affordability at the median has improved since 2010, nearly half of all Tempe renters (47%), 17,880 households, are cost burdened, spending 30 percent or more of their income on housing costs. One in four renters (9,200 households) are severely cost burdened, that is, they spend at least half of their income on housing costs. Figure 38 displays the proportion of renters who are cost burdened and severely cost burdened in Tempe, Maricopa County and peer cities. Tempe and Durham have the lowest rate of cost burden (47%) among the jurisdictions shown.

Figure 38.
Cost Burdened Renters,
City of Tempe and Peer
Communities, 2015

Source:
 2015 1-year ACS and BBC Research &
 Consulting.



Affordable inventory by AMI. Figure 39 displays the number of affordable rentals by income, using the income categories defined in the introduction of this report. Data are shown for Tempe overall and by ZIP code. The max affordable rent as well as the number of rentals available is displayed as a range bound by affordability for 1-person and 3-person households.

Households earning less than 50 percent of AMI can afford a maximum of \$551 (1-person) or \$709 (3-person) in monthly rent. Just 1,600 rentals citywide (4% of all rentals) are priced affordably for a 1-person household at 50 percent AMI and 5,400 rentals citywide (12% of all rentals) are priced affordably for a 3-person household at 50 percent AMI.

A 1-person household earning between 50 and 80 percent AMI can afford about one-third of the rental units in Tempe; a 3-person household earning 50 to 80 percent AMI can afford about half of Tempe’s rental units.

Figure 39.
Inventory of Affordable Rental Units by Income, City of Tempe, 2015

INVENTORY FOR TEMPE OVERALL						
Household Income by percent of AMI	Max Affordable Rent		Number of Rental Units in Affordability Range		Percent of Rental Units in Affordability Range	
	1-person household	3-person household	1-person household	3-person household	1-person household	3-person household
0 to 50% of AMI	\$551 - \$709		1,606 - 5,416		4% - 12%	
50% to 80% of AMI	\$881 - \$1,133		14,447 - 23,294		32% - 52%	
80% to 120% of AMI	\$1,323 - \$1,701		18,435 - 11,800		41% - 27%	
120% to 250% of AMI	\$2,756 - \$3,544		9,765 - 3,891		22% - 9%	
250% or more of AMI	\$2,756+ - \$3,544+		224 - 75		1% - 0%	
Total			44,476 44,476		100% 100%	

INVENTORY BY ZIP CODE								
Household Income by percent of AMI	Number of Rental Units in Affordability Range							
	ZIP 85281		ZIP 85282		ZIP 85283		ZIP 85284	
	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh
0 to 50% of AMI	819	3,222	428	1,387	343	774	16	33
50% to 80% of AMI	7,831	9,860	4,030	7,209	2,555	6,187	31	38
80% to 120% of AMI	6,544	4,378	5,903	3,421	5,863	3,609	125	392
120% to 250% of AMI	3,685	1,408	2,638	1,095	2,712	963	730	425
250% or more of AMI	76	36	82	14	63	25	3	0
Total	18,955	18,905	13,081	13,126	11,535	11,557	906	888

Source: HUD Income Limits, 2015 1-year ACS and BBC Research & Consulting.

Figure 40 shows the proportion of rentals units in each Census tract priced between \$500 and \$1000 per month. That range approximates units affordable from 50 percent AMI for a 1-person household up to 80 percent of AMI for a 3-person household. Areas with the highest proportion of affordable rentals are surrounding ASU and in the area just south of Guadalupe. Areas with the smallest proportion of affordable rentals are the far south portion of the city, the area northeast of ASU and the western sides of the 85821 and 85282 ZIP codes.

Figure 40.
Rental Affordability
by Census Tract,
City of Tempe, 2015

Source:
 2015 1-year ACS and BBC
 Research & Consulting.

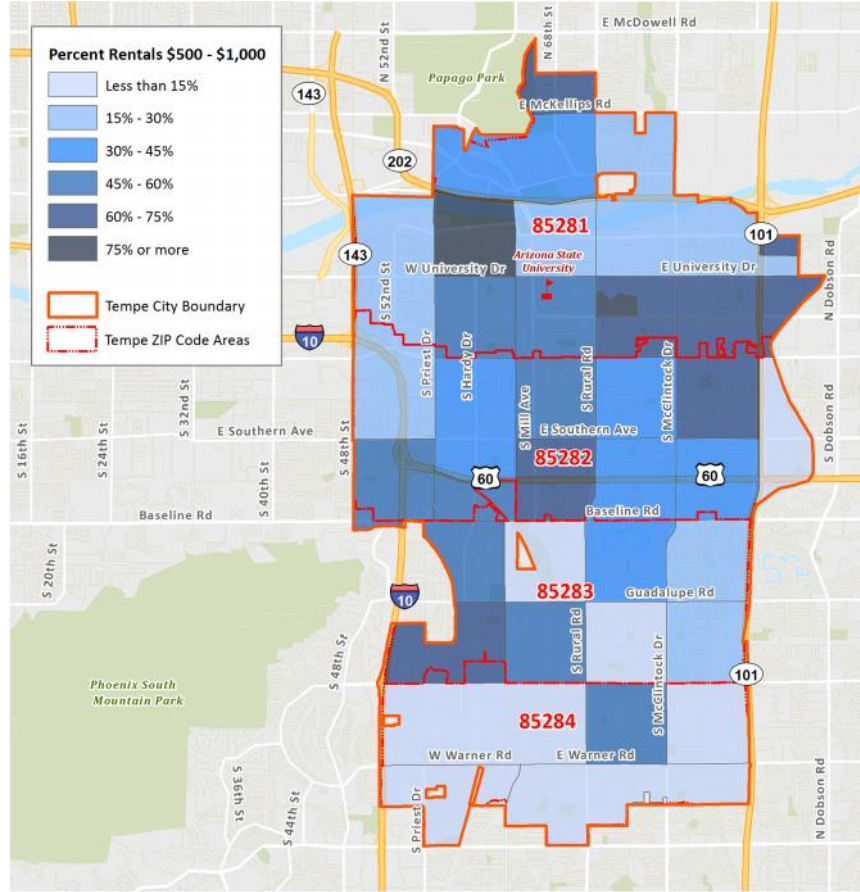


Figure 41 compares the percentage of rentals in each affordability category in Tempe to peer communities. Compared to peer communities, Tempe has a lower proportion of rentals affordable to households earning less than 50 percent of AMI.

Figure 41.
Affordable Rental Inventory, City of Tempe and Peer Communities

Household Income by percent of AMI	Tempe		Boulder, CO		Durham, NC		Provo, UT	
	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh	1p hh	3p hh
HUD AMI	\$44,100	\$56,700	\$66,400	\$85,400	\$49,500	\$63,700	\$47,400	\$60,900
<i>Inventory of Rental Housing Stock</i>								
0 to 50% of AMI	1,606	5,416	3,072	7,651	7,836	18,477	4,212	9,586
50% to 80% of AMI	14,447	23,294	6,052	6,141	23,468	23,382	8,869	6,053
80% to 120% of AMI	18,435	11,800	8,922	6,600	14,384	6,118	3,790	2,234
120% to 250% of AMI	9,765	3,891	3,351	1,103	3,475	1,398	1,456	469
250% or more of AMI	224	75	149	54	231	19	35	20
Total	44,476	44,476	21,547	21,547	49,394	49,394	18,362	18,362
<i>Percent of Rental Housing Stock</i>								
0 to 50% of AMI	4%	12%	14%	36%	16%	37%	23%	52%
50% to 80% of AMI	32%	52%	28%	28%	48%	47%	48%	33%
80% to 120% of AMI	41%	27%	41%	31%	29%	12%	21%	12%
120% to 250% of AMI	22%	9%	16%	5%	7%	3%	8%	3%
250% or more of AMI	1%	0%	1%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Source: HUD Income Limits, 2015 1-year and 5-year ACS and BBC Research & Consulting.

Publicly assisted rental housing. There are currently 1,358 households in Tempe living in publicly assisted housing or using a housing choice voucher. The majority, 79 percent, use Housing Choice Vouchers. Thirteen percent live in Low Income Housing Tax Credit (LIHTC) properties and the remainder live in Project Based Section 8 units.

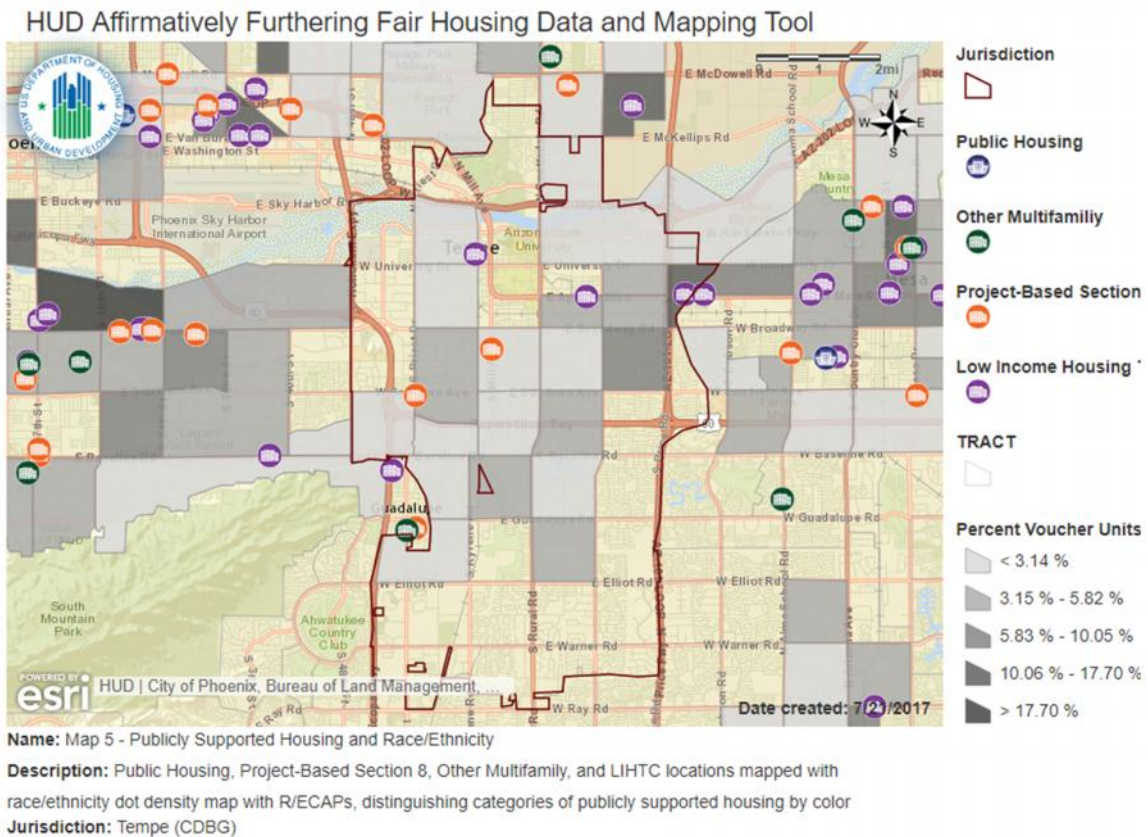
Figure 42. Publicly Assisted Housing, City of Tempe, 2017

Source:
City of Tempe, HUD and
BBC Research & Consulting.

Development Name	Program Type	Number of Units	Percent of all Units
Tempe Villa	Project-Based Section 8	60	4%
Broadway Apartments	Project-Based Section 8	48	4%
Gracie's Village	Low Income Housing Tax Credit	49	4%
Apache ASL Trails	Low Income Housing Tax Credit	75	6%
Encore On Farmer	Low Income Housing Tax Credit	56	4%
Scattered site	Housing Choice Voucher Program	1,070	79%
		<u>1,358</u>	<u>100%</u>

Figure 43 is a map produced by the US Department of Housing and Urban Development (HUD) and displays the geographic distribution of publicly assisted housing in Tempe. The shading indicates the proportion of housing choice vouchers by Census tract and the icons display locations for project-based Section 8 and LIHTC units developments.

Figure 43. Publicly Supported Housing, City of Tempe, 2017



Source: HUD Affirmatively Furthering Fair Housing Tool (AFFHT).

Housing Market Gaps

To examine how well Tempe’s current housing market meets the needs of its residents, BBC conducted a modeling effort called a “gaps analysis.” The analysis compares the supply of housing at various price points to the number of current Tempe households who can afford such housing. If there are more housing units than households, the market is “oversupplying” housing at that price range. Conversely, if there are too few units, the market is “undersupplying” housing. The gaps analysis conducted for renters in Tempe addresses both rental affordability and ownership opportunities for renters who want to buy.

Mismatch in the rental market. Figure 44 compares the number of renter households currently living in Tempe in 2015, their income levels, the maximum monthly rent they could afford without being cost burdened, and the number of units in the market that were affordable to them. The “Rental Gap” column shows the difference between the number of renter households and the number of rental units affordable to them. Negative numbers (in parentheses) indicate a shortage of units at the specific income level; positive units indicate an excess of units. Data are not available on the number of renters by household size and income, so the gaps analysis uses income ranges and affordability based on a 3-person household.

When there is a “gap” or “shortage” in the low income categories, it is important to note that these renters are not homeless. The renters who cannot find affordability priced rentals are living in units that cost *more* than they can afford. These households are “cost burdened.”

When there is a “gap” or “shortage” in higher income categories, it typically indicates that those renters are renting down—or paying less than 30 percent of their income on housing by choosing a rental unit well below their defined affordability range.

Figure 44.
Mismatch in Rental Market, City of Tempe, 2015

Income Range	Income Limit	Max Affordable Rent	Renters		Rental Units		Rental Gap	Cumulative Gap
			Num.	Pct.	Num.	Pct.		
0 to 30% of AMI	\$17,010	\$ 425	8,586	21%	674	2%	(7,912)	(7,912)
30% to 50% of AMI	\$28,350	\$709	5,425	14%	4,742	11%	(684)	(8,595)
50% to 80% of AMI	\$45,300	\$1,133	7,404	18%	23,294	52%	15,890	7,295
80% to 120% of AMI	\$68,040	\$1,701	7,966	20%	11,800	27%	3,834	11,129
120% to 250% of AMI	\$141,750	\$3,544	8,286	21%	3,891	9%	(4,395)	6,734
250% or more of AMI	\$141,751+	\$3,544+	2,420	6%	75	0%	(2,345)	4,389
Total			40,087	100%	44,476	100%		

Source: 2015 5-year ACS and BBC Research & Consulting.

The gaps analysis in Figure 44 shows that:

- Twenty-one percent of renters (8,586 households) living in Tempe earn less than 30 percent of AMI per year. These renters need units that cost less than \$425 per month to avoid being cost burdened. Just 2 percent of rental units (674 units) in the city rent for less than \$425/month (including subsidized rental units). This leaves a “gap,” or shortage, of nearly 8,000 units for these extremely low income households.

- Another 5,400 renters earn between 30 percent and 50 percent of AMI per year. There are only 4,700 rental units priced at their affordability range (between \$425 and \$709/month), leaving a shortage of about 680 units.
- Altogether, the city has a shortage of rental units priced affordably for renters earning less than 50 percent of AMI per year of 8,595 units. These households may include some students but many are working residents earning low wages, residents who are unemployed and residents who are disabled and cannot work. Again, it is important to note that these renters are not homeless. Those renters who cannot find affordability priced rentals are living in units that cost more than they can afford. These households are “cost burdened.”

In sum, the private rental market in Tempe largely serves renters earning between 50 percent and 120 percent of AMI per year—79 percent of rental units are priced within that group’s affordability range. The market fails to adequately serve the 35 percent of renters earning less than 50 percent of AMI per year—even when accounting for the impact of subsidized housing programs.

The “shortage” shown in the gaps model for high income renters (earning more than 120% of AMI per year) suggests those renters are spending less than 30 percent of their income on housing—perhaps in order to save for a down payment on a home purchase.

The gaps model does not have a way of separating out renters who are students and may receive assistance paying rent from parents, student loans and/or other non-income sources. The ACS indicates that a total of 10,258 renter households are headed by someone aged 15 to 24. Even if half of those households are students and have incomes below 50 percent of AMI, the Tempe rental gap excluding students would still reflect a shortage of 3,500 units priced below \$709 per month.

Gaps in the For Sale Market. A similar gaps analysis was conducted to evaluate the market options affordable to renters who may wish to purchase a home in Tempe. Again, the model compared renters, renter income levels, the maximum monthly housing payment they could afford, and the proportion of units in the market that were affordable to them. The maximum affordable home prices shown in Figure 45 assume a 30-year mortgage and an interest rate of 3.98 percent. Households earning less than 120 percent of AMI are modeled with a 10 percent downpayment and households earning more than 120 percent of AMI are modeled with a 20 percent downpayment. The estimates also incorporate property taxes, insurance and utilities (assumed to collectively account for 30% of the monthly payment); private mortgage insurance is also incorporated for households earning less than 120 percent AMI (assumed to account for an additional 5% of the monthly payment).

The “Renter Purchase Gap” column in Figure 45 shows the difference between the proportion of renter households and the proportion of homes listed or sold in the past year (Q3 2016 through Q2 2017) that were affordable to them. Negative numbers (in parentheses) indicate a shortage of units at the specific income level; positive units indicate an excess of units.

Figure 45.
Market Options for Renters Wanting to Buy, City of Tempe, 2015

Income Range	Income Limit	Max Affordable Home Price	Renters		Homes Sold		Rental Gap	Cumulative Gap
			Num.	Pct.	Num.	Pct.		
0 to 50% of AMI	\$28,350	\$106,403	14,011	35%	51	2%	(33%)	(33%)
50% to 80% of AMI	\$45,300	\$170,019	7,404	18%	440	17%	(1%)	(34%)
80% to 120% of AMI	\$68,040	\$255,366	7,966	20%	848	33%	13%	(22%)
120% to 250% of AMI	\$141,750	\$625,022	8,286	21%	1,190	46%	25%	4%
250% or more of AMI	\$141,751+	\$625,023+	2,420	6%	60	2%	(4%)	0%
Total			40,087	100%	2,589	100%		

Note: The maximum affordable home prices assume a 30-year mortgage and an interest rate of 3.98 percent. Households earning less than 120 percent of AMI are modeled with a 10 percent downpayment and households earning more than 120 percent of AMI are modeled with a 20 percent downpayment. The estimates also incorporate property taxes, insurance and utilities (assumed to collectively account for 30% of the monthly payment); private mortgage insurance is also incorporated for households earning less than 120 percent AMI (assumed to account for an additional 5% of the monthly payment).

Source: HUD Income Limits, MLS data and BBC Research & Consulting.

The for sale gaps analysis shows the Tempe market to be relatively affordable for renters earning more than 120 percent of AMI per year, and to a lesser extent, renters earning between 80 and 120 percent of AMI. For renters earning between 50 and 80 percent of AMI, the market does offer limited affordability but it is contingent on a willingness to consider townhomes and condos—88% of the affordable units in their price range are attached housing options (see Figure 24 on page 19).

It is important to note that home size, condition and housing preferences are not considered in the affordability model. The model also assumes that renters are able to save for a 10 percent down payment (up to \$25,500 for a household earning 120% annually).