IDAHO FALLS **HOUSING INVENTORY** 2018

BOISE STATE UNIVERSITY
IDAHO POLICY INSTITUTE

IDAHO FALLS HOUSING INVENTORY
EXECUTIVE SUMMARY

This study conducts a thorough analysis of the current housing inventory in Idaho Falls and Bonneville County and produces estimates of housing units necessary to accommodate the number of households expected to reside in the county over the next five years (2018-2023). The research gathered extensive housing data from multiple publicly-available sources for the period beginning 2010. Primary findings are summarized by employment and income, future housing needs assessment (household forecast and additional needs analysis), current housing inventory and home values and prices.

First, both employment and median household income have been improving. **Second**, the number of households is forecasted to keep growing. The county currently has 41,652 units and will need to have 42,726 units by 2023 according to the forecast from the decennial census data or 40,517 units according to the forecast from the American Community Survey (ACS) data. Does the county have enough units in stock? The answer is yes and no. While short of the demand measured with the decennial census based forecast by 1,074 units, the level of housing units (41,652) appears sufficient when compared with the ACS-based forecast (40,517). It should be noted that a decision regarding whether the supply is enough to meet the demand should take into consideration other significant factors that reflect the preferences of individual households (e.g., size, facilities, neighborhoods, distance to work place, etc.). A separately conducted needs analysis confirms a growing need for housing units (p. 10). **Third**, the analysis of the current housing inventory shows that the total number of housing units has been increasing - more units were occupied (92.34%) and less units were vacant (7.65%) in 2016. The homeowner vacancy rate dropped in 2016 to 0.1%, suggesting that the home sales market was very tight. Most new residential construction is for those who want to own. Nonetheless, a substantial number of new apartments were built in 2015 and 2017. **Lastly**, price indexes of owner homes display an upward movement in recent years, as do rent prices.

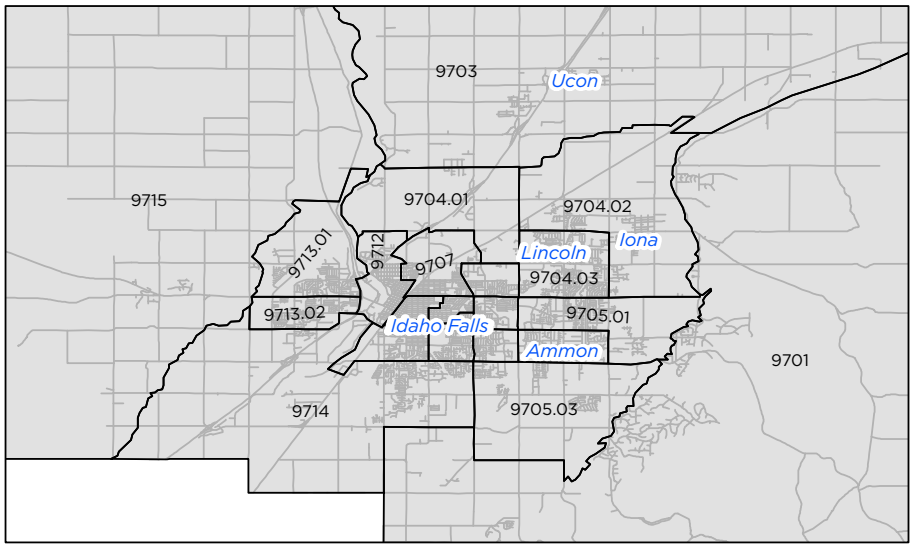
INTRODUCTION

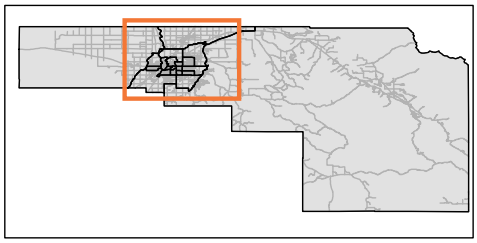
This study addresses current and upcoming housing needs in Idaho Falls and Bonneville County, Idaho. Drawing on the literature regarding housing studies,[1] it conducts a thorough analysis of current housing inventory. It also produces estimates of housing units necessary to accommodate households expected to reside in the county over the next five years (2018-2023). Aspects of housing included in the analysis are capacity, location, home/unit sizes, home and rental costs, rental vs. ownership, ADA accessibility and rental occupations.

To properly address housing issues, this study gathered extensive housing data publicly available from multiple sources: Bureau of Labor Statistics, U.S. Census Bureau, Federal Reserve Bank of New York, Equifax, Zillow, Housingidaho.com and U.S. Federal Housing Finance Agency. In order to ensure data sources with contrastive aspects we utilized the following sources: public (Census Bureau), private (Zillow) entities; perceived data (Census Bureau's American Community Survey (ACS)), actual market data (Federal Housing Finance Agency, Zillow); the 2010 decennial census on the entire population and a survey on a sample of about 2.2 million people (ACS)[2] within the Census Bureau. Within the ACS database, 5-year estimates and 1-year estimates were included. As different sources have their own strengths and weaknesses, analysis of extensive data from such contrastive sources is expected to generate findings that complement one another and thus allow a deepening understanding of housing needs and inventory in Idaho Falls and Bonneville County.

The study focuses on the housing market beginning in 2010. Focusing on the post-2010 period is justified, because the housing market was impacted by the Great Recession, officially beginning in December 2007 and ending in June 2009.[3] After the recession, the rules and regulations governing the financial and housing sectors were substantially revised. The new framework now governs these sectors. Thus, the relevance of pre-2010 data is not direct and may even confound the analysis of the current housing inventory

MAP 1: SELECT BONNEVILLE COUNTY CENSUS TRACTS





and future housing needs.

The study analyzes data at multiple levels, depending on data availability: county level, city level, and census tract level. Looking at the county as a whole offers a comprehensive picture of what is happening regarding the housing needs and inventory within the jurisdiction. For example, a county resident may be interested in a house in Ammon, if Idaho Falls is in short supply. On the other hand, looking at sub-county levels such as cities or census tracts offers a very close and detailed view, which could be useful particularly for planning purposes.

SUMMARY

Findings are summarized here by four major sections: employment and income, future housing needs assessment, current housing inventory and home values and prices. **First**, employment in the county has been improving. The level of median household income substantively increased as well. Such improvement has the potential to affect housing decisions by relaxing a budget constraint that households face.[4]

Second, future housing needs assessment consists of two groups of analysis: household forecast and additional needs analysis. Housing demand can be measured by households.[5] By the method of simple regression, the number of households is projected to keep growing. Simple regression produces two forecasts of the number of households necessary to meet population needs by 2023: 42,726 households based on the decennial census data and 40,517 households based on ACS data.

A separate needs analysis is additionally performed. The analysis of the county population reveals that three age groups (ages 30-39, ages 60-69, ages 70 or older), which are known to have a higher tendency of forming households,[6] continue to rise. Also, recent population increases are driven by positive net in-migration rather than recent births. These population dynamics imply a stronger rent or buy need for new housing units down the road. If that is the case, what type of housing units would be in greater demand? The decline of the relative price of homeownership (Myers et al. 2005) and that of subprime credit population hint at a stronger potential demand toward home buying.

Third, the analysis of the current housing inventory reveals that the total number of housing units in the county has been increasing. Among these units, more were occupied (92.34%) and less were vacant (7.65%) in 2016. Also in 2016, the homeowner vacancy rate for the county dropped to 0.1%, suggesting that the market for home buying was very tight. The same impression can be obtained from the trends of for-sale inventory on Zillow for Idaho Falls and Ammon.

Is home building keeping up with the demand for new houses? At the county level, new units are increasingly built. Most new residential construction is for those who want to own. Nonetheless, a substantial number of new rentals were built in 2015 and again in 2017. In particular, the construction of new apartments was very active in Ammon in 2017.

Lastly, several home values and prices are explained. As for owner homes, when median home values are compared, county homes are generally perceived to be more affordable for buying than homes in the state of Idaho. Two popular price indices (House Price

Index and Zillow Home Value Index) display an upward movement of home values in recent years for the county and its two major cities. When median gross rent prices are compared, Bonneville county rentals seem to be more affordable than those in the state. Rent prices indicated by the Zillow Rent Index increased over recent years in both Idaho Falls and Ammon; including a sudden surge of rent prices observed in Ammon.

This study begins with the issue of employment and income, and then addresses a future housing needs assessment, which is followed by an analysis of the current housing inventory. Finally, home values and prices will be discussed. Each section consists of a number of highly informative tables or charts. Visualizations by census tracts are attached wherever relevant data are available.

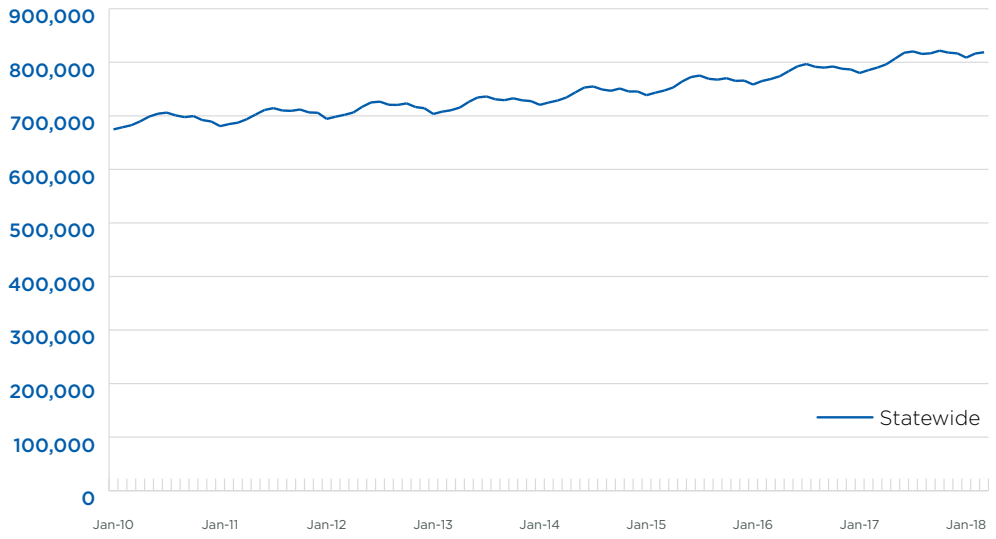
EMPLOYMENT AND INCOME

Changes in employment and income have significant relevance to decisions of demand and supply in the housing market.[7] For example, they can affect a household's decision in buying a house or renting an apartment.

The following figures shows the size of employment, monthly, from January 2010 through March 2018. Gradual increases are observed for the state of Idaho (figure 1), Bonneville County (figure 2) and also the City of Idaho Falls (figure 2). While seasonal fluctuations are seen, each level shows a trend of gradual recovery of employment for Idaho (from less than 700,000 employed persons in January 2010 through more than 800,000 in March 2018), Bonneville County (from less than 45,000 in January 2010 through more than 50,000 in March 2018) and Idaho Falls (less than 25,000 in January 2010 through around 29,000 in March 2018).

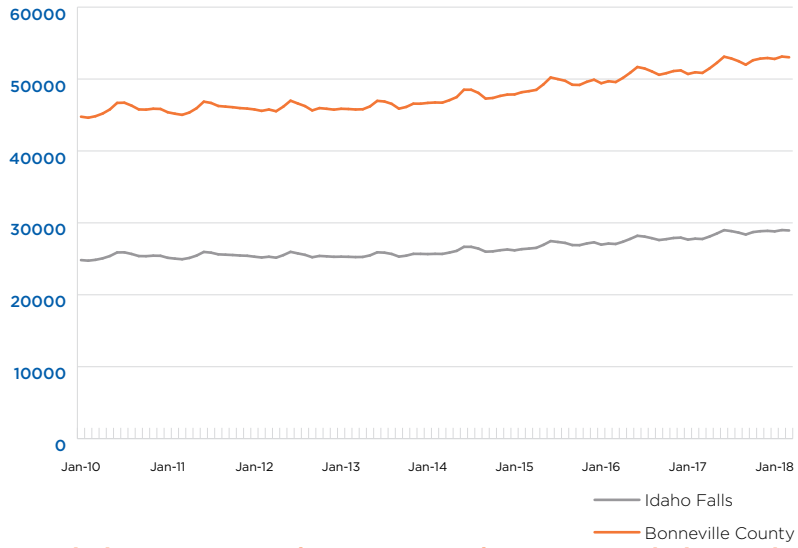
A similar signal of improved employment is confirmed from unemployment rates, monthly from January 2010 through March 2018 (figure 3). Excluding seasonal fluctuations shaping a saw tooth wave (i.e., higher rates during winter), the rates have been overall declining: 10.5% in January 2010 to 3.9% in January 2018 for Idaho, 8.0% in January 2010 to 3.3% in

FIGURE 1: STATEWIDE EMPLOYMENT (JAN 2010 - MAR 2018)



Source: Bureau of Labor Statistics (BLS) Local Area Unemployment Statistics. Unit: Person. Note: Not seasonally adjusted.

FIGURE 2: REGIONAL EMPLOYMENT (JAN 2010 - MAR 2018)

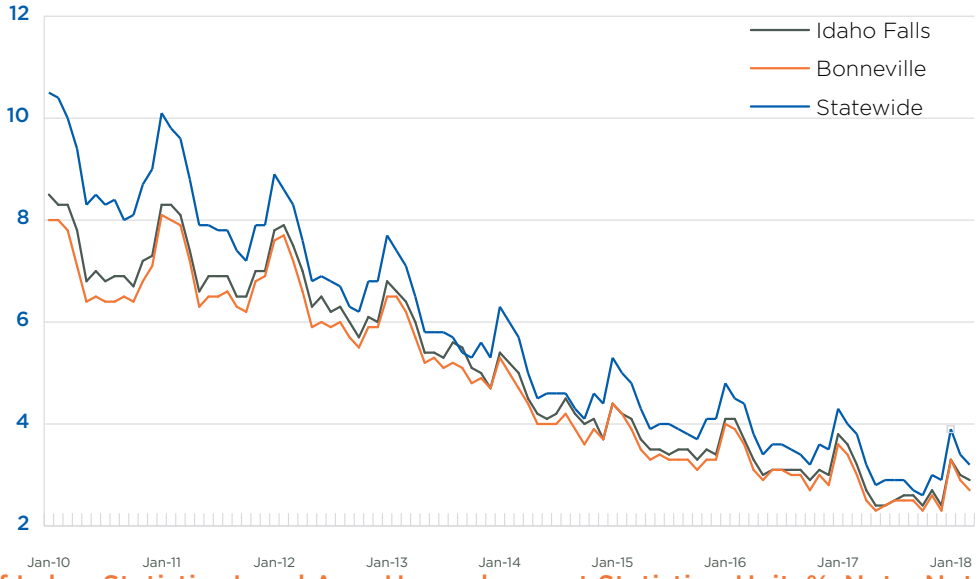


Source: Bureau of Labor Statistics (BLS) Local Area Unemployment Statistics. Unit: Person. Note: Not seasonally adjusted.

January 2018 for Bonneville County and 8.5% in January 2010 through 3.3% in January 2018 for Idaho Falls.

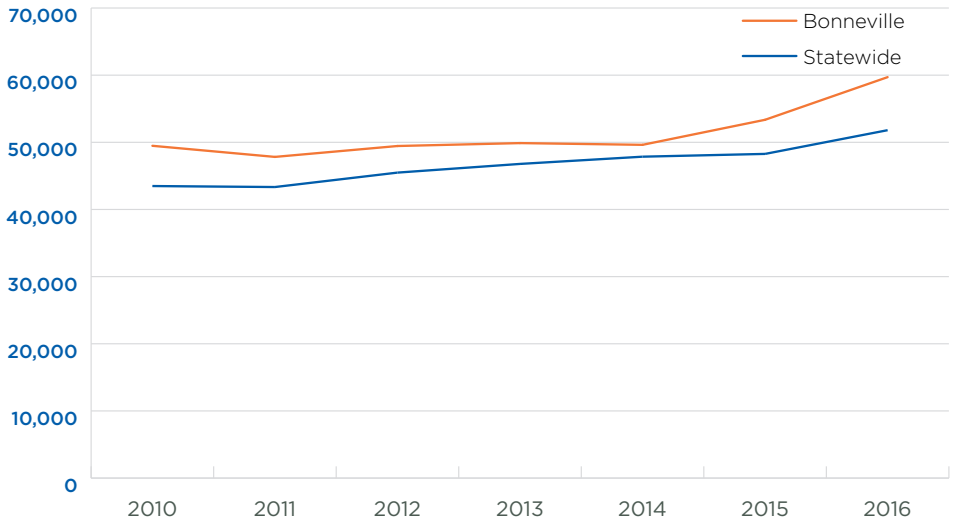
Figure 4 shows the trends of median household income from the Census Bureau's American Community Survey (ACS). Median household income in Idaho was $43,490 in 2010 and improved to $51,807 in 2016. Median household income for Bonneville County was $49,482 in 2010 and $59,706 in 2016. From 2010 to 2016, the median income grew by 19.12% for Idaho and 20.66% for the county. For the same period, the Consumer Price Index (CPI), a measure of inflation, increased by only 10.08%.[8] This suggests that there have been substantive income increases even after accounting for inflation. It is also noted that the county's income levels tend to be higher than that of the state. The Census Bureau recently began to publish this data series for Idaho Falls in its 1-year supplemental estimates. Idaho Falls median household income was $60,170 in 2016, very close to the county level.

FIGURE 3: UNEMPLOYMENT RATE



Source: Bureau of Labor Statistics Local Area Unemployment Statistics. Unit: %. Note: Not seasonally adjusted.

FIGURE 4: MEDIAN HOUSEHOLD INCOME ($)



Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates; Dollars not adjusted for inflation.

HOUSING NEEDS ASSESSMENT

Housing demand is measured directly by the number of households rather than that of population.[9] In other words, housing units are needed to match the number of households, not a population figure.

How can the number of households be forecasted for future years? While there may be various ways of doing this, this study produces two streams of household forecasts based on two data sources, both of which originated from the Census Bureau: 1) the latest decennial census conducted in 2010 and 2) the annual American Community Survey (ACS). These two data sources complement each other; the decennial census is accurate for the year conducted as it obtains responses from the entire population, but is outdated over time (the last time it was conducted is 2010). The ACS is current as its one-year estimates are published every year, but limited as it surveys only a chosen sample drawn from an entire population and is therefore subject to sampling errors.

HOUSEHOLD FORECAST BASED ON DECENNIAL CENSUS

The forecast of households based on the decennial census proceeds as follows: First, calculate a headship rate for 2010 from the decennial census. As not every single person forms one household, knowing how many households are formed from the population requires the use of the headship rate, the number of households per one adult person.[10] The headship rate is obtained by dividing the number of households by that of the adult population. Second, estimate the number of households by multiplying the headship rate to that of adult population for past years through 2016. Third, forecast the number of households over upcoming years through 2023 by the method of simple regression.

Forecasting Method

1. # households / adult population

2. # households = headship rate * adult population through 2016

3. estimate through 2023 with regression

TABLE 1: HEADSHIP RATES BY 2010 DECENNIAL CENSUS

	U.S. Nationwide	Idaho	Bonneville County
Households	116,716,467	579,408	36,629
Adult Population (age 20 or older)	225,477,982	1,092,301	68,883
Headship Rate	0.5176	0.5304	0.5317

Source: U.S. Census Bureau, 2010 Decennial Census, Summary File 1. DP-1, Profile of General Population and Housing Characteristics

As a first step towards household forecast, headship rates are calculated below for different levels. It is 0.51 for the whole nation, while it is around 0.53 for the state of Idaho and Bonneville County. The headship rate for the county means that one adult person in this county tends to form 0.53 household as of 2010, which is higher than that for the whole United States. As the unit of this rate is one adult person, the number of households for a certain subsequent year can easily be estimated by multiplying this rate by the number of adults in the population for the subsequent year.

Table 2 shows how many households are owner households and how many of them are renter households in Bonneville County in 2010. The decennial census does not offer the number of owner households and that of renter households separately. Yet the number of total households and that of occupied housing units in the decennial census are always the same (this is also the case in the ACS data series). The number of owner households is taken from that of owner-occupied housing units and the number of renter households is taken from that of renter-occupied units. Among a total 36,629 households in 2010, 26,336 households are owner households (71.90%) and 10,293 are renter households (28.10%).

The 2010 decennial census does not provide household information for subsequent years since 2011. Thus, as a second step, estimating the number of households by multiplying the headship rate calculated above for 2010 with the number of adults in the population for the subsequent years is necessary. Data informing the size of adult populations (age 20 or older) for 2010 - 2016 are obtained from a separate data series of the Census Bureau. Adult population in the county grew from 69,179 in 2010 to 74,711 in 2016.

The number of households estimated is shown in table 3. Note that the estimated number for 2010, 36,786, is very close to the 36,629 found in the 2010 decennial census in a previous table. To estimate the number of households for 2016, multiply adult population (74,711) by the county headship rate (0.5317) for a result of 39,728 (=74,711*0.5317). The number of owner households is estimated by applying the share of owner households in the decennial census (71.90%) to the estimate of total households: 28,564 for 2016. In the same way, the share of renter households in the decennial census (28.10%) is applied

TABLE 2: HOUSEHOLDS AND HOUSING TENURE, BONNEVILLE COUNTY

Households	Housing Tenure	2010 Decennial Census
Total Households	Occupied Housing Units	36,629
Owner Households	Owner-Occupied	26,336
% Owner Households	% Owner-Occupied	71.90%
Renter Households	Renter-Occupied	10,293
% Renter Households	% Renter Occupied	28.10%

Source: U.S. Census Bureau, 2010 Decennial Census, Summary File 1. DP-1, Profile of General Population and Housing Characteristics for Bonneville County

TABLE 3: ESTIMATED NUMBER OF HOUSEHOLDS

Bonneville County	2010	2011	2012	2013	2014	2015	2016
Adult Population (age 20 or older)	69,179	70,020	70,774	71,202	72,061	73,317	74,711
Estimated Total Households	36,786	37,233	37,634	37,862	38,318	38,986	39,728
Estimated Owner Households	26,449	26,770	27,058	27,222	27,551	28,031	28,564
Estimated Renter Households	10,337	10,462	10,575	10,639	10,767	10,955	11,163

Source: Retrieved from Rand State Statistics, data series "State & County Resident Population by Multi-race/Ethnicity and Age Group," originated from the U.S. Census Bureau

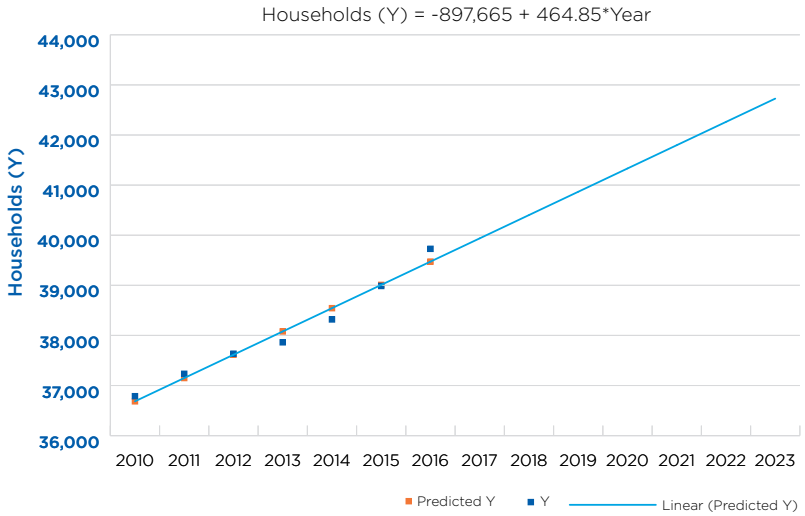
to the estimate of total households to obtain the number of renter households: 11,163 for 2016. As mentioned above, households are used as a direct measure of housing demand and housing units are needed to match the number of households: so, a total 39,728 units were needed in 2016. This number breaks down to 28,564 owner homes and 11,163 rental units.

The last step is forecasting the number of households for future years using the method of simple regression, a widely popular method in social science. By this method, a line, known as a regression line or model, is fitted on households for the past seven years (2010 - 2016), which turns out to be Households (Y) = - 897,665 + 464.85*Year.[11] Extending this line through 2023 produces forecasts of future households over the next seven years (2017 – 2023).

The forecasted households from 2017 through 2023 are listed in the table below. Specifically, the number of households estimated for 2017 is 39,937. This number is forecasted to keep growing consistent with the upward pattern observed in the past seven years. The forecast for 2023 is 42,726 households, implying that this is the number of housing units in total that would be needed by then.

It should be noted that the forecasts produced here are for informational purposes only. The actual number of future households always has the potential to turn out substantially different from these forecasts, depending on external factors such as economic recessions and how they play out down the road. An economic recession has potential to change a forecasted trajectory. Accordingly, any future forecasts, including those produced in this study, should be interpreted or used with caution.

FIGURE 5: HOUSEHOLDS FORECASTED BASED ON DECENNIAL CENSUS, 2017-2023



HOUSEHOLD FORECAST BASED ON AMERICAN COMMUNITY SURVEY

Household forecast for future years can alternatively be obtained with the Census Bureau's other data series, the American Community Survey (ACS). Its one-year estimates of total households are current, as they are published annually for Bonneville County. The number of total households estimated by the ACS is shown in the table below. The number for 2010 is 35,003, which is an underestimate compared with the number of total households indicated by the decennial census (36,629).[12]

There were a total of 38,464 households as of 2016, which means that at least this number of housing units is needed for the households to live in. With total households divided by the adult population, headship rates can be calculated for each year. The county headship rate for 2010 based on ACS is 0.5059, which is lower than the one obtained from the 2010 decennial census (0.5317). The headship rate averaged over the years is 0.5107.

Household composition by owner or renter households appears below. The number of owner households is taken from that of owner-occupied units, while the number of renter households is taken from that of renter-occupied units. The average percentage of owner households is 71.32%, while that of renter households is 28.67%. Among a total 38,464 households estimated for 2016, owner households were 26,800, while renter households were 11,664. Taken as housing demand, a total of 38,464 housing units were needed: 26,800 owner homes and 11,664 rental units.

TABLE 4: HOUSEHOLDS FORECASTED BASED ON 2010 DECENNIAL CENSUS, 2017-2023

Year	2010	2011	2012	2013	2014	2015	2016
Estimated Households	36,786	37,233	37,634	37,862	38,318	38,986	39,728

Year	2017	2018	2019	2020	2021	2022	2023
Estimated Households (by regression)	39,937	40,402	40,867	41,332	41,796	42,261	42,726

TABLE 5: HOUSEHOLDS, ADULT POPULATIONS AND HEADSHIP RATES, BONNEVILLE COUNTY

Year	2010	2011	2012	2013	2014	2015	2016
Total Households	35,003	36,538	36,076	36,806	36,420	36,702	38,464
Adult Population (age 20 or older)	69,179	70,020	70,774	71,202	72,061	73,317	74,711
Headship Rates (Mean= 0.5107)	0.5059	0.5218	0.5097	0.5169	0.5054	0.5005	0.5148

Source for Total Households: ACS 1-year estimates, S1101 HOUSEHOLDS AND FAMILIES
Source for Adult Population: Retreived from Rand State Statistics, data series "State & County Resident Population by Multi-race/Ethnicity and age Group," originated from the U.S. Census Bureau

To produce household forecasts, a regression line is fitted on the number of total households, 2010 – 2016, and then extended to 2023. The line is defined by Households (Y) = - 758,203 + 394.82*Year.[13]

The forecasts of households for 2017 – 2023 are shown below. A total of 38,148 households are forecasted for 2017. This is projected to keep growing, so that a total 40,517 households are forecasted by 2023. Supposing that this forecast is correct, this number of housing units would be necessary in total by 2023.

Again, it is noted that these forecasts are generated for informational purposes only. They are helpful to envision what the future housing demand could generally look like; yet there is no guarantee that they will be confirmed down the road. Forecasting the future is always imperfect as the future is greatly affected by a variety of unexpected or uncontrollable incidents.

TABLE 6: HOUSEHOLDS AND HOUSING TENURE BY ACS, BONNEVILLE COUNTY

Households	2010	2011	2012	2013	2014	2015	2016
Total Households	35,003	36,538	36,076	36,806	36,420	36,702	38,464
Owner Households	25,714	25,956	26,980	26,144	26,052	24,863	26,800
% Owner Households	73.46%	71.04%	74.79%	71.03%	71.53%	67.74%	69.68%
Renter Households	9,289	10,582	9,096	10,662	10,368	11,839	11,664
% Renter Households	26.54%	28.96%	25.21%	28.97%	32.26%	32.26%	30.32%

Source: Missouri Census Data Center (2018), *ACS Trends* [dataset application]. Note: 1-year estimates.

FIGURE 6: HOUSEHOLDS FORECASTED BASED ON ACS, 2017-2023

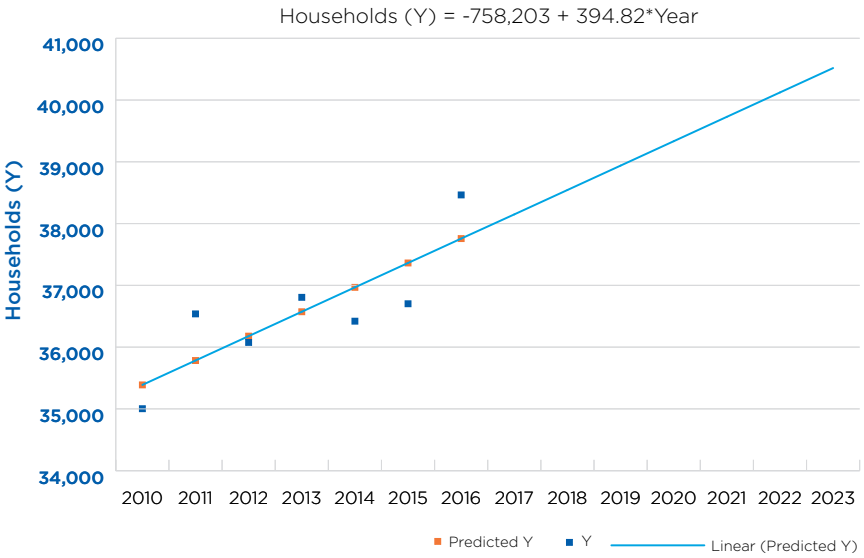


TABLE 7: HOUSEHOLDS FORECASTED BASED ON ACS, 2017-2023

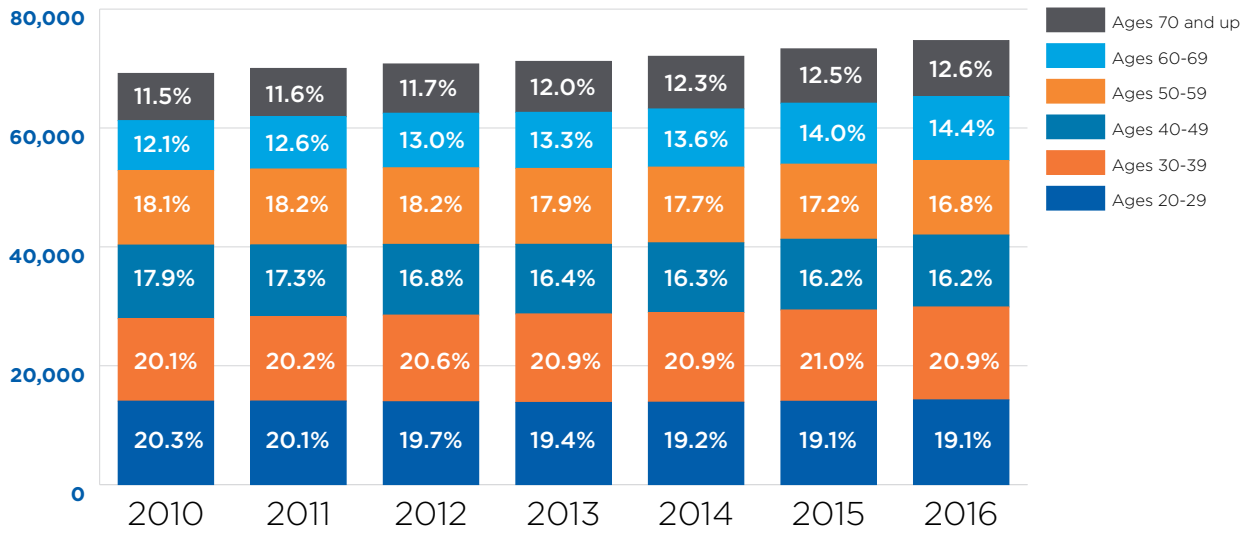
Year	2010	2011	2012	2013	2014	2015	2016
Estimated Households	35,003	36,538	36,076	36,806	36,420	36,702	38,464
Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Estimated Households (by regression)	38,148	38,543	38,938	39,333	39,728	40,123	40,517

ADDITIONAL ANALYSIS OF HOUSING NEEDS

Additional analysis is conducted regarding housing needs. Figure 7 shows population by age groups for Bonneville County. It is known that the headship rate of young adults (age 20 - 29) tends to be low, meaning that they do not form as many households as older adults. Many of them are living with parents or have chosen not to marry yet.[14] Young adults (age 20 - 29) in the county has remained around 14,000 since 2010 through recent years. Populations of three age groups (age 30-39, age 60-69, age 70 or older), which are known to have a higher tendency of forming households[15] continue to rise. In particular, the population group aged 30-39 increased from 13,874 in 2010 to 15,634 in 2016. The group aged 60-69 grew from 8,404 in 2010 to 10,776 in 2016. The group aged 70 or older also increased from 7,932 in 2010 to 9,414 in 2016. These three age groups are likely to form households greater than young adults (age 20 - 29) possibly due to marriages (age 30-39) or separation with spouses (age 60-69, age 70 or older). The latter leads to formation of one-person households. Overall, the growth of the three age groups in the county implies a stronger demand for new housing units.

Has Bonneville County gained population? If so, what is a main driver of the changes? The county gained a total 1,150 residents during July 1, 2010 – July 1, 2011. It attracted the smallest number of new residents (653 residents) during July 1, 2012 – July 1, 2013. The pace of population growth has gone faster since then: e.g., 1,073 residents added

FIGURE 7: ADULT POPULATION BY AGE GROUPS, BONNEVILLE COUNTY

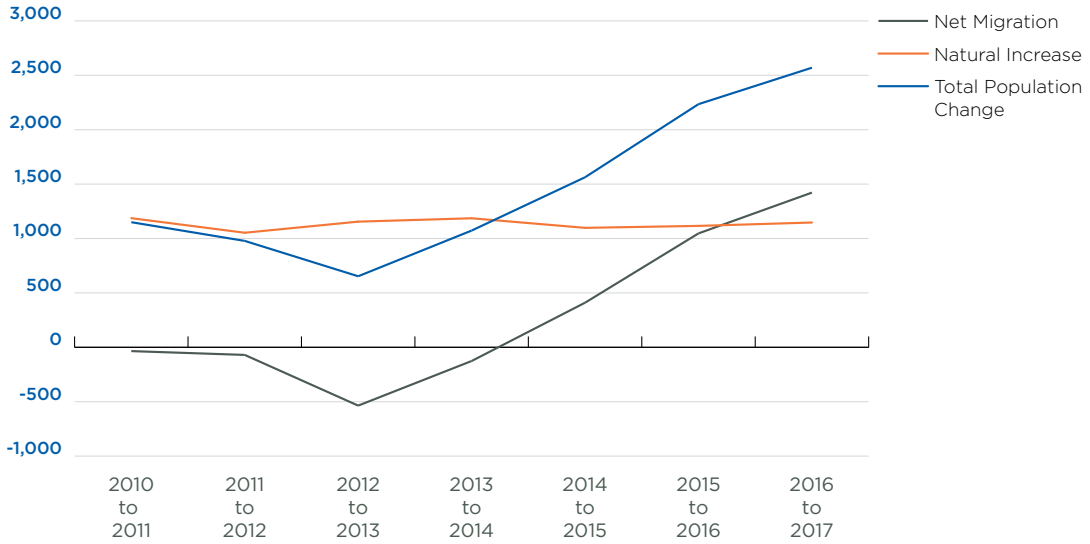


Source: Retrieved from RAND State Statistics (data series "State & County Resident Population by Multi-race/Ethnicity and Age Group"); originated from the U.S Census Bureau.

during July 1, 2013 – July 1, 2014 and 2,570 during July 1, 2016 – July 1, 2017. Which cause drove the growth - natural increase (births less deaths) or net in-migration from another jurisdiction (in-migration less out-migration)? Natural increase tends to be stable above 1,000. Net in-migration was negative (a greater number of people having moved out than the number of people having moved in) in the first four years ending 2014. The annual period ending 2013 was particularly severe (net out-migration: 536 residents). Then, the trend was quickly reversed. Positive net in-migration is observed during the annual period ending 2016 (1,047 residents added) and during July 1, 2016 – July 1, 2017 (1,422 residents added).

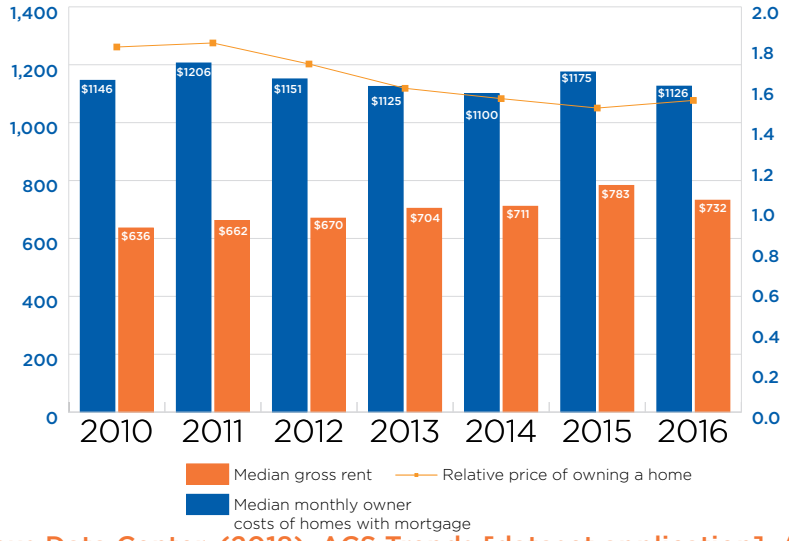
Total population changes were positive from July 1, 2012 through July 1, 2013 due to a positive natural increase despite the negative net in-migration. Interestingly, it turns out that it is net in-migration that is directly associated with total population changes (correlation coefficient = 0.9972). Population growth driven by positive net in-migration

FIGURE 8: POPULATION CHANGES BY CAUSE, BONNEVILLE COUNTY



Source: U.S. Census Bureau, Population Division. Estimates of the Components of Resident Population Change (PEPTCOMP). Unit: person.

FIGURE 9: RELATIVE PRICE OF OWNING A HOME, BONNEVILLE COUNTY



Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates; Dollars (owner costs, gross rent) not adjusted for inflation.

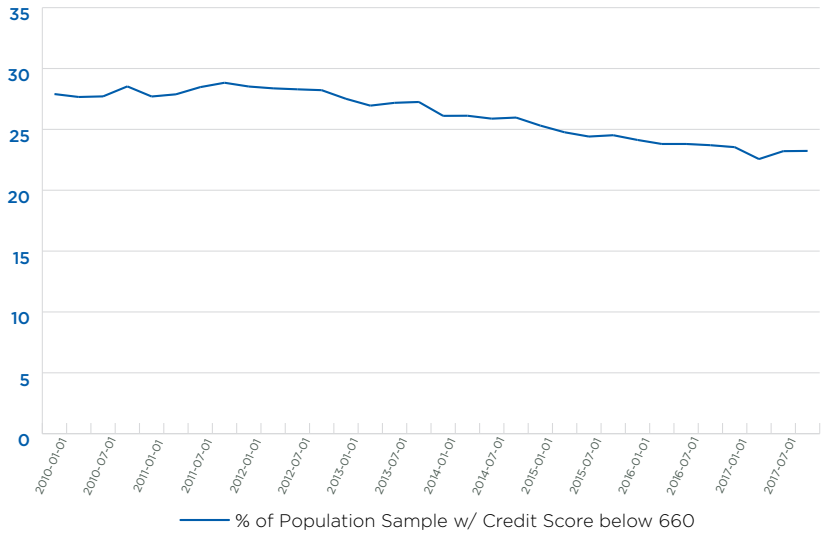
is likely to be highly associated with the demand towards housing, because those households moving in need places to live in, whereas the growth from recent births would be less so, as recent births are a part of the existing households of their parents.

Informed by the literature arguing that the relative price of owning a house can affect households' decisions between buying and renting,[16] relative prices of owning are illustrated in figure 9. Median monthly owner costs and median gross rent are shown in the primary axis, while the relative prices, i.e., the output of median owner costs for housing units with a mortgage divided by median gross rent, are shown in the secondary axis. A higher value of this output implies a stronger demand for rentals, whereas a lower value indicates a weaker rental demand because the relative price of owning decreases. The relative price goes down from 1.80 in 2010 to 1.53 in 2016, which may signal a stronger demand toward homeownership.

The subprime credit population is shown quarterly from the beginning of 2010 through the fourth quarter of 2017 in figure 10. The percentage population in Bonneville County with a credit score below 660 declines over time. To be specific, 27.90% of county residents are known to have a credit score below 660 in the first quarter 2010. As of the fourth quarter of 2017, 23.23% of the residents are thought to have a credit score below 660. The improvement in personal credit ratings suggests a greater debt/mortgage capacity for those who consider buying, thus potentially a greater demand towards home buying.

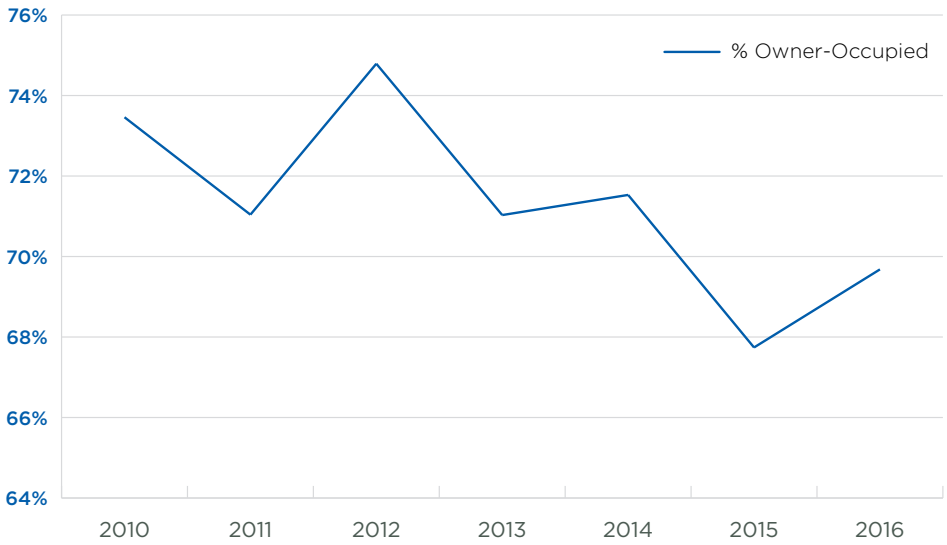
Homeownership rate is defined as the share of owner households out of total households.[17] Homeownership rate declines since 2010 despite a V-shape over a period of two years, meaning that a drop in a year leads to a rise in the subsequent year. The county reaches 73.46% in 2010 and 74.79% in 2012. It is lowest (67.74%) in 2015 and second lowest (69.68%) in 2016.

FIGURE 10: EQUIFAX SUBPRIME CREDIT POPULATION, BONNEVILLE COUNTY



Source: Federal Reserve Bank of New York and Equifax, Equifax Subprime Credit Population for Bonneville County, ID [EQFXSUBPRIME016019], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/EQFXSUBPRIME016019, accessed on May 15, 2018. Note: Quarterly; Not seasonally adjusted.

FIGURE 11: HOME OWNERSHIP RATE, BONNEVILLE COUNTY



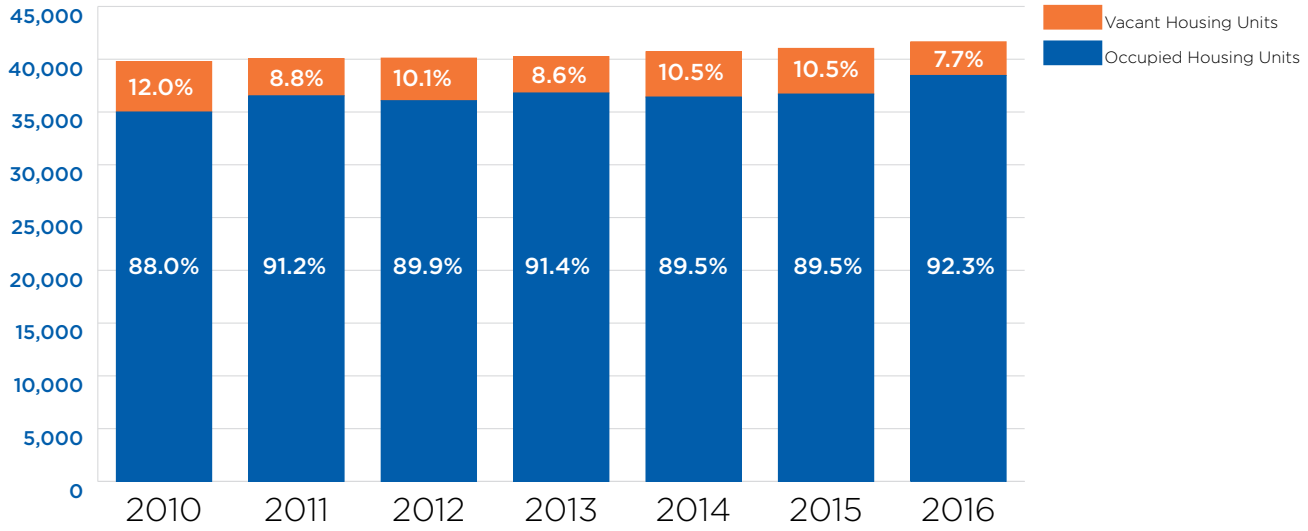
Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates.

THE CURRENT HOUSING INVENTORY

Figure 12 shows how many housing units exist in Bonneville County and how many among them were vacant or occupied. Of the total 39,782 units that existed in 2010, 35,003 were occupied (87.98%), while 4,779 were vacant (12.01%). The total number of units increased to 41,652 in 2016. Relative to 2010, more units were occupied, 38,464, in 2016 (92.34%), while fewer units were vacant, 3,188 (7.65%).

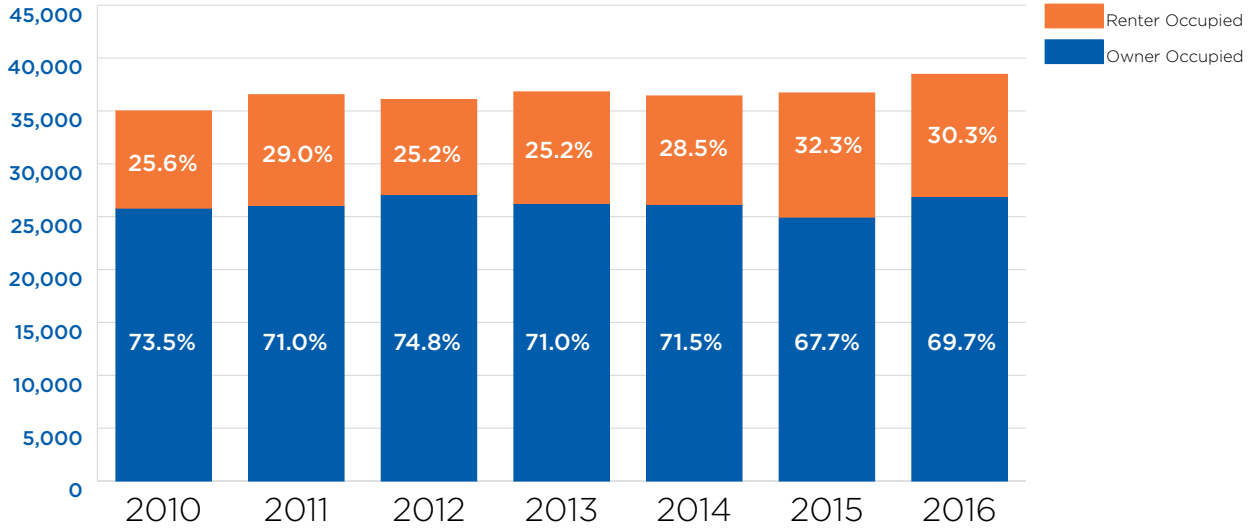
Among a total 35,003 occupied units in 2010, 25,714 units were occupied by owners (figure 13). The rest, 9,289 units, were occupied by renters. A total 38,464 units were occupied in 2016, among which 26,800 units were owner-occupied and 11,664 units were renter-occupied.

FIGURE 12: TOTAL HOUSING UNITS, BONNEVILLE COUNTY



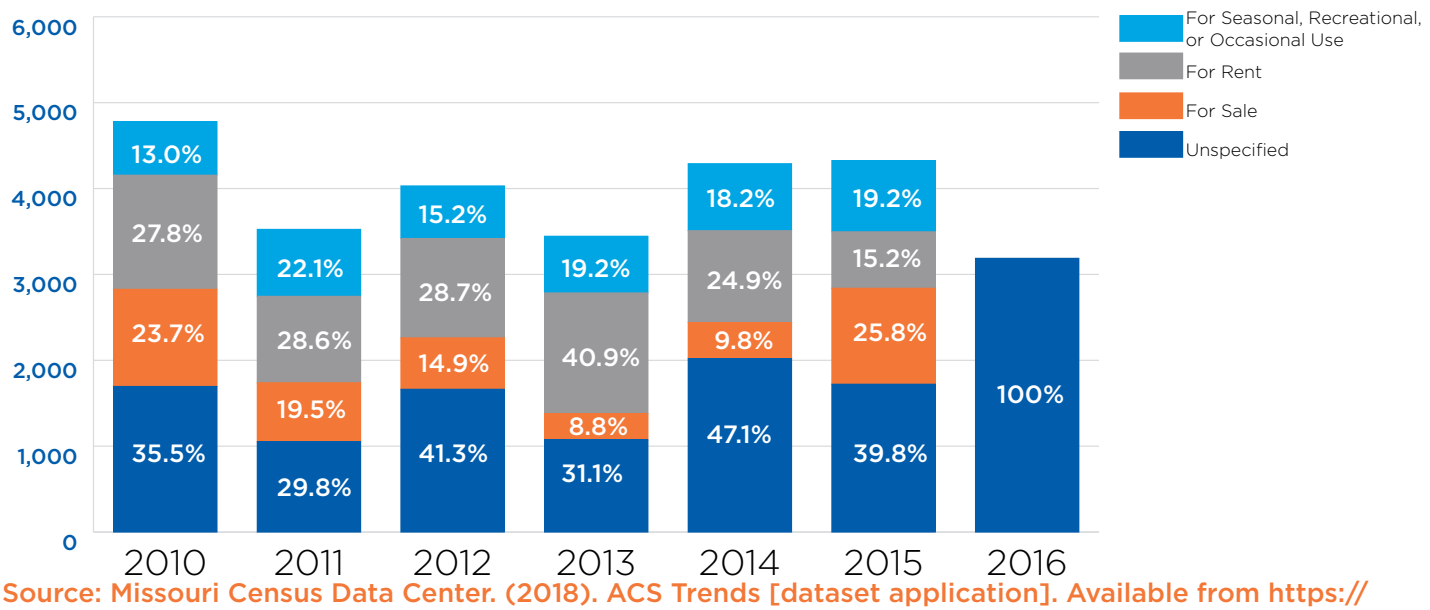
Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates.

FIGURE 13: OCCUPIED HOUSING UNITS, BONNEVILLE COUNTY



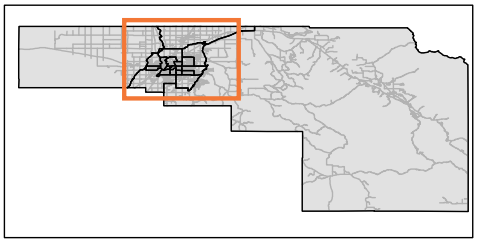
Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates.

FIGURE 14: VACANT HOUSING UNITS, BONNEVILLE COUNTY

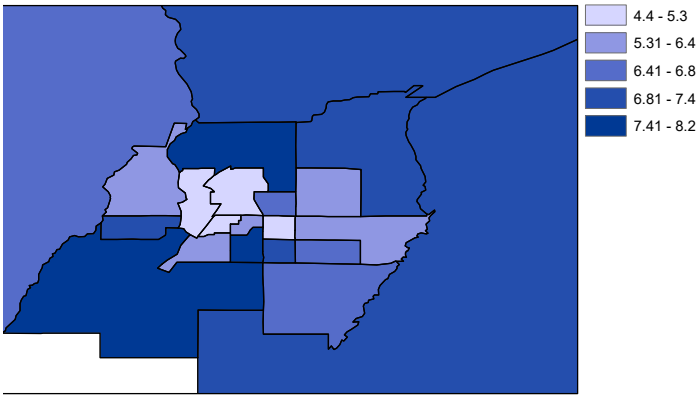


Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates.

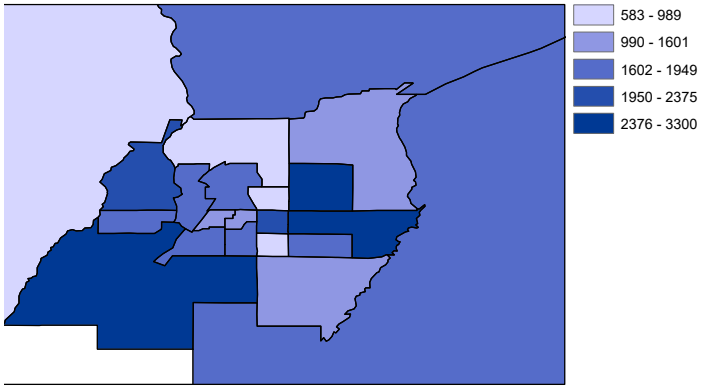
Out of a total 4,779 vacant units in 2010, 1,131 units were for sale and 1,329 units were for rent. By 2015, 4,326 units were vacant: 1,117 units among them were for sale, while the remaining 658 units were for rent. A total 3,188 units were vacant in 2016.



MAP 2: MEDIAN NUMBER OF ROOMS PER UNIT

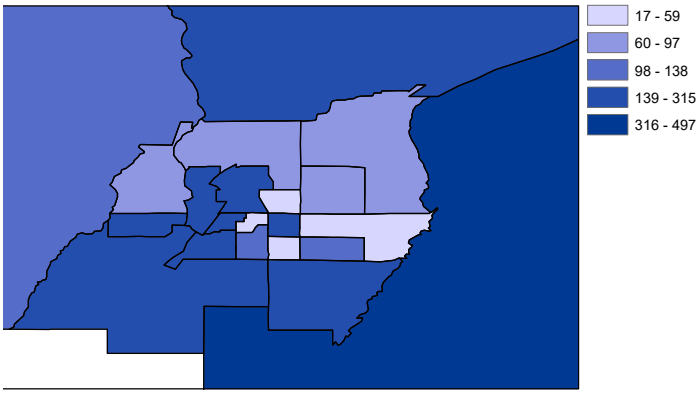


MAP 3: OCCUPIED HOUSING UNITS

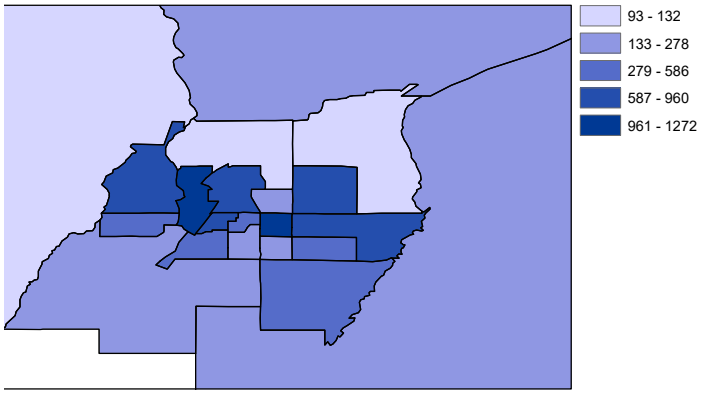


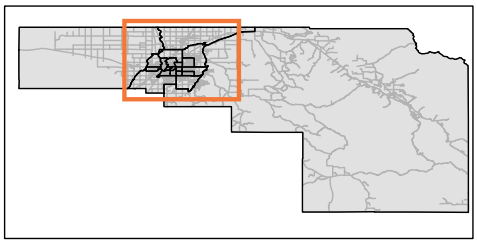
Source: Census Bureau. 2012-2016 ACS 5-year estimates (DP04: Selected Housing Characteristics). Note: ACS 5-year estimates are not comparable with 1-year estimates.]

MAP 4: VACANT HOUSING UNITS

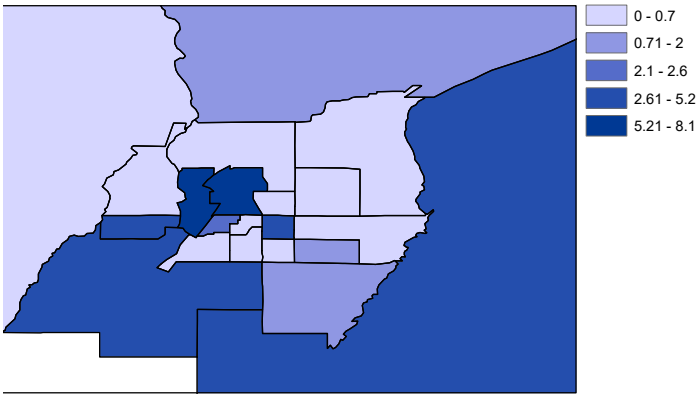


MAP 5: RENTER OCCUPIED UNITS

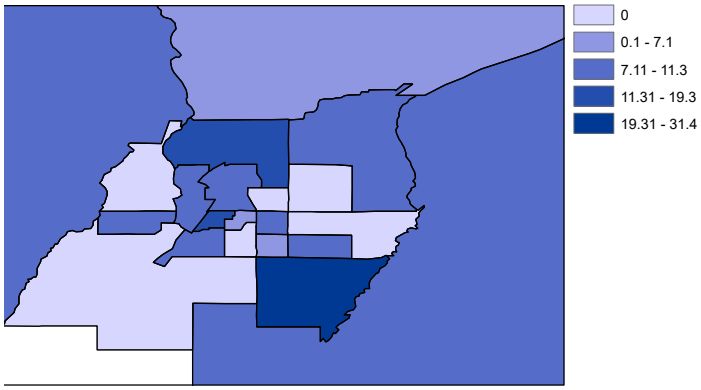




MAP 6: HOMEOWNER VACANCY RATE (%)

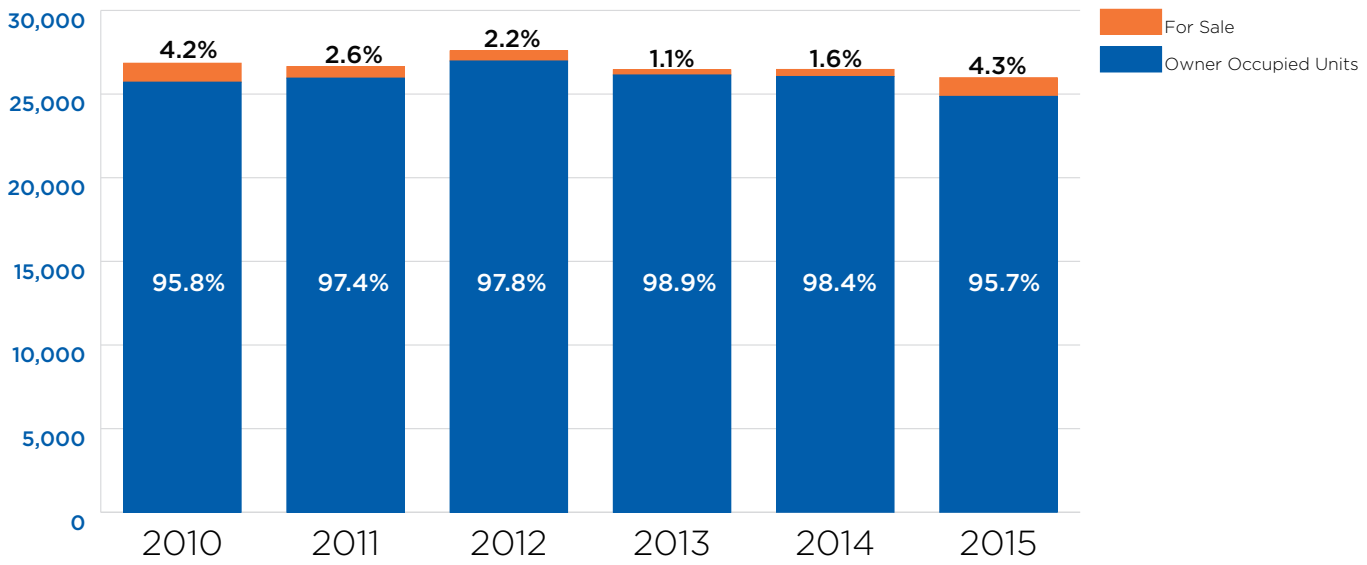


MAP 7: RENTAL VACANCY RATE (%)



Source: Census Bureau. 2012-2016 ACS 5-year estimates (DP04: Selected Housing Characteristics).
Note: ACS 5-year estimates are not comparable with 1-year estimates.]

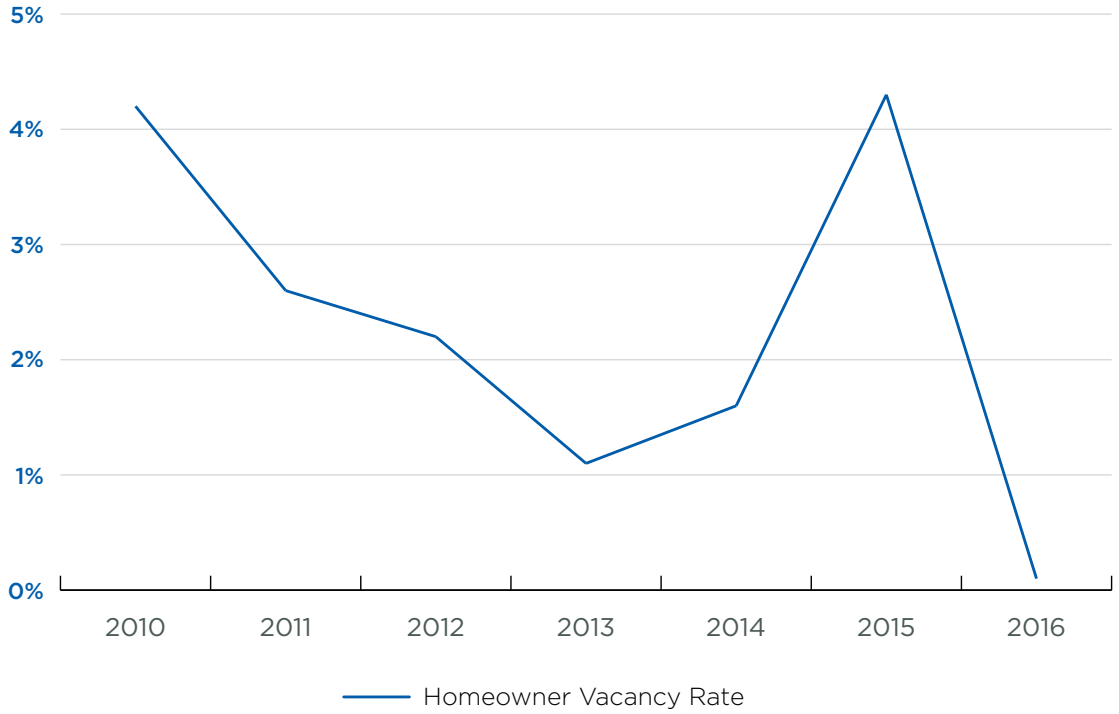
FIGURE 15: TOTAL OWNER UNITS, BONNEVILLE COUNTY



Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates.

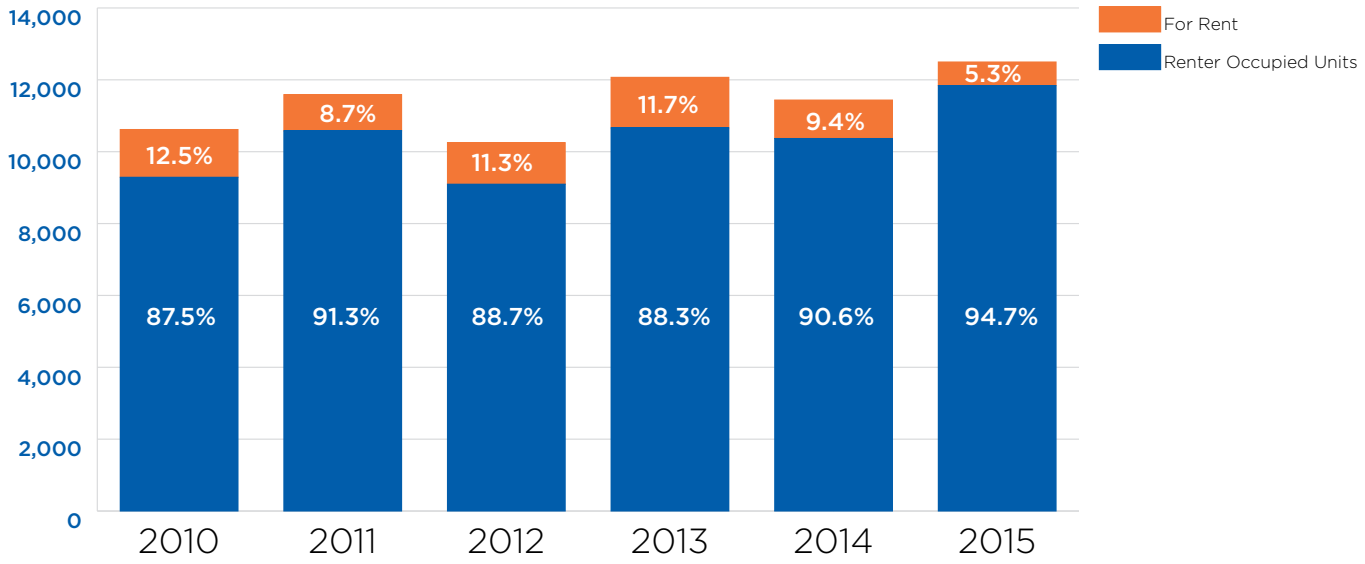
Figures 15 and 16 show how homeowner vacancy rate for Bonneville County changes. Total owner units and vacant units on market for sale are on the primary axis. Homeowner vacancy rate is on the secondary axis. Total owner units, the sum of owner-occupied units and vacant units on market for sale, was 26,845 in 2010. In the same year, 1,131 vacant units were for sale. Homeowner vacancy rate is the percentage share of vacant units for sale out of total owner units, which was 4.2% in 2010. The rate was 4.3% in 2015. Interestingly, the vacancy rate dropped in 2016 to 0.1%, suggesting that the market for home buying was very tight.

FIGURE 16: HOMEOWNER VACANCY RATE (%), BONNEVILLE COUNTY



Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates.

FIGURE 17: TOTAL RENTAL UNITS, BONNEVILLE COUNTY

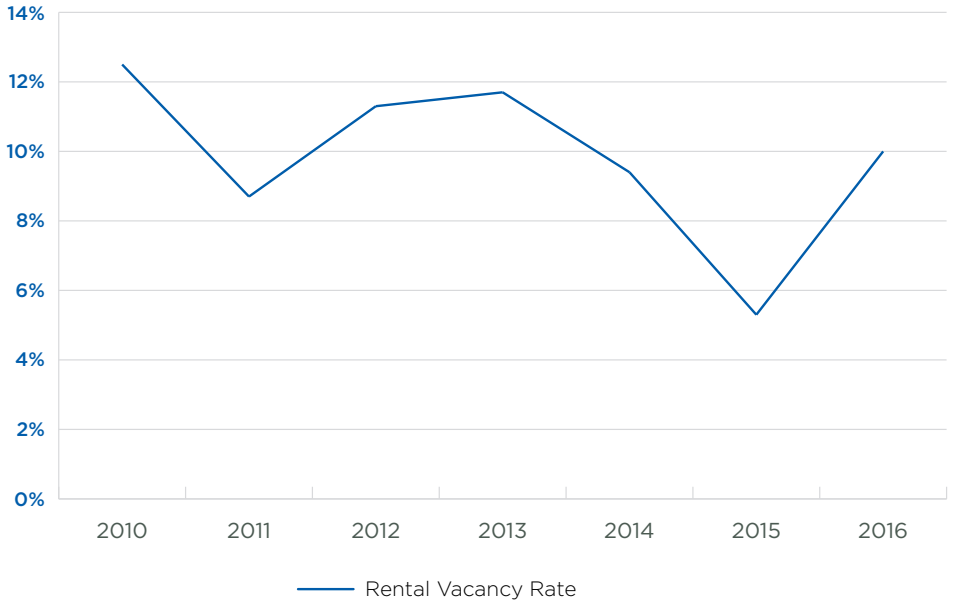


Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates.

Total rental units and vacant units for rent are found in figure 17. Figure 18 shows the rental vacancy rate. Total rental units are the sum of renter-occupied units and vacant units for rent. Rental vacancy rate is defined as the percentage of vacant units for rent out of total rental units. The rate was 12.5% in 2010; it then goes down to 5.3% by 2015. Yet, it is observed that the rate came back to a two-digit rate, 10%, in 2016.

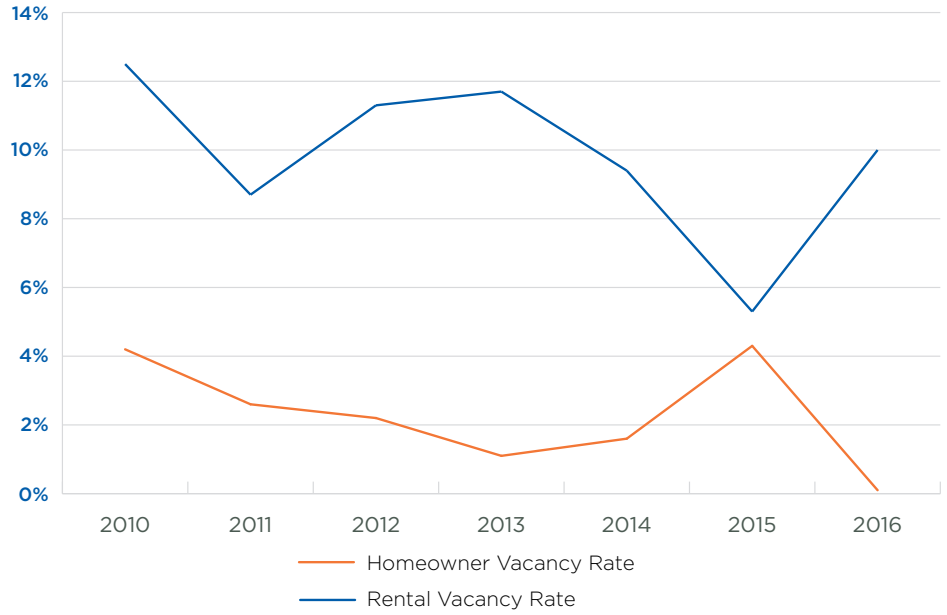
The two vacancy rates are compared in figure 19. It appears that homeowner and rental vacancy rates are inversely associated; that is, when one goes up, the other goes down. This association is clear during the transition from 2015 to 2016.

FIGURE 18: RENTAL VACANCY RATE, BONNEVILLE COUNTY



Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates.

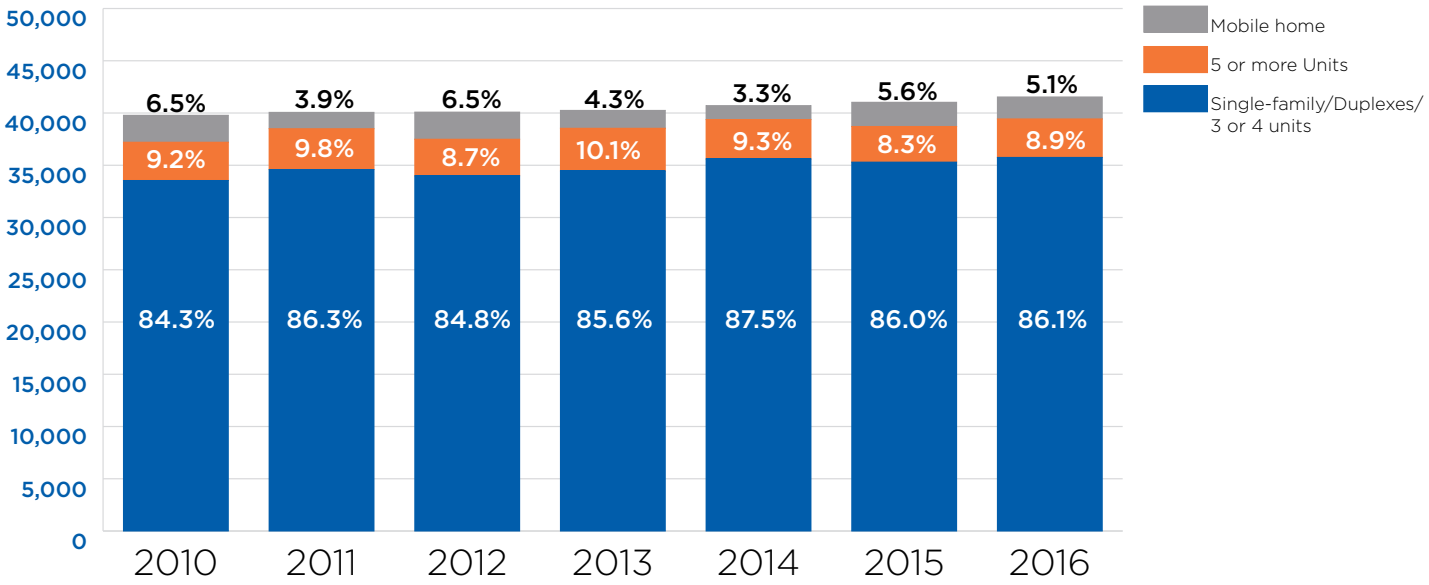
FIGURE 19: VACANCY RATE COMPARISON, BONNEVILLE COUNTY



Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates.

In Figure 20, housing structures are grouped by how many units a structure is equipped with: a structure with four or less units (mostly, single-family houses) or a structure with five or more units (mostly, apartments). As mobile homes seem to have a substantial presence in the county, their statistics are also listed. The structures with a small number of units are likely to be occupied by owner households and the structures with five or more units would typically be available for renter households. Clearly, most housing structures have a small number of units, suggesting that most structures in the county are built to accommodate owner households.

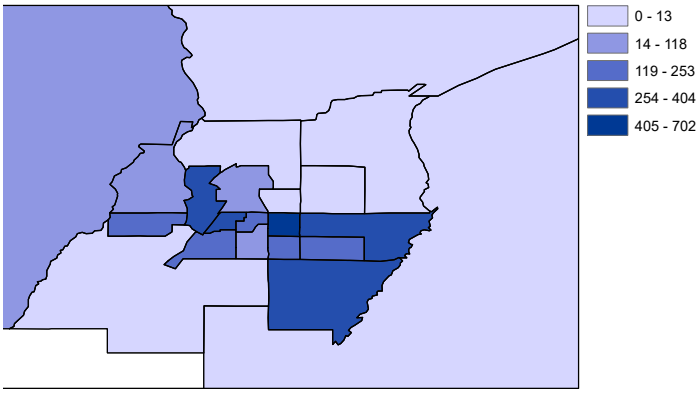
FIGURE 20: UNITS IN STRUCTURE, BONNEVILLE COUNTY



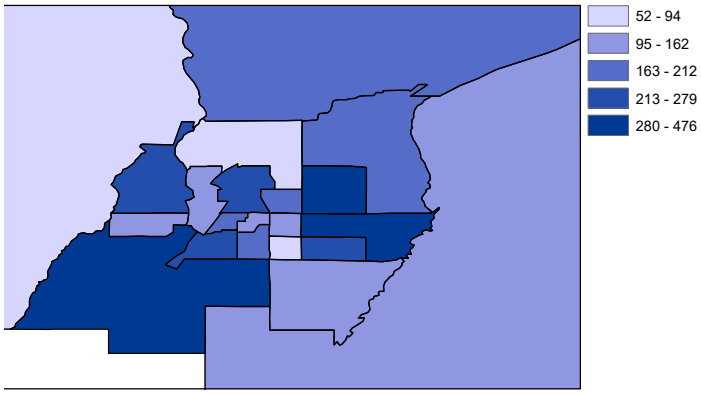
Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates.

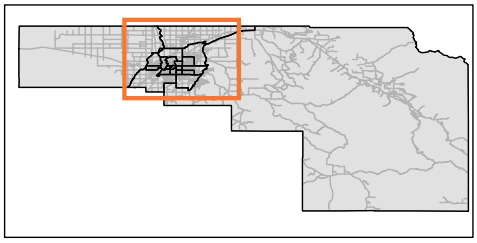
How many homes are burdened by costs (figure 21)? Home affordability may be assessed by various approaches. One of them could be whether the cost to reside in homes (owning or renting) amounts to a figure beyond approximately 30% of the household income.[18] Homes without a mortgage with nonmortgage owner costs of 30% or more of household income have remained stably below 1,000 units since 2011. Homes with a mortgage with owner costs more than 30% of household income declined from about 5,029 homes in 2012 to 3,338 homes in 2016. Rental homes that pay gross rent 30% or more of household income are highest in 2011 (5,613) and are around 4,143 units as of 2016.

MAP 8: UNITS IN STRUCTURE WITH 5+ UNITS

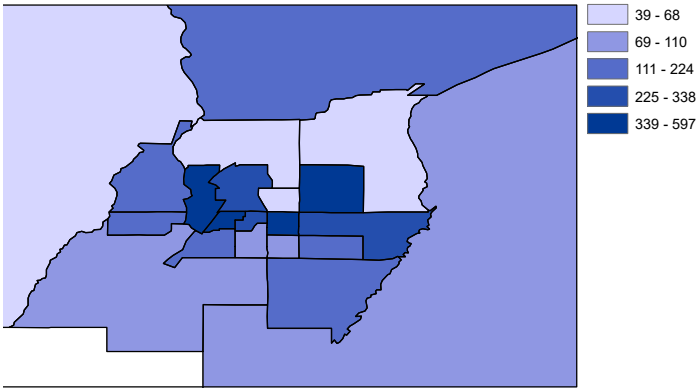


MAP 9: MONTHLY OWNER COST 30%+ OF INCOME (W/ MORTGAGE)

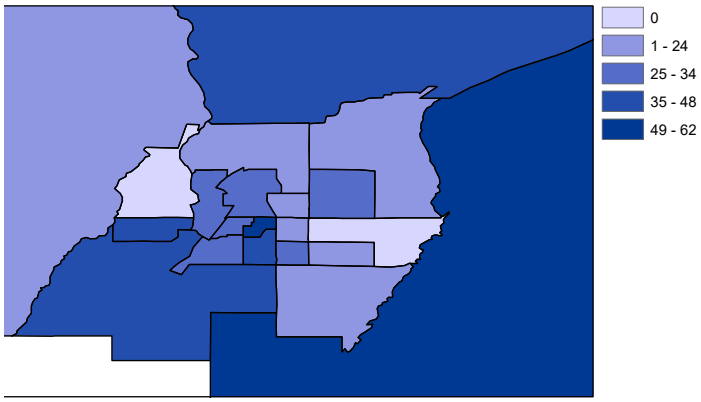




MAP 10: GROSS RENT 30%+ OF INCOME

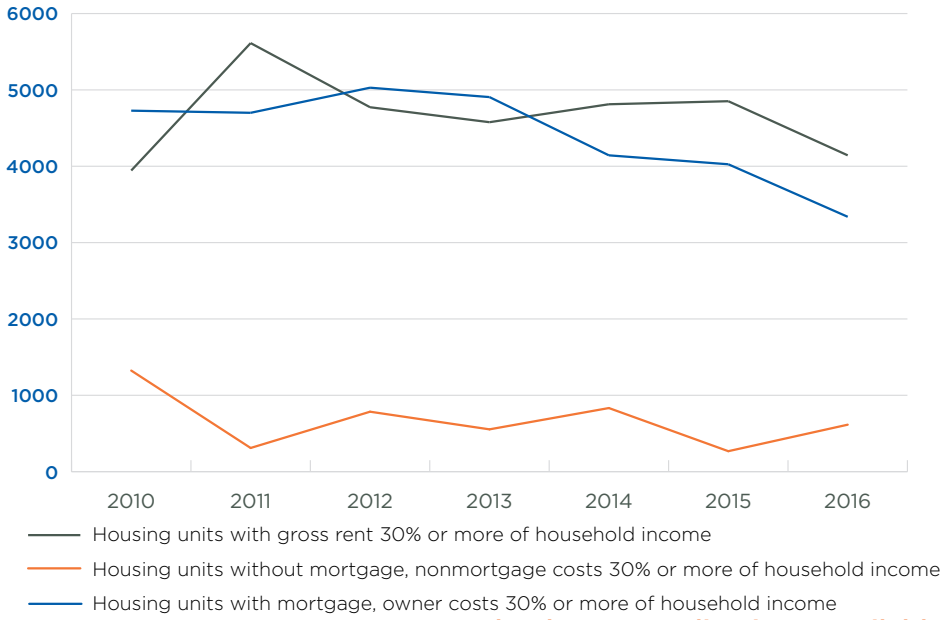


MAP 11: MONTHLY OWNER COST 30%+ OF INCOME (W/O MORTGAGE)

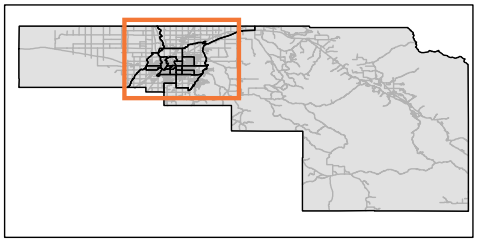


Source: Census Bureau. 2012-2016 ACS 5-year estimates (DP04: Selected Housing Characteristics).
Note: ACS 5-year estimates are not comparable with 1-year estimates.]

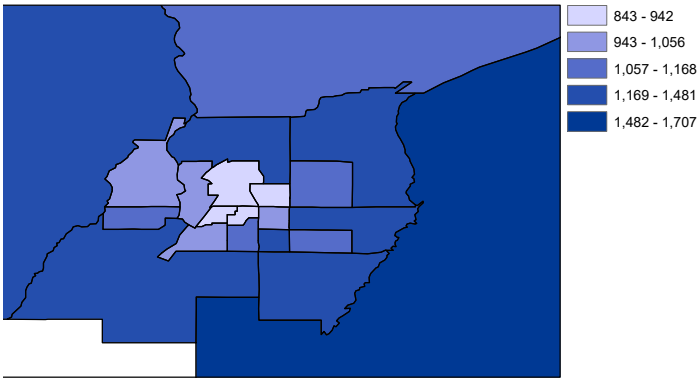
FIGURE 21: HOMES BURDENED BY COST



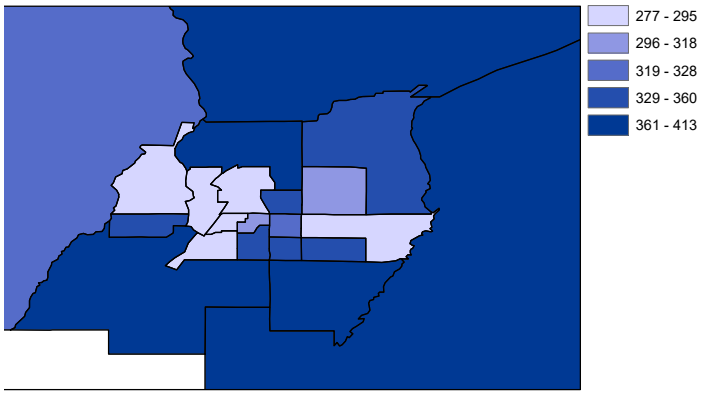
Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: 1-year estimates.



MAP 12: MEDIAN MONTHLY COST (W/ MORTGAGE)

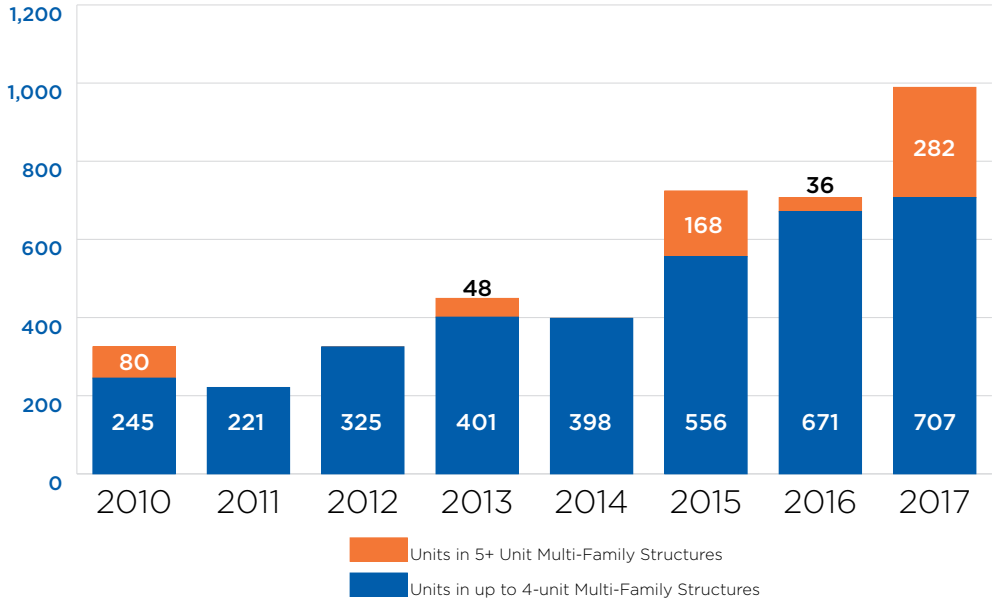


MAP 13: MEDIAN MONTHLY COST (W/O MORTGAGE)



Source: Census Bureau. 2012-2016 ACS 5-year estimates (DP04: Selected Housing Characteristics). Note: ACS 5-year estimates are not comparable with 1-year estimates.]

FIGURE 22: RESIDENTIAL BUILDING PERMITS, BONNEVILLE COUNTY



How many new units are constructed? The Building Permits Survey from the Census Bureau generates data regarding how many *residential permits* are issued. New units are increasingly built. A total of 325 units were built in 2010. 449 new units were constructed in 2013. In 2015, 724 new units were built. Remarkably, 989 new units were created in 2017. Structures with a small number of units, four or less (mostly single-family houses), and structures with five units or more (mostly apartments) have increased alike. That is, in 2010 the structures with a small number of units accounted for 245 units out of the total 325 units. The remaining 80 units consists of structures with five or more units. Small-number-units structures produced 401 new units in 2013, whereas apartments provided 48 new units. In 2015, small-number-units structures provided 556 new units, while apartments did 168 new units. Small-number-units structures afforded 707 new units in 2017, and apartments did 282 new units in the same year. In sum, most new residential construction was for those who want to own. Nonetheless, it is noteworthy that a substantial number of new apartments were built recently in 2015 and particularly in 2017.

The housing construction activities can be broken down by cities/unincorporated areas in the county: Ammon, Idaho Falls, Iona, Irwin, Swan Valley, Ucon and unincorporated areas. As no apartments were constructed since 2010 in Iona, Irwin, Swan Valley, Ucon or unincorporated areas, this study focuses on Ammon and Idaho Falls, the two major cities in the county.

By 2016, newly constructed units in Ammon were less than 100 per year, and all of them were offered in small-number-units structures. Suddenly in 2017 within just one year, 347 new units were approved. New units constructed in small-number-units structures in this year (65) were still not markedly different from those in previous years. What drove construction activities in this year was structures with five or more units, i.e., apartments (282). As small-number-units structures are typically intended for those interested in owning and apartments are intended for renters, this observation implies that the supply side of a rental housing market was created in this city.

FIGURE 23: AMMON PERMITS

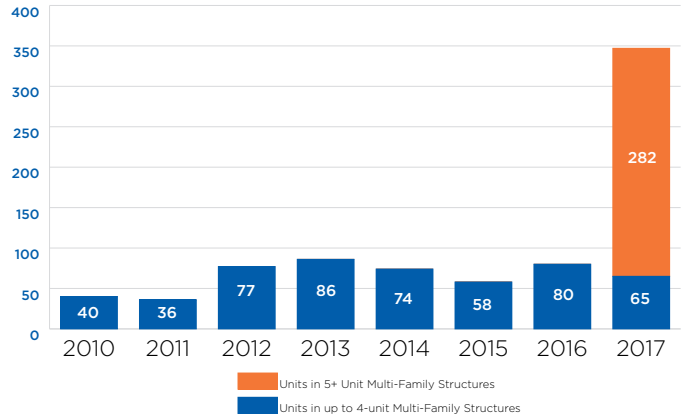


FIGURE 24: IDAHO FALLS PERMITS

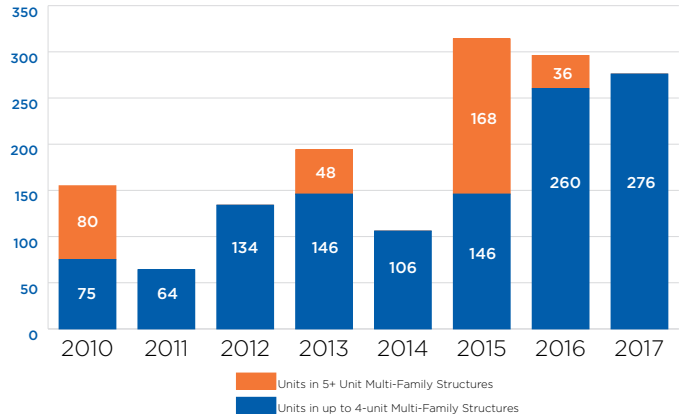


FIGURE 25: IONA PERMITS

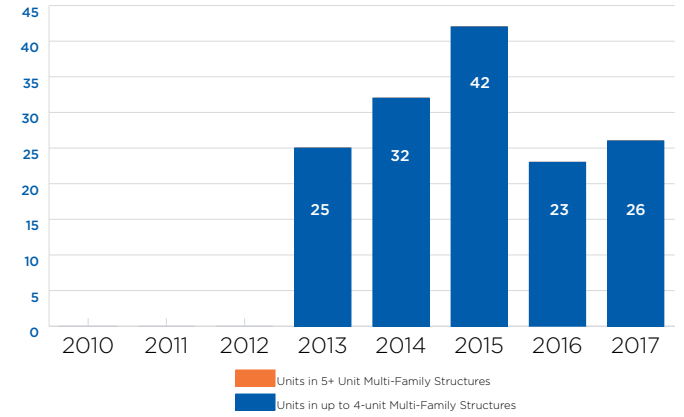


FIGURE 26: IRWIN PERMITS

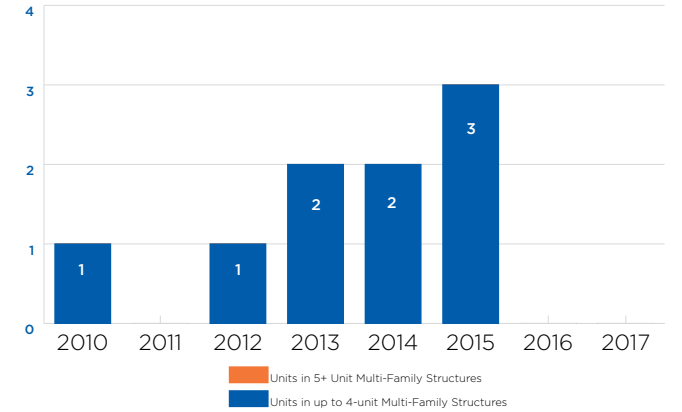


FIGURE 27: SWAN VALLEY PERMITS

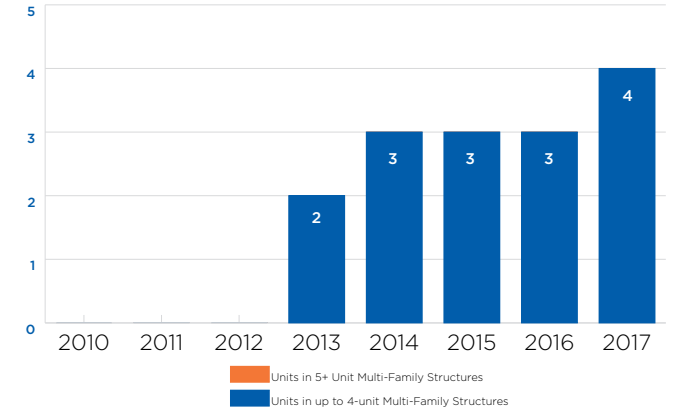


FIGURE 28: UCON PERMITS

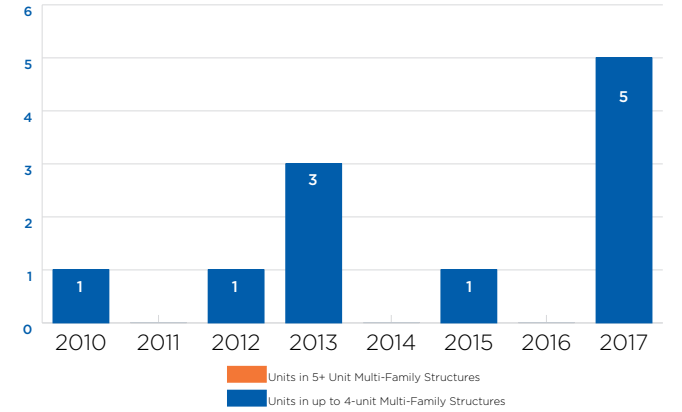
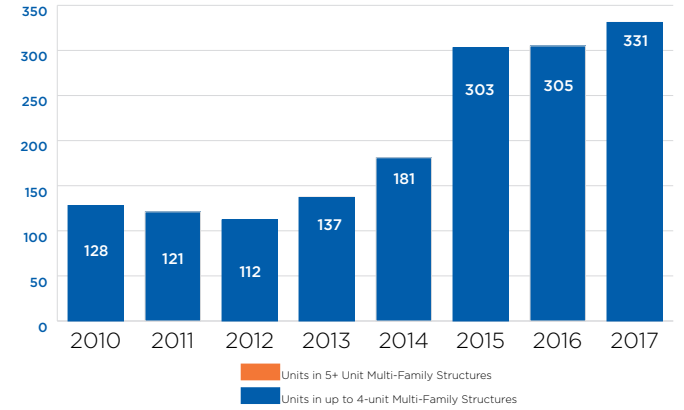


FIGURE 29: UNINCORPORATED PERMITS



Source: Retrieved from the State of the Cities Data Systems (SOCDS), HUD User Datasets, https://www.huduser.gov/portal/datasets/socds.html; originated from Building Permits Survey, Census Bureau.

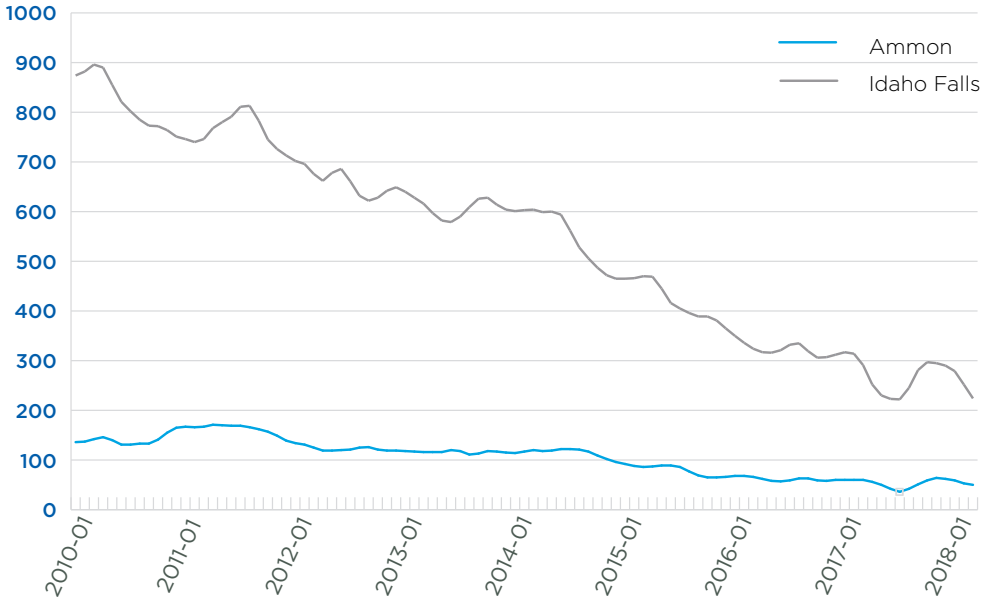
In Idaho Falls, a total 155 new units were constructed in 2010, among which small-number-units structures created 75 and structures with five or more units did 80 units. Out of a total 194 new units built in 2013, small-number-units structures accounted for 146 units and structures with five or more units accounted for 48 units. Among a total 314 new units added in 2015, 146 units were offered in small-number-units structures and 168 units were offered in structures with five or more units. Interestingly, the voluminous activities of rental construction in 2015 look somewhat isolated, as residential construction in subsequent years was driven more by small-number-units structures rather than structures with five or more units. That is, out of a total 296 new units added in 2016, units offered in small-number-units structures was 260. Only 36 units were offered in structures with five or more units. In the next year, a total 276 units were added, all of which were in small-number-units structures. No rental units seem to have been added in 2017.

What would the actual housing market look like? Zillow offers the number of homes listed on its online market for sale at the city level monthly through March 2018 for single-family homes, condominium and co-operative homes. The chart shows smoothed, seasonally adjusted counts of the inventory.[19] Inventory counts in Idaho Falls decreased, which signals a stronger demand to buy. Specifically, a total 874 available homes were listed on Zillow as of January 2010, which was then reduced to 600 homes by May 2014. Only 224 homes in Idaho Falls are currently available for sale as of March 2018. It may be that this strong competition for home buying in Idaho Falls has recently begun to impact the sales market in Ammon; i.e., 136 homes in Ammon were on the market in January 2010, and similarly 119 by May 2014. Only 50 homes are available for sale as of March 2018.

How many housing structures have accessibility features? The following table displays the list of accessibility features from Housingidaho.com.

Housingidaho.com provides a tool to search rental units listed on its website. Rental units with rent ranging from $0 to $4,000 a month were searched on May 20, 2018. Units on a

FIGURE 30: FOR SALE INVENTORY



Source: Zillow Research, https://www.zillow.com/research/data/. Unit: number of for-sale homes. Note: smoothed, seasonally adjusted.

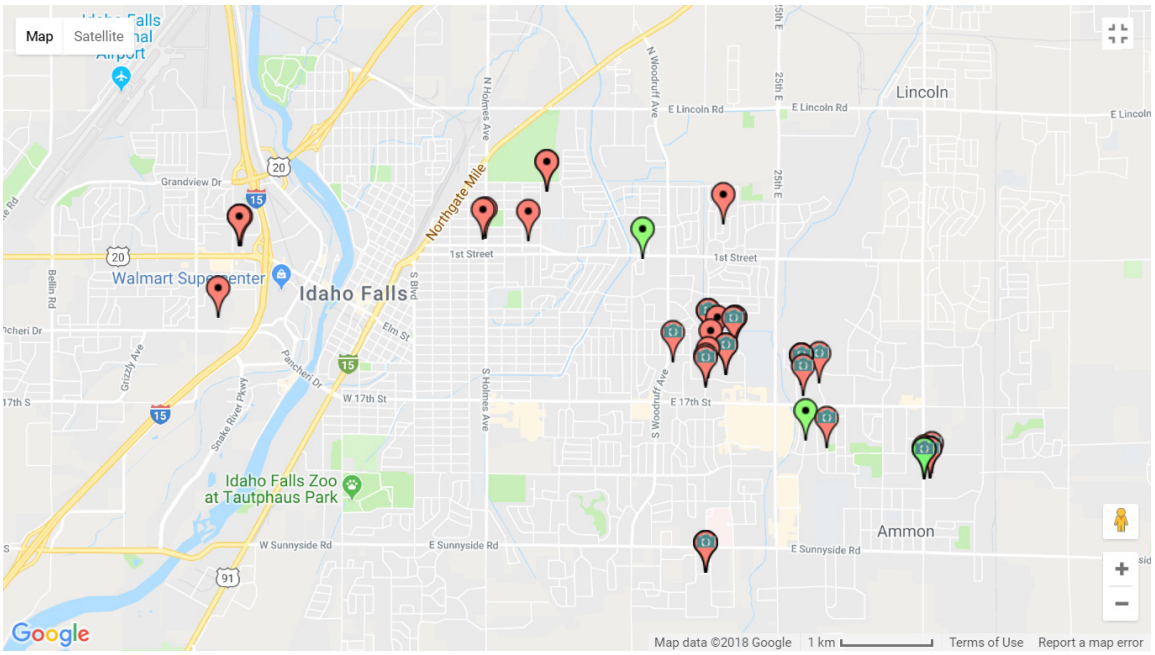
TABLE 8: ACCESSIBILITY FEATURES

Category	Features
Entry and Door Options	Accessible Parking Close to Unit Flat or No-Step Entry and/or Ramped Entry Doorways - 32” or wider Accessible Elevators Automatic Entry Door Lever Style Door Handles Unit on First Floor
Kitchen Options	Low Counter[s] Front Controls on Stove/Cook-top Minimum 27” Knee Space Under Kitchen Counter Non-digital Kitchen Appliances
Bathroom Options	Low Vanity ‘T’ Turn or 60” Turning Circle in Bathrooms Grab Bars Lowered Toilet Minimum 27” Knee Space Under Vanities Raised Toilet Reinforced for Grab Bar Roll-in Shower
Miscellaneous Options	Accessible Flooring Accessible Laundry Within Paratransit Route Sign Language Friendly

Source: www.housingidaho.com; alternatively, www.socialserve.com/tenant/ID/index.html?ch=ID

wait list were included in the search. As a result, a total 52 units were found; 40 units were shown to have some accessibility features. The locations of these 40 units appear on the following Google Map:

MAP 14: GOOGLE MAP



Source: www.housingidaho.com; alternatively, www.socialserve.com/tenant/ID/index.html?ch=ID
Note: Search rental units in Bonneville County with rent range $0 to $4,000 a month (wait-listed units are included.) May 20, 2018; accessible units are then selected.

When duplicate units in the same properties are deleted, 19 properties remain as shown below, which implies that at least 19 accessible properties exist in the county. It may be possible that there would be more accessible properties, as this web search only returns units currently available for rent or waitlisted. Therefore, this study cross-checked the list of 19 properties with two additional search tools. First, the HUD Search for Low-Rent Apartments yielded only one property for persons with disabilities: Transitional Living Center, which is Section 811 supportive housing.[20] This is already included in the list of 19 properties. Affordablehousingonline.com (where not only the properties currently available

TABLE 9: ACCESSIBILITY FEATURES

City	Property	Address
Idaho Falls	Pinecrest Apartments	836 Whittier Circle Idaho Falls, ID 83401
	Teton View Senior Housing	1550 Teton View Ln Idaho Falls, ID 83402
	Saturn Apartments	740 Saturn Ave Idaho Falls, ID 83402
	Riverside Senior Housing	450 J St Idaho Falls, ID 83402
	Aspen Park Apartments	2135 Alan St Idaho Falls, ID 83404
	Teton Terrace Apartments	1601 Falcon Dr Idaho Falls, ID 83406
	Eastridge Apartments	1378 Curlew Dr Idaho Falls, ID 83406
	Summerhill Apartments	965 Hoopes Ave Idaho Falls, ID 83404
	Elk Creek Senior Living	1960 Martha Ave Idaho Falls, ID 83404
	Gladstone Apartments	275 N. Holmes Ave Idaho Falls, ID 83401
	Shadow Canyon Apartments	1325 Hoopes Ave Idaho Falls, ID 83404
	Chelsea Court Apartments	2235 12th St Idaho Falls, ID 83404
	Rosslare Senior Apartments	1085 Hoopes Ave Idaho Falls, ID 83404
	Mountain Falls I & II	1275 S. Woodruff Ave Idaho Falls, ID 83404
	Transitional Living Center	725 Lomax St Idaho Falls, ID 83401
	Fenway Apartments	109 Clubhouse Circle Idaho Falls, ID 83401
Ammon	Liberty Square Luxury Apartments	2475 S. Ammon Rd Ammon, ID 83406
	Foxboro Apartments	South Eagle Dr Ammon, ID 83406
	Palisades Park Apartments	1451 Falcon Dr Ammon, ID 83406

Source: www.housingidaho.com; alternatively, www.socialserve.com/tenant/ID/index.html?ch=ID
Note: Searched rental units in Bonneville County with rent range $0 to $4,000 a month (wait-listed units are included) on May 20, 2018; accessible units were then selected.

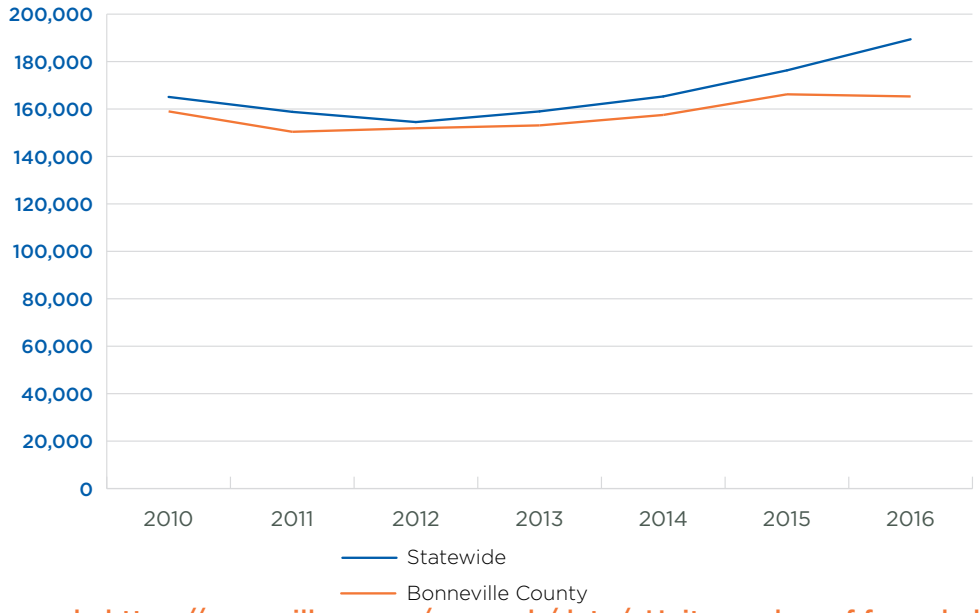
for rent are searchable, but also the whole inventory is claimed to be searchable)[21] is also examined. From this search, three accessible rental properties (Transitional Living Center, Teton View Senior Housing and Mountain Falls Apartments) are found, all of which are already included in the list of 19 properties. To sum up, it turns out that Housingidaho.com yielded a very comprehensive result of accessible properties for the county.

HOUSE VALUES AND PRICES

This study collected the trend data of house values or prices from independent sources. Figure 31 compares Bonneville County with Idaho in median home value of owner-occupied units self-reported by respondents of the American Community Survey (ACS). While these values are not adjusted for inflation, this chart is still useful to compare home values for different jurisdictions. In recent years, the county median home value is around $160,000, while that for Idaho continues to rise to a level near $190,000. This suggests that Bonneville County homes in general are more affordable to purchase than overall homes in Idaho.

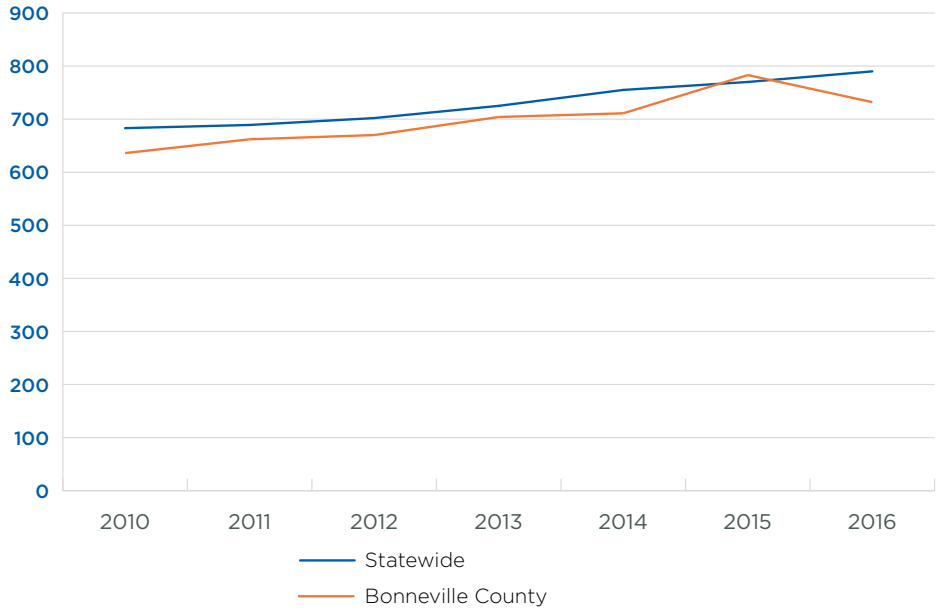
The levels of median gross rent from the ACS respondents are also compared for Idaho and Bonneville County in figure 32. The county rental units seem to be more affordable than those in the state. Rent is not adjusted for inflation.

FIGURE 31: MEDIAN HOME VALUE COMPARED



Source: Zillow Research, https://www.zillow.com/research/data/. Unit: number of for-sale homes. Note: smoothed, seasonally adjusted.

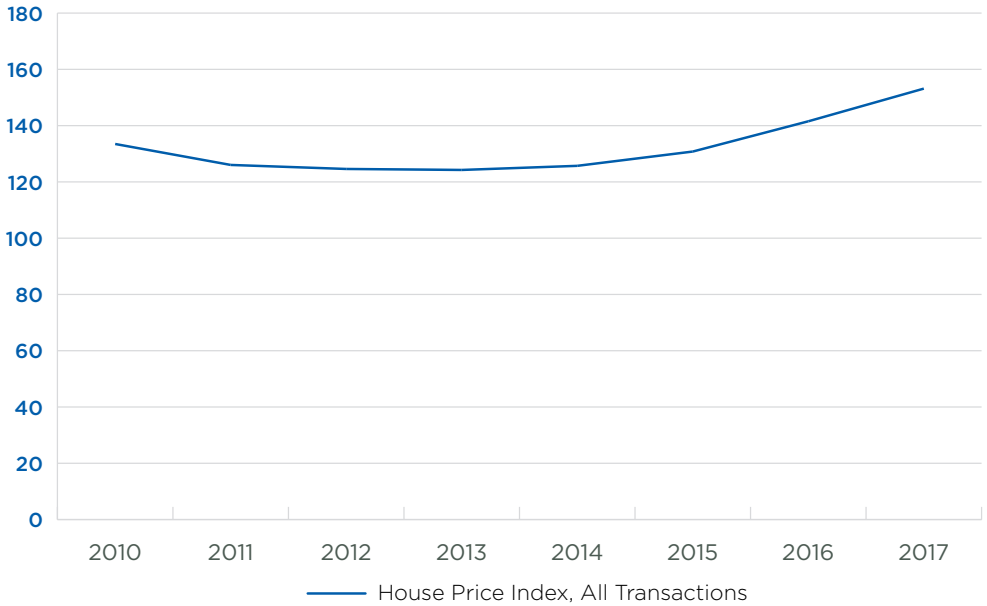
FIGURE 32: MEDIAN GROSS RENT COMPARED



Source: Missouri Census Data Center. (2018). ACS Trends [dataset application]. Available from https://census.missouri.edu/acs/trends/. Note: Dollars not adjusted for inflation; 1-year estimates.

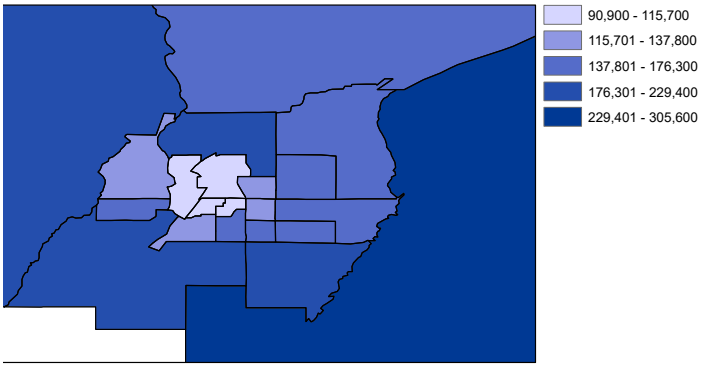
A popular price index from another source is introduced; annual House Price Index (HPI). The HPI is an indexed indicator of prices of single-family houses over time, published by the Federal Housing Finance Agency (FHFA).[22] The All-Transactions HPI is constructed based on sales prices of actual transactions and appraisal data.[23] The HPI for year 2000 equals 100. It displays an upward movement of home values in recent years for the county; 125 in 2014, 130 in 2015, 141 in 2016, and 153 in 2017.

FIGURE 33: HOUSE PRICE INDEX, BONNEVILLE COUNTY

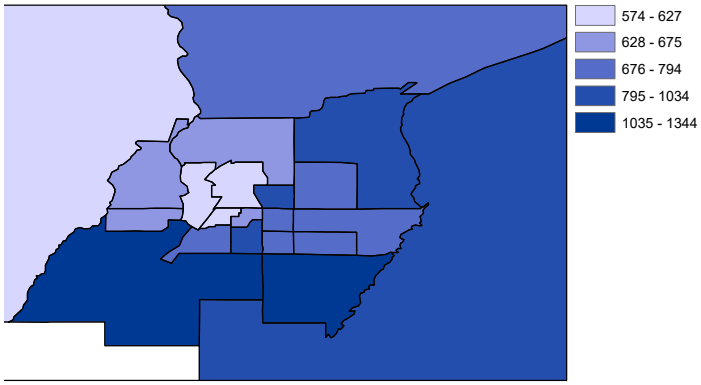


Source: U.S. Federal Housing Finance Agency, All-Transactions House Price Index for Bonneville County, ID [ATNHPIUS16019A], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/ATNHPIUS16019A, May 17, 2018. Note: Index 2000=100, Annual.

MAP 15: MEDIAN HOME VALUE



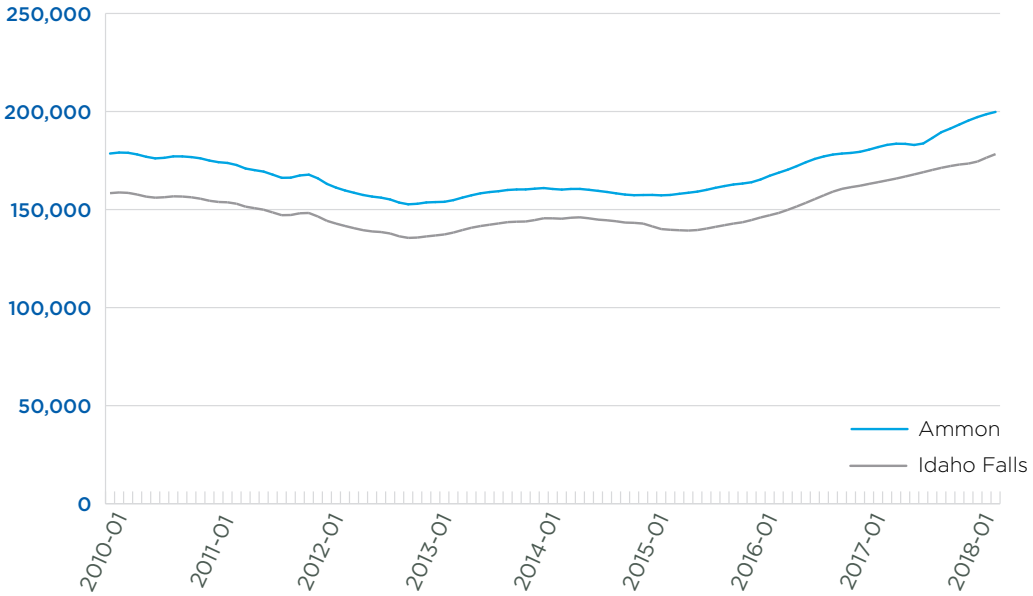
MAP 16: MEDIAN GROSS RENT



Source: Census Bureau. 2012-2016 ACS 5-year estimates (DP04: Selected Housing Characteristics). Note: ACS 5-year estimates are not comparable with 1-year estimates.]

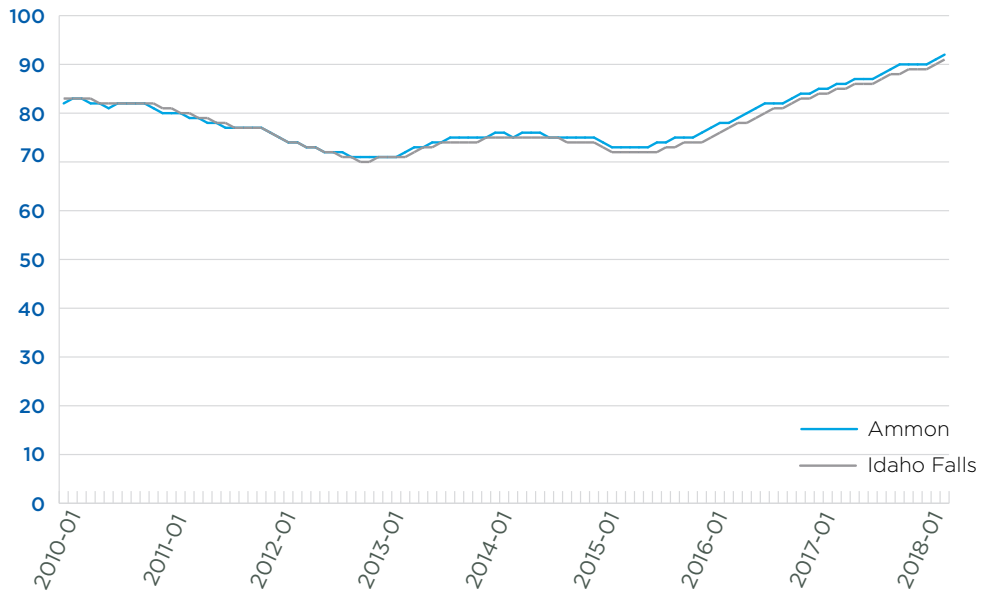
The FHFA HPI is limited in that only single-family homes are included and it is not available at a sub-county level. An alternative home value index is provided from Zillow: Zillow Home Value Index (ZHVI).[24] ZHVI data consists of single-family homes, condominium and co-operative homes, monthly from January 2010 through March 2018. The ZHVI is published for Idaho Falls and Ammon. According to this index, Ammon has higher home values than Idaho Falls does. What the two cities have in common though is that their home values are on the rise in recent years; e.g., $139,285 for Idaho Falls and $158,568 for Ammon in May 2015. Their respective values now are $178,274 for Idaho Falls and $199,797 for Ammon as of March 2018

FIGURE 34: ZILLOW HOME VALUE INDEX ($)



Source: Zillow Research, https://www.zillow.com/research/data/. Note: Monthly Jan 2010 – Mar 2018

FIGURE 35: MEDIAN ZHVI PER SQ. FT. ($)

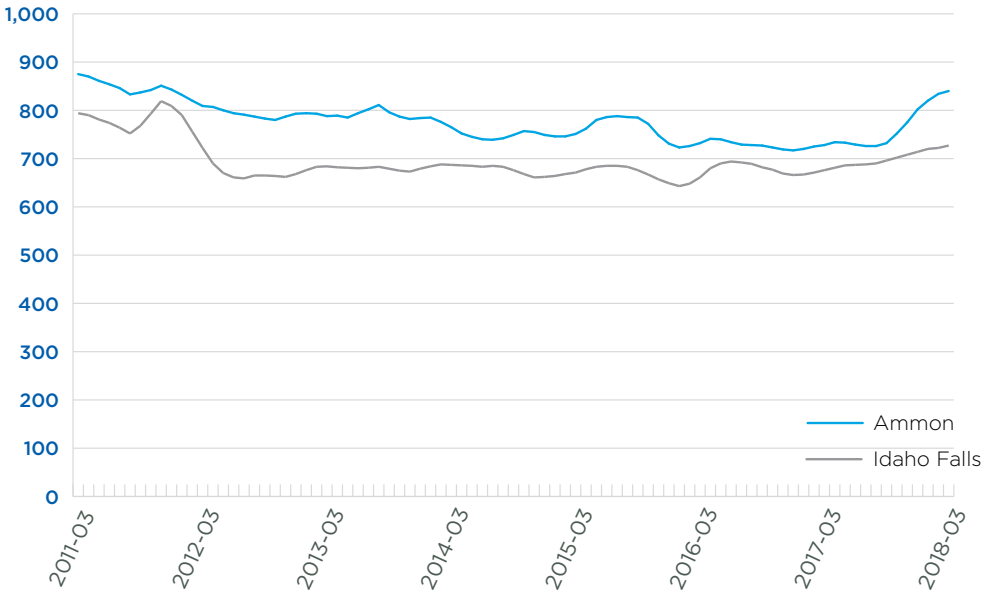


Source: Zillow Research, https://www.zillow.com/research/data/. Note: Monthly, Jan 2010 – Mar 2018

House prices for Idaho Falls and Ammon look different in figure 34. The difference disappears in figure 35, when home prices are adjusted for sizes of homes.[25] Like the above ZHVI, the upward trend in recent years is confirmed here as well.

Zillow Rent Index (ZRI)[26] is a measure of rent prices changing over time and available for cities. The ZRI for multifamily units in Idaho Falls and Ammon are shown in figure 36 monthly from March 2011 through March 2018. Rent prices increase over recent years in both the cities, but a sudden surge in rent is observed in Ammon: i.e., the latest rent in Ammon is $840 in March 2018, which constitutes more than a $100 increase from one year ago ($728 in March 2017).

FIGURE 36: ZILLOW RENT INDEX ($), MULTIFAMILY



Source: Zillow Research, https://www.zillow.com/research/data/ Note: Multifamily ($);monthly Mar 2011 - Mar 2018.

CONCLUSION

This study conducts a thorough analysis of the current housing inventory in Idaho Falls and Bonneville County and produces estimates of housing units necessary to accommodate the number of households expected to reside in the county over the next five years (2018-2023). The research gathered extensive housing data from multiple publicly-available sources for the period beginning 2010. Primary findings are summarized by employment and income, future housing needs assessment (household forecast and additional needs analysis), current housing inventory and home values and prices.

First, both employment and median household income have been improving. **Second**, the number of households is forecasted to keep growing. The county currently has 41,652 units and will need to have 42,726 units by 2023 according to the forecast from the decennial census data or 40,517 units according to the forecast from the American Community Survey (ACS) data. Does the county have enough units in stock? The answer is yes and no. While short of the demand measured with the decennial census based forecast by 1,074 units, the level of housing units (41,652) appears sufficient when compared with the ACS-based forecast (40,517). It should be noted that a decision regarding whether the supply is enough to meet the demand should take into consideration other significant factors that reflect the preferences of individual households (e.g., size, facilities, neighborhoods, distance to work place, etc.). A separately conducted needs analysis confirms a growing need for housing units (p. 10). **Third**, the analysis of the current housing inventory shows that the total number of housing units has been increasing - more units were occupied (92.34%) and less units were vacant (7.65%) in 2016. The homeowner vacancy rate dropped in 2016 to 0.1%, suggesting that the home sales market was very tight. Most new residential construction is for those who want to own. Nonetheless, a substantial number of new apartments were built in 2015 and 2017. **Lastly**, price indexes of owner homes display an upward movement in recent years, as do rent prices.

ENDNOTES

1 McCue, Masnick, Herbert 2015; McDonald 2001; Myers et al. 2005; Rappaport 2015.
2 https://www.census.gov/acs/www/methodology/sample-size-and-data-quality/sample-size/, accessed May 29, 2018.
3 http://www.nber.org/cycles/cyclesmain.html, accessed May 31, 2018.
4 Myers et al. 2005.
5 McDonald 2001, p.5.
6 McCue, Masnick, Herbert 2015, p.19. Jed Kolko. 2015. "Who Is Actually Forming New Households?" *Demographic Trends, Aug 17, 2015, Terner Center for Housing Innovation, UC Berkeley, retrieved from* https://ternercenter.berkeley.edu/blog/new-households, accessed May 30, 2018.
7 Myers et al. 2005.
8 More precisely, Consumer Price Index Research Series (CPI-U-RS); data available at https://www.bls.gov/cpi/research-series/home.htm; or https://www.census.gov/topics/income-poverty/income/guidance/current-vs-constant-dollars.html.
9 McDonald 2001, p.5. Jed Kolko. 2015. "Who Is Actually Forming New Households?" *Demographic Trends, Aug 17, 2015, Terner Center for Housing Innovation, UC Berkeley, retrieved from* https://ternercenter.berkeley.edu/blog/new-households, accessed May 30, 2018.
10 McDonald 2001, p.17; Rappaport 2015, p.40; McCue, Masnick, Herbert 2015, p.18.
11 The number of observations to fit this line is just seven, but the R-squared, which is often used to check how well the line represents the distribution of the observations, is very high, 97.09%.
12 The ACS's underestimation is consistent with what the literature found; see, McCue, Masnick, Herbert (2015, p.2).
13 How representative the line is of the past seven years' trend is indicated by the R-squared, i.e., 68.37%, which is considered to be sufficiently good. Yet, it is lower than the R-squared, 97.09%, from the household forecast based on the decennial census.
14 McCue, Masnick, Herbert 2015, p.19. Jed Kolko. 2015. "Who Is Actually Forming New Households?" *Demographic Trends, Aug 17, 2015, Terner Center for Housing Innovation, UC Berkeley, retrieved from* https://ternercenter.berkeley.edu/blog/new-households, accessed May 30, 2018.
15 McCue, Masnick, Herbert 2015, p.19. Jed Kolko. 2015. "Who Is Actually Forming New Households?" *Demographic Trends, Aug 17, 2015, Terner Center for Housing Innovation, UC Berkeley, retrieved from* https://ternercenter.berkeley.edu/blog/new-households, accessed May 30, 2018.
16 Myers et al. 2005.
17 Jed Kolko. 2014. "Why the Homeownership Rate Is Misleading," *Economix, New York Times* Jan 30, 2014. Retrieved from https://economix.blogs.nytimes.com/2014/01/30/why-the-homeownership-rate-is-misleading/, accessed May 31, 2018.
18 For example, "[T]his rule says that your mortgage payment (which includes property taxes and homeowners insurance) should be no more than 28% of your pre-tax income,..." Retrieved from https://www.zillow.com/mortgage-calculator/house-affordability/, accessed May 28, 2018.
19 For details, refer to Zillow Research, https://www.zillow.com/research/data/, accessed May 25, 2018
20 https://apps.hud.gov/apps/section8/, accessed May 28, 2018.
21 This website claims that "[We] provide info on every income based housing project in the U.S. If you're searching for a low income apartment, HUD housing, a Section 8 apartment, subsidized housing or income based housing, just enter your location in the apartment search box to find available apartments near you." Retrieved from https://affordablehousingonline.com/low-income-housing-section-8-apartments, accessed May 26, 2018.
22 A detailed description of House Price Index (HPI) can be found from a webpage of FHFA:

> *The HPI is a broad measure of the movement of single-family house prices. The HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. This information is obtained by reviewing repeat mortgage transactions on single-family properties whose mortgages have been purchased or securitized by Fannie Mae or Freddie Mac since January 1975.*
>
> *The HPI serves as a timely, accurate indicator of house price trends at various geographic levels. Because of the breadth of the sample, it provides more information than is available in*

other house price indexes. It also provides housing economists with an improved analytical tool that is useful for estimating changes in the rates of mortgage defaults, prepayments and housing affordability in specific geographic areas.

Retrieved from https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx, accessed May 24, 2018.

23 https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx, accessed May 24, 2018.

24 Description by Zillow Research: "Zillow Home Value Index (ZHVI): A smoothed, seasonally adjusted measure of the median estimated home value across a given region and housing type. It is a dollar-denominated alternative to repeat-sales indices." Retrieved from https://www.zillow.com/research/data/, accessed May 24, 2018.

25 Description by Zillow Research: "Median ZHVI per sq. ft. ($): Median of the value of all homes per square foot. This number is calculated by taking the estimated home value for each home in a given region and dividing it by the home's square footage." Retrieved from https://www.zillow.com/research/data/, accessed May 24, 2018.

26 Description by Zillow Research: "Zillow Rent Index (ZRI): A smoothed, seasonally adjusted measure of the median estimated market rate rent across a given region and housing type. ZRI is a dollar-denominated alternative to repeat-rent indices." Retrieved from https://www.zillow.com/research/data/, accessed May 25, 2018.

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McDonald, Peter. 2001. "Medium and long-term projections of housing needs in Australia," AHURI Positioning Paper No. 13. Australian Housing and Urban Research Institute, Australian National University. (ISSN 1834-9250).

Myers, Dowell, Gary Painter, Zhou Yu, Sung Ho Ryu, Liang Wei. 2005. "Regional disparities in homeownership trajectories: Impacts of affordability, new construction, and immigration," Housing Policy Debate 16(1), pp.53-83.

Rappaport, Jordan. 2015. "Millennials, Baby Boomers, and Rebounding Multifamily Home Construction," Federal Reserve Bank of Kansas City, Economic Review 100(2), pp.37-55.

APPENDIX

Table A1 shows the number of homes available for sale and the number of units available for rent. Nationwide, there were 219 available homes for sale per 50,000 persons in 2015 (and similarly, 209 for 2016). Bonneville County had 507 available homes per 50,000 persons. Thus, the County was above the national level in 2015.

As for available rental units, the national level was 428 per 50,000 persons in 2015 (and 430 in 2016). There were 298 available rentals per 50,000 persons in the County. Thus, the County was below the national level for rentals in 2015.

These comparisons cannot be done for 2016 due to the lack of data.

Examining the the number of available housing units per 50,000 persons is one way to evaluate housing inventory. size Another indication of availability is vacancy rate, for which 2016 data has been published (see Table A2). Homeowner vacancy rate compares the share of available homes for sale to the number of total homes.

The national rate for 2015 was 1.9%, while that for Bonneville County was 4.3%. The County was again above the national level, consistent with the comparison made on available homes per 50,000 persons. However, while the national rate remained relatively stable at 1.8% in 2016, Bonneville County's rate dropped to 0.1%, thereby placing the County below the national level.

Rental vacancy rate is defined as the percentage of available units for rent out of total rental units. In 2015, the national rate was 5.9%, while Bonneville County's rate was 5.3%. That is, the County was below the national level in that year, again consistent with the comparison made on available rentals per 50,000 persons. Interestingly in 2016, the County's rate (10%) nearly doubles and rises above the national level (6%).

TABLE A1: AVAILABLE HOUSING UNITS PER 50,000 PERSONS

	2015		2016	
	United States	Bonneville County	United States	Bonneville County
Total Population	321,418,816	110,089	323,127,520	112,232
Vacant Units for Sale	1,410,491	1,117	1,351,019	Data Not Available
Vacant Units for Sale per 50,000 persons	219	507	209	Data Not Available
Vacant Units for Rent	2,756,730	658	2,781,463	Data Not Available
Vacant Units for Rent per 50,000 persons	428	298	430	Data Not Available

Source: Missouri Census Data Center (2018), *ACS Trends* [dataset application]. Available from https://census/missouri.edu/acs/trends/ Note: 1-year estimates.

TABLE A2: VACANCY RATE

	2015		2016	
	United States	Bonneville County	United States	Bonneville County
Homeowner Vacancy Rate	1.9%	4.3%	1.8%	0.1%
Rental Vacancy Rate	5.9%	5.3%	6%	10%

Source: Missouri Census Data Center (2018), *ACS Trends* [dataset application]. Available from https://census/missouri.edu/acs/trends/ Note: 1-year estimates.

This report was prepared by Idaho Policy Institute at Boise State University and commissioned by the City of Idaho Falls in partnership with the following entities.

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REPORT AUTHORS

CHEONGSIN KIM, PhD, Assistant Research Professor
MATTHEW MAY, PhD, Postdoctoral Associate

GREG HILL, PhD, Director

BOISE STATE UNIVERSITY
IDAHO POLICY INSTITUTE