INQUIRY INTO RESIDENTIAL PROPERTY ASSESSMENT EQUITY: BUNCOMBE COUNTY, NC

SYNEVA ECONOMICS

March 2022

Contents

Purpose

This inquiry provides an objective, unbiased, evaluation of residential property assessment outcomes. The analyses offer quantifiable, well-sourced information and basic evaluations that can be used to assist in determining assessment equity in the county. The inquiry findings do not claim to have the definitive answers to all questions of property assessment impartiality but should provide a reliable framework from which to base informed decisions. It is hoped the information will be used to assist the reader in a greater understanding of local assessment outcomes, trends, geographic and demographic associations.

Contents of the inquiry should help to answer questions such as:

- Are residential property assessments impartial and associated with market values?
- Are residential property assessments impartial among different communities, and geographies?
- Are residential property assessments impartial over different time periods?
- Are the levels of residential property assessments associated with specific demographic or economic characteristics?
- Are the levels of residential property assessments associated with home prices or growth trends?

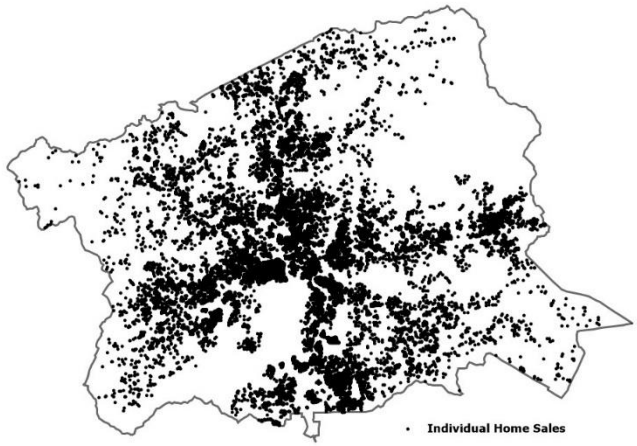
> ***"Property assessment equity is the degree to which assessments bear a consistent relationship to market value."***
>
> IAAO, *Glossary for Property Appraisal and Assessment*, 2013 Second Edition

Methodology & Data

This inquiry is focused entirely on residential property assessment *outcomes* and does not make any considerations of property assessment methods, practices, or policies.

Fundamental methodologies used to assess assessment equity are based on industry-recognized standards, primarily those of the International Association of Assessing Officers (IAAO). The inquiry does expand some practices beyond their traditional applications to examine community-level and unique property subsets.

The analysis covers qualified residential property records for the annual tax periods of 2016 to 2021 in Buncombe County, North Carolina. A total of 25,886 home sales were evaluated. Primary data sources are the county's parcel records, associated real estate multiples listings (MLS), US Census Bureau's demographic data and a single analysis using county building permit records.



Parcel and tax data is publicly available via the County's Open Data Portal (https://data.buncombecounty.org). In the interest of transparency and understanding, where practical the underlying data is presented in accompanying tables.

No personal property information was retained or considered for the analyses.

The most current demographic micro data is from the US Census Bureau's 2019 Five-Year Community Survey. The smallest geographic unit available is the census tract. There are 56 census tracts covering Buncombe County for the 2019 survey results. For the demographic analyses individual residential parcel information was geocoded and aggregated to the appropriate census tract. Only two demographic variables are currently available from the 2020 Decennial Census: race and ethnicity. To improve comprehension, census tract data was grouped into 27 *communities* representing recognizable areas or neighborhoods. The communities are not official jurisdictions but align with existing tract boundaries in order to maintain the integrity of the demographic analysis.

Main Findings

- Over the last six years, 2016 to 2021, average home prices in Buncombe County have risen significantly. On average, prices rose by 43.2 percent, or $118,200, an annual average increase of 7.5% per year.

- Home prices within some individual communities have soared even higher. For example, the Southside community has seen average home prices rise by 116.5%, or 19.7% per year. Ten communities have experienced price appreciation growth greater than 50% over the last six years.

- Unsurprisingly, in the context of significant home price appreciation, assessed home tax values have lagged between reappraisals. In years between reappraisals, the difference between home sales price and home tax values averaged 15.0% or $41,076, while in reappraisal years the difference dropped to an average of 2.2% or $7,414.

- In non-reappraisal years (2016, 2018, 2019, and 2020) the number and proportion of underassessed sales (sales ratio less than 0.90) was significantly greater than in reappraisal years. On average, in non-reappraisal years, 61.8% of sales were underassessed. By contrast, in reappraisal years (2017 and 2021) the average proportion of underassessed sales declined to 15.4% of sales.

- Across the six-year period, no community presented median annual sales ratios above 1.00. In non-reappraisal years, the proportion of communities with median sales ratios below 0.90 ranged from 96% in 2020 to 33% in 2018. In reappraisal years, no community had median sales ratios below 0.90.

- Although median sales ratios do not indicate patterns of assessment inequity, a statistical analysis of their correlation to 18 community characteristics was conducted which shows:
    - Higher Median Sales Ratios associated with-
        - Higher Average Household Income
        - Higher Median Household Income
        - Higher Average House Sales Price

        - Higher Value of New Residential Building Permits
        - Higher Value of Residential Renovation & Addition Building
    - Lower Median Sales Ratios associated with-
        - Higher Percent Population Below Poverty Level
        - Higher Percent Owner-Occupied Households Black or African American
        - Higher Percent Change Average House Sales Price
        - Higher Number of Home Sales

- A focus on overassessed properties over the last six years revealed there were 1,397 overassessed home sales, accounting for 5.7% of all home sales. The range of annual overassessment includes a low of 1.9% (83 sales) in 2020 to a high of 9.1% (413 sales) in 2017.

- Among communities, Sandy Mush had the highest percentage of overassessed sales at 14.3% (31 sales), followed closely by Ivy with 12.2% (26 sales). Geographically, communities with higher percentages of overassessed properties tend to be in northern, more rural communities, Biltmore being the exception. In general, overassessed sales are more likely to be among the lowest priced home sales.

- A statistical analysis of the percent of overassessed sales and their correlation to 18 community characteristics indicates:
    - Lower proportion of Overassessed Sales associated with-
        - Higher Median Owner-Occupied Household Income
        - Higher Percent Population in a Different House One Year Ago
        - Higher Number of Home Sales
        - Higher Dollar Volume of Home Sales

- A focus on low-priced home sales (those priced in the bottom 10% of all home sales) over the last six years revealed they had overall median sales ratios below 0.90 (underassessed) in 2019 and 2020 and were within the acceptable assessment range for the remaining four years. Median sales ratios for low-priced homes were the most accurate in the reappraisal years of 2017 and 2021, 1.00 and 0.99 respectively.

- Although median sales ratios of low-priced homes do not indicate significant patterns of assessment inequity, a statistical analysis of their correlation to 18 community characteristics shows:
    - Higher Median Sales Ratios of Low-Priced Home Sales associated with-
        - Higher Median Household Income
        - Higher Average House Sales Price
        - Higher Median House Sales Price
        - Higher Value of Residential Renovation & Addition Building

- According to IAAO industry standards:

    - The county's median annual sales ratios were within acceptable levels in 2017, 2018, and 2021. The median sales ratio was below acceptable (underassessed) in 2016, 2019, and 2020.
    - For the 2016 to 2021 period, the COD or Coefficient of Dispersion, a measure of assessment variability or uniformity, was within the acceptable range in all years.
    - For the 2016 to 2021 period, the PRD or Price-Related Differential, a measure of vertical equity, was within the acceptable range for all years.
    - The PRB or Coefficient of Price-Related Bias, another measure of vertical equity, was within the acceptable range all years.

Market Background

Over the last six years, 2016 to 2021, average home prices in Buncombe County have risen significantly. On average, prices rose by 43.2 percent, or $118,200, an annual average increase of 7.5% per year. In 2021 the average home price stood at $391,840, up from $273,641 in 2016 (Figure 1).

To reduce the impact of extreme home sale prices, median values are also presented (Figure 2). The median home sales price in 2021 was $325,000, up from $227,00 in 2016, a similar increase of 43.2 percent over the period.

However, despite the seemingly substantial rise countywide, home prices within some individual communities have soared even higher. For example, the Southside community has seen average home prices rise by 116.5%, or 19.7% per year (Figures 3,4,5, and Table 1). Ten communities have experienced price appreciation growth greater than 50% over the last six years.

Geographically, the highest home price appreciation has occurred across a mix of both central urban core and rural border communities.

At the low range, home prices in the Enka, Reynolds, and Weaverville communities were up by less than 30% over the period. The gap in appreciation rates greater than twenty percentage points from other communities.

In summary, over the last six years the county has experienced significant home price appreciation, but within the county individual communities have undergone even more substantial changes.

Figure 1

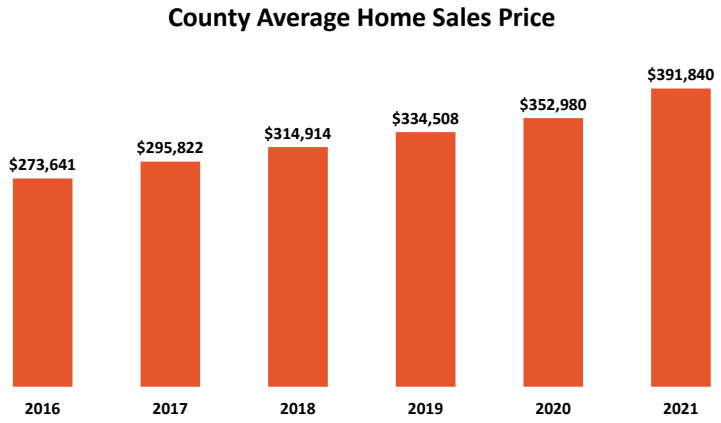


Figure 2

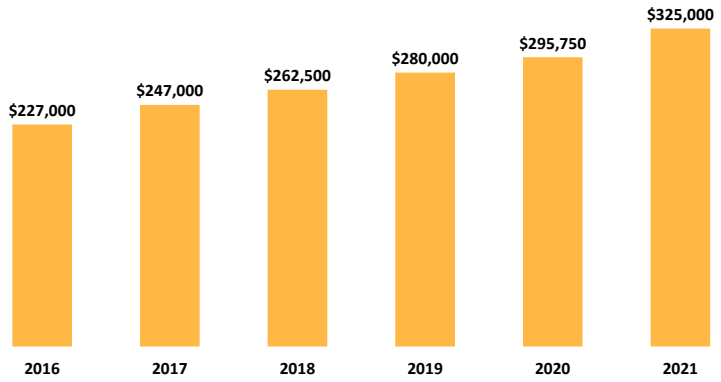


Figure 3

Percent Increase in Average Home Sales Prices (2016 to 2021)

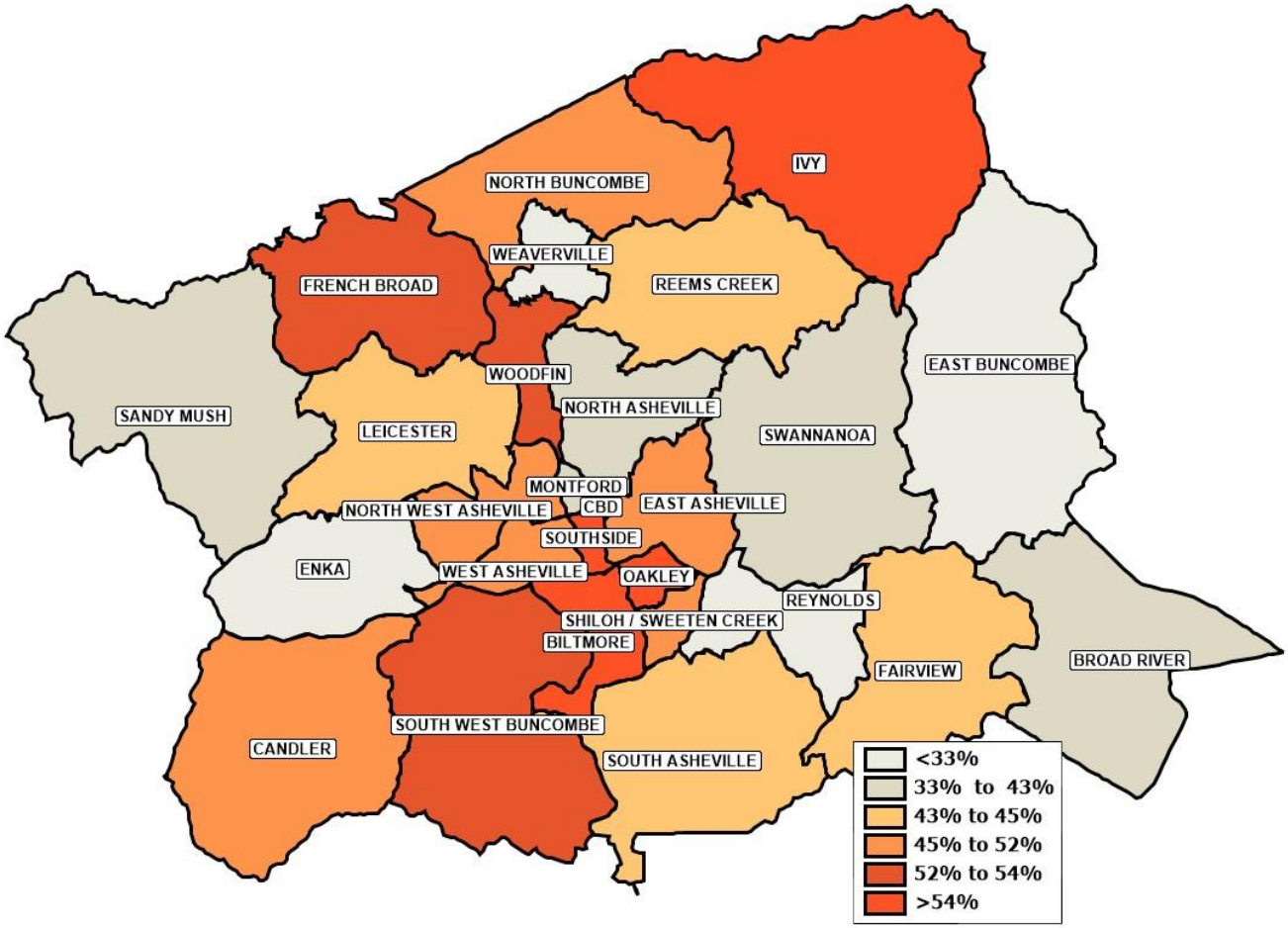


Figure 4

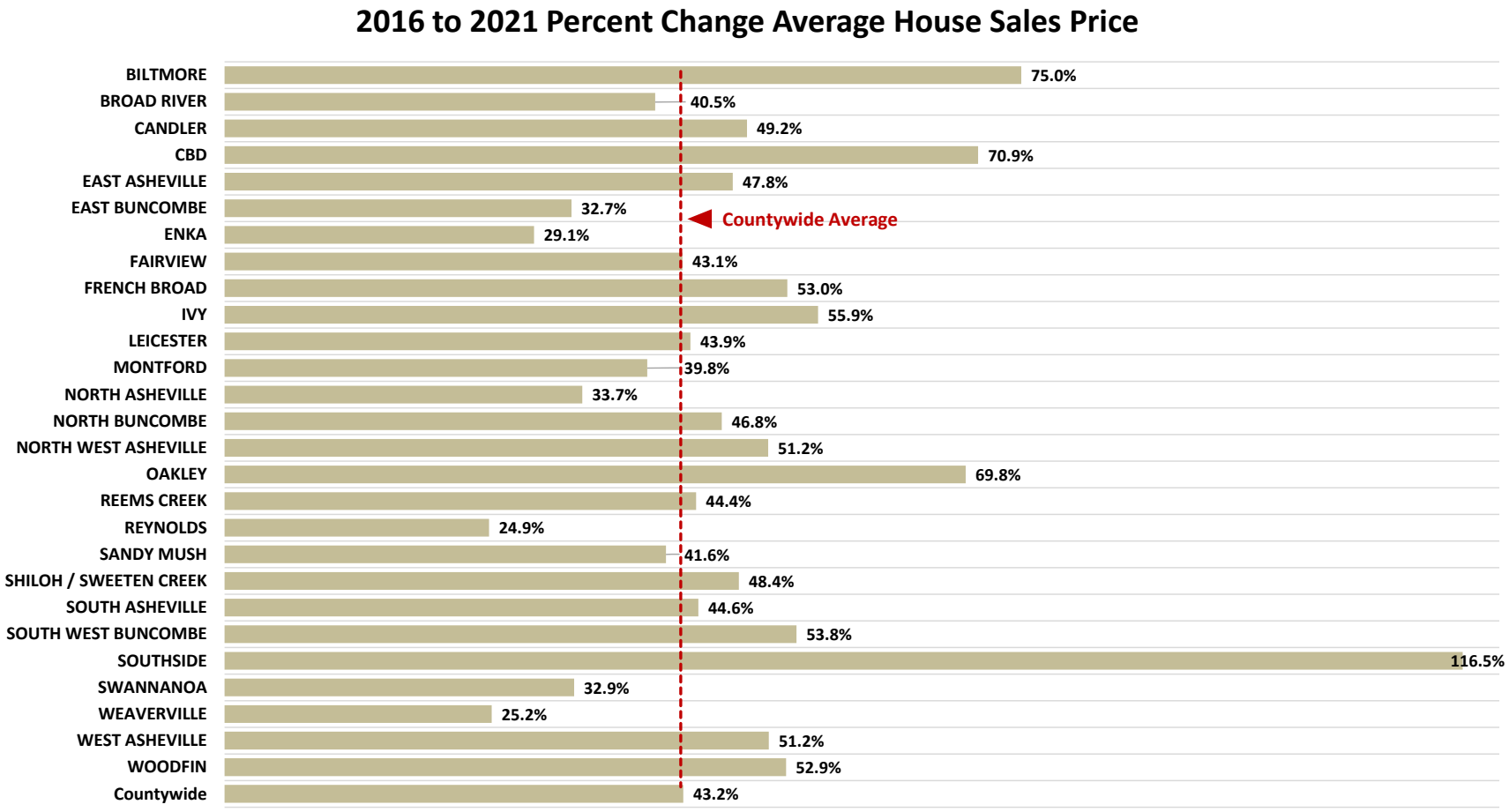

2016 to 2021 Percent Change Average House Sales Price
BILTMORE 75.0%
BROAD RIVER 40.5%
CANDLER 49.2%
CBD 70.9%
EAST ASHEVILLE 47.8%
EAST BUNCOMBE 32.7%
Countywide Average
ENKA 29.1%
FAIRVIEW 43.1%
FRENCH BROAD 53.0%
IVY 55.9%
LEICESTER 43.9%
MONTFORD 39.8%
NORTH ASHEVILLE 33.7%
NORTH BUNCOMBE 46.8%
NORTH WEST ASHEVILLE 51.2%
OAKLEY 69.8%
REEMS CREEK 44.4%
REYNOLDS 24.9%
SANDY MUSH 41.6%
SHILOH / SWEETEN CREEK 48.4%
SOUTH ASHEVILLE 44.6%
SOUTH WEST BUNCOMBE 53.8%
SOUTHSIDE 116.5%
SWANNANOA 32.9%
WEAVERVILLE 25.2%
WEST ASHEVILLE 51.2%
WOODFIN 52.9%
Countywide 43.2%

Figure 5

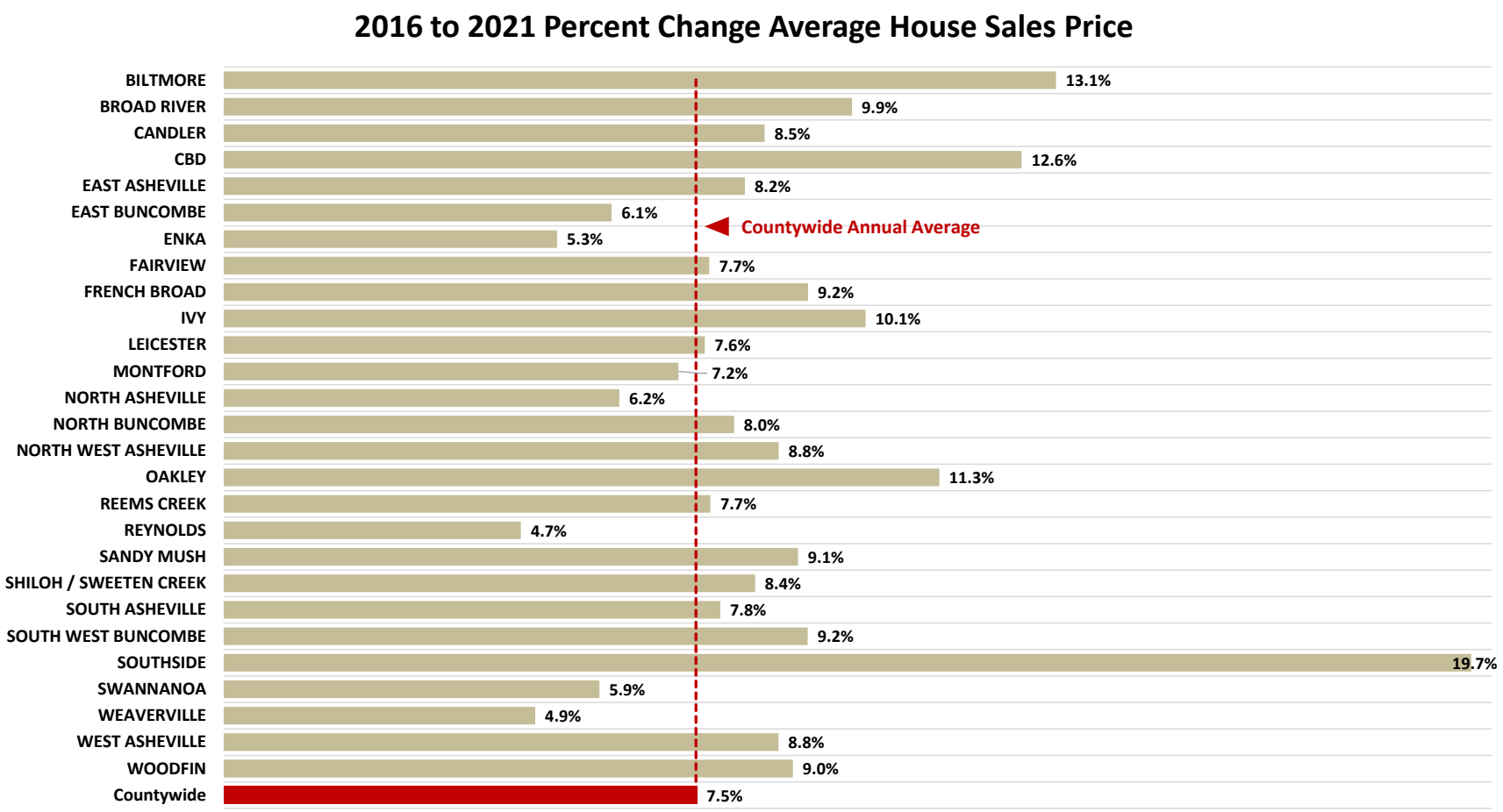

2016 to 2021 Percent Change Average House Sales Price
BILTMORE 13.1%
BROAD RIVER 9.9%
CANDLER 8.5%
CBD 12.6%
EAST ASHEVILLE 8.2%
EAST BUNCOMBE 6.1%
ENKA 5.3%
Countywide Annual Average
FAIRVIEW 7.7%
FRENCH BROAD 9.2%
IVY 10.1%
LEICESTER 7.6%
MONTFORD 7.2%
NORTH ASHEVILLE 6.2%
NORTH BUNCOMBE 8.0%
NORTH WEST ASHEVILLE 8.8%
OAKLEY 11.3%
REEMS CREEK 7.7%
REYNOLDS 4.7%
SANDY MUSH 9.1%
SHILOH / SWEETEN CREEK 8.4%
SOUTH ASHEVILLE 7.8%
SOUTH WEST BUNCOMBE 9.2%
SOUTHSIDE 19.7%
SWANNANOA 5.9%
WEAVERVILLE 4.9%
WEST ASHEVILLE 8.8%
WOODFIN 9.0%
Countywide 7.5%

Table 1

Average Home Sales Prices

Community	2016	2017	2018	2019	2020	2021	Average Annual Change (%)	2016-2021 Change (%)
BILTMORE	$762,960	$802,103	$940,174	$1,120,600	$972,150	$1,335,143	**13.1%**	**75.0%**
BROAD RIVER	$292,200	$242,152	$243,667	$233,565	$255,141	$410,653	**9.9%**	**40.5%**
CANDLER	$160,966	$184,625	$177,454	$194,739	$214,018	$240,132	**8.5%**	**49.2%**
CBD	$475,386	$502,855	$580,354	$564,261	$558,272	$812,644	**12.6%**	**70.9%**
EAST ASHEVILLE	$258,045	$290,432	$321,596	$337,268	$342,317	$381,489	**8.2%**	**47.8%**
EAST BUNCOMBE	$261,822	$260,436	$304,054	$344,227	$328,354	$347,327	**6.1%**	**32.7%**
ENKA	$218,135	$225,083	$240,129	$257,338	$269,919	$281,703	**5.3%**	**29.1%**
FAIRVIEW	$309,458	$344,516	$339,584	$341,800	$400,404	$442,851	**7.7%**	**43.1%**
FRENCH BROAD	$190,305	$202,306	$203,091	$236,611	$238,392	$291,147	**9.2%**	**53.0%**
IVY	$193,203	$253,871	$250,397	$263,146	$249,654	$301,144	**10.1%**	**55.9%**
LEICESTER	$205,986	$218,149	$239,503	$269,438	$281,625	$296,316	**7.6%**	**43.9%**
MONTFORD	$364,616	$410,330	$454,263	$443,500	$441,714	$509,713	**7.2%**	**39.8%**
NORTH ASHEVILLE	$422,392	$435,029	$527,264	$528,033	$535,802	$564,663	**6.2%**	**33.7%**
NORTH BUNCOMBE	$220,110	$237,848	$264,949	$276,976	$285,758	$323,147	**8.0%**	**46.8%**
NORTH WEST ASHEVILLE	$158,127	$174,787	$191,116	$194,571	$228,876	$239,045	**8.8%**	**51.2%**
OAKLEY	$166,488	$186,395	$214,870	$221,748	$240,083	$282,640	**11.3%**	**69.8%**
REEMS CREEK	$274,909	$299,262	$331,687	$347,359	$356,799	$396,961	**7.7%**	**44.4%**
REYNOLDS	$317,041	$304,438	$340,303	$367,992	$387,747	$396,020	**4.7%**	**24.9%**
SANDY MUSH	$194,964	$169,907	$201,500	$180,183	$257,758	$275,986	**9.1%**	**41.6%**
SHILOH / SWEETEN CREEK	$201,479	$229,165	$230,019	$261,838	$267,267	$299,039	**8.4%**	**48.4%**
SOUTH ASHEVILLE	$294,449	$342,122	$363,651	$360,424	$375,917	$425,807	**7.8%**	**44.6%**
SOUTH WEST BUNCOMBE	$327,508	$388,092	$380,147	$426,903	$470,702	$503,862	**9.2%**	**53.8%**
SOUTHSIDE	$225,097	$295,000	$251,453	$350,951	$325,440	$487,435	**19.7%**	**116.5%**
SWANNANOA	$237,989	$238,278	$250,902	$279,063	$290,134	$316,300	**5.9%**	**32.9%**
WEAVERVILLE	$310,670	$294,556	$327,688	$317,508	$333,820	$388,835	**4.9%**	**25.2%**
WEST ASHEVILLE	$247,149	$285,137	$304,325	$327,192	$329,608	$373,787	**8.8%**	**51.2%**
WOODFIN	$215,228	$249,931	$267,237	$304,423	$316,956	$328,991	**9.0%**	**52.9%**
Countywide	**$273,641**	**$295,822**	**$314,914**	**$334,508**	**$352,980**	**$391,840**	**7.5%**	**43.2%**

Home Tax Values & Home Price Appreciation Trends

The bulk of this inquiry examines the differences between home tax values and the market price of homes at the time they are sold. However, it is important to recognize the divergent trends, at times, between the two.

Unsurprisingly, in the context of significant home price appreciation, assessed home tax values have lagged between reappraisals (Figure 6). Countywide reappraisals occurred in 2017 and 2021. In 2020 (three years past a reappraisal) the average home sales price was $56,359 or 19.0% above the average home tax value (Figure 7).

In years between reappraisals, the difference between home sales price and home tax values averaged 15.0% or $41,076, while in reappraisal years the difference dropped to an average of 2.2% or $7,414.

Figure 6

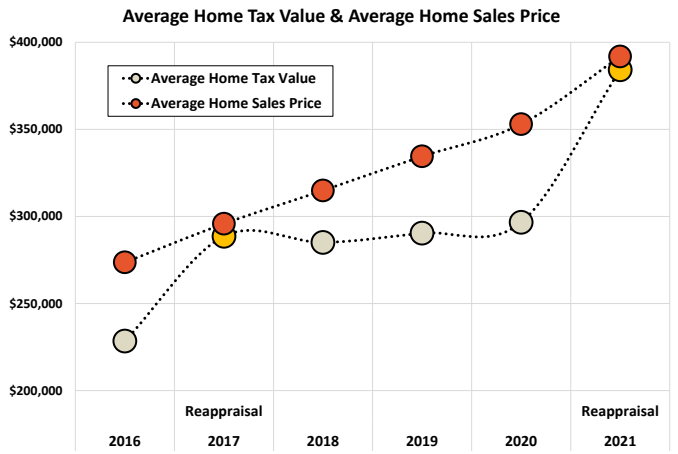
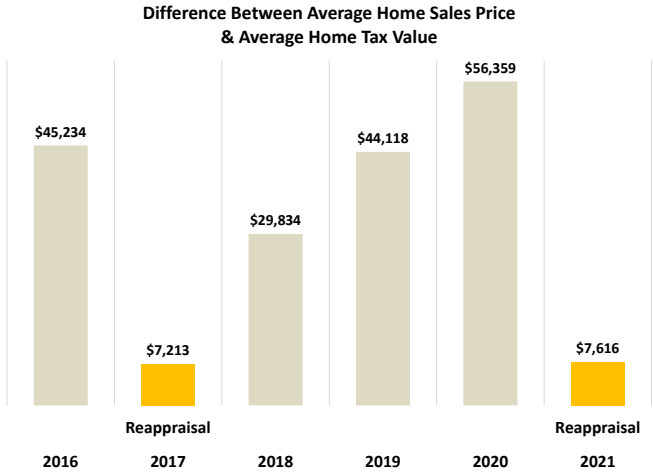


Figure 7



Home Sales Ratio Analyses

The sales ratio is the primary metric used to evaluate property assessment accuracy. When a home is sold, the sales price provides a real-world market measure which can be directly compared to the assessed tax value. The ratio can answer if the home was under or over assessed and by how much.

Calculation of the sales ratio is simple; Sales Ratio = Appraisal Value / Sale Price Value. If the ratio is 1.00, sales price equals assessed tax value. A sales ratio above 1 indicates that the appraised value is greater than the sales price and a sales ratio of less than 1 means that the appraised value was less than the sales price (over / under appraised). The IAAO (International Association of Assessing Officers) provides an acceptable range of sales ratios; at levels between 0.90 and 1.10 the ratio (or assessment) is considered satisfactory. Thus, assessment values between 10% above or below the actual sales price are deemed appropriate.

When grouped for analysis, sales ratios are presented as median values, this helps to avoid the impact of extreme values and aligns with industry standards.

As noted above, home sales prices have increased significantly over the six-year period examined, resulting in widening disparities from tax values in non-reappraisal years; this in turn impacts sales ratios. In non-reappraisal years (2016, 2018, 2019, and 2020) the number and proportion of underassessed sales (sales ratio less than 0.90) is significantly greater than in reappraisal years (Figure 8 and Table 2). On average, in non-reappraisal years, 61.8% of sales were underassessed, 34.4% were within the acceptable range and the remaining 3.7% were overassessed. By contrast, in reappraisal years (2017 and 2021) the average proportion of underassessed sales declined to 15.4% of sales, those within the acceptable range increased to 76.3%, with the remaining 8.4% overassessed.

Figure 8

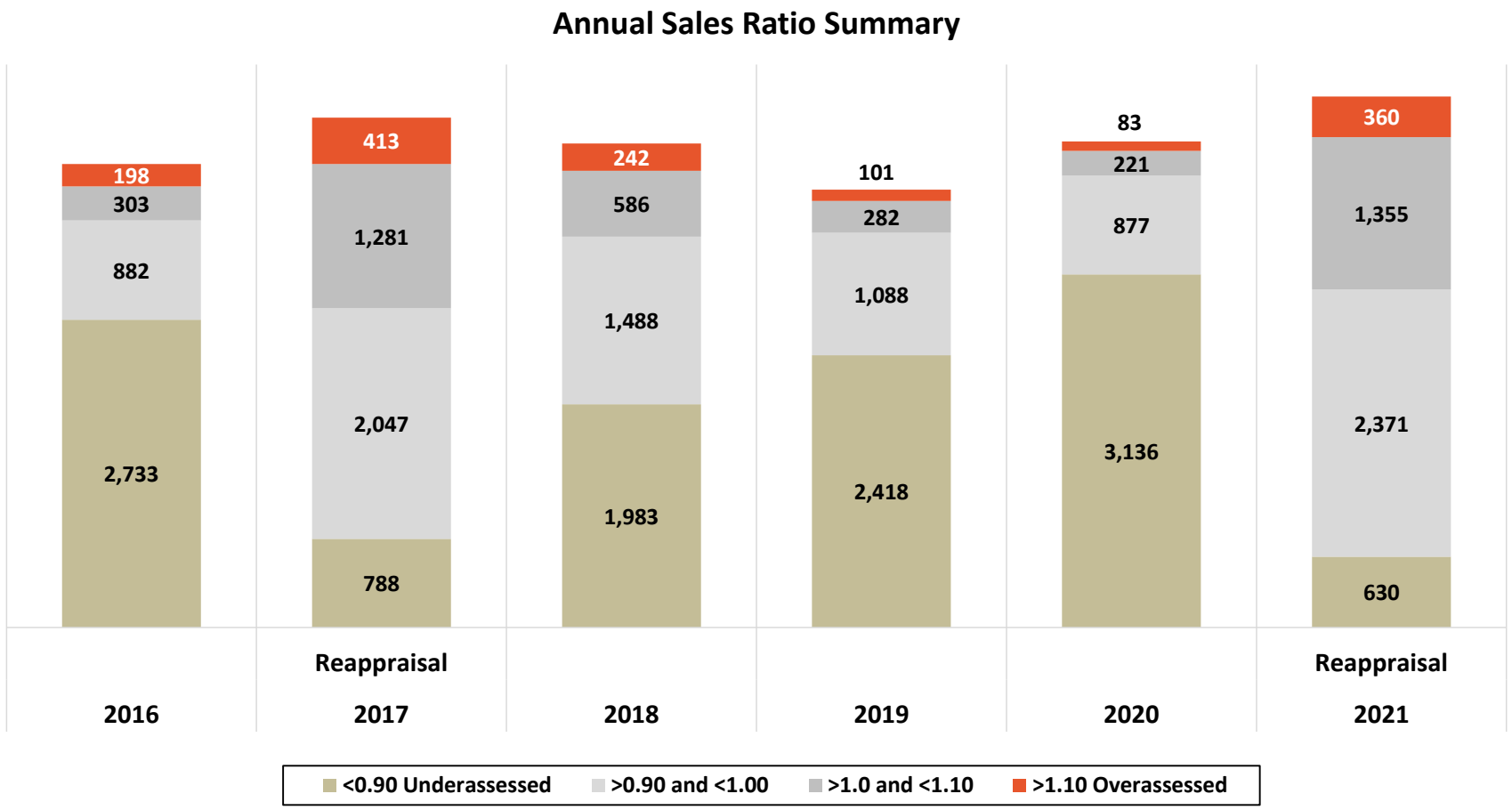

Annual Sales Ratio Summary
198
303
882
2,733
413
1,281
2,047
788
242
586
1,488
1,983
101
282
1,088
2,418
83
221
877
3,136
360
1,355
2,371
630
Reappraisal
Reappraisal
2016
2017
2018
2019
2020
2021
<0.90 Underassessed
>0.90 and <1.00
>1.0 and <1.10
>1.10 Overassessed

Table 2

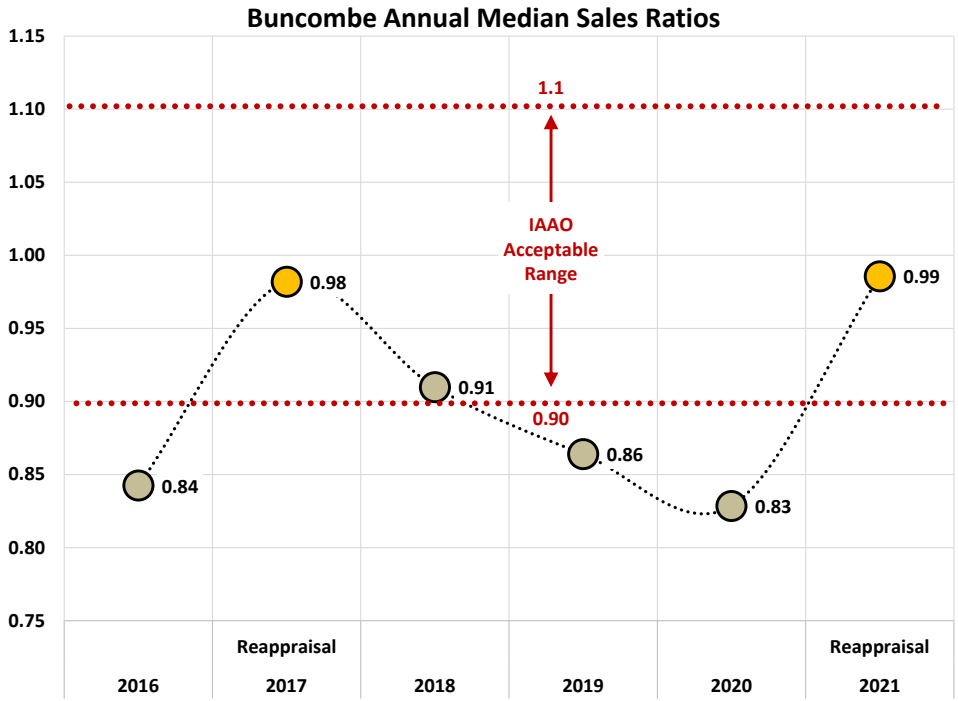
Annual Sales Ratio Summary

	2016	2017 Reappraisal	2018	2019	2020	2021 Reappraisal
SR <0.90 Underassessed	2,733	788	1,983	2,418	3,136	630
SR >0.90 and <1.00	882	2,047	1,488	1,088	877	2,371
SR >1.0 and <1.10	303	1,281	586	282	221	1,355
SR >1.10 Overassessed	198	413	242	101	83	360
By Percent						
SR <0.90 Underassessed	66.4%	17.4%	46.1%	62.2%	72.6%	13.4%
SR >0.90 and <1.00	21.4%	45.2%	34.6%	28.0%	20.3%	50.3%
SR >1.0 and <1.10	7.4%	28.3%	13.6%	7.3%	5.1%	28.7%
SR >1.10 Overassessed	4.8%	9.1%	5.6%	2.6%	1.9%	7.6%

According to IAAO standards, the county's median annual sales ratios were within acceptable levels in 2017, 2018, and 2021 (Figure 9). However, the median sales ratio was below acceptable (underassessed) in 2016, 2019, and 2020.

In the reappraisal years of 2017 and 2021 the ratio levels neared 1.00, with annual medians of 0.98 and 0.99 respectively.

Figure 9



Median Sales Ratios by Community

A deeper examination of assessment performance was made by comparing the median annual sales ratios for each of the county's 27 communities (Table 3, Figure 10). This helps to answer if certain communities experience patterns of over or under assessment.

Across the six-year period, no community presented median annual sales ratios above 1.00. Underassessment (highlighted) was more common:

- In 2016, 23 communities (85%) had median sales ratios below 0.90.
- In 2018, 9 communities (33%) had median sales ratios below 0.90.
- In 2019, 20 communities (74%) had median sales ratios below 0.90.
- In 2020, 26 communities (96%) had median sales ratios below 0.90.

In the reappraisal years of 2017 and 2021, median sales ratios were within the acceptable range for all communities.

For further analyses and comparisons, a single median sales ratio was calculated for all home sales in each community across the entire six-year period (Table 4 and Figure 11).

Table 3

Median Sales Ratios by Community

Community	2016	2017 Reappraisal	2018	2019	2020	2021 Reappraisal
BILTMORE	0.82	0.99	0.98	0.91	0.97	0.99
BROAD RIVER	0.88	0.99	0.96	0.80	0.80	0.98
CANDLER	0.84	0.99	0.93	0.88	0.84	0.98
CBD	0.73	0.98	0.90	0.93	0.87	0.99
EAST ASHEVILLE	0.82	0.98	0.89	0.82	0.79	0.98
EAST BUNCOMBE	0.83	0.98	0.92	0.83	0.79	0.99
ENKA	0.89	0.99	0.93	0.88	0.82	0.99
FAIRVIEW	0.91	0.98	0.95	0.90	0.89	0.99
FRENCH BROAD	0.91	0.99	0.89	0.86	0.82	0.99
IVY	0.96	0.93	0.83	0.83	0.79	0.99
LEICESTER	0.88	0.98	0.89	0.88	0.87	0.99
MONTFORD	0.76	0.95	0.93	0.90	0.83	0.98
NORTH ASHEVILLE	0.78	0.98	0.93	0.88	0.84	0.98
NORTH BUNCOMBE	0.90	0.98	0.93	0.87	0.82	0.99
NORTH WEST ASHEVILLE	0.82	0.97	0.88	0.87	0.82	0.98
OAKLEY	0.82	0.96	0.86	0.81	0.78	0.98
REEMS CREEK	0.85	0.99	0.93	0.89	0.83	0.99
REYNOLDS	0.86	0.99	0.92	0.91	0.85	0.99
SANDY MUSH	0.89	0.97	0.88	0.90	0.83	0.99
SHILOH / SWEETEN CREEK	0.87	0.98	0.90	0.84	0.80	0.98
SOUTH ASHEVILLE	0.89	0.99	0.92	0.90	0.86	0.99
SOUTH WEST BUNCOMBE	0.86	0.99	0.92	0.87	0.85	0.99
SOUTHSIDE	0.72	0.97	0.88	0.80	0.79	0.98
SWANNANOA	0.85	0.98	0.93	0.85	0.80	0.99
WEAVERVILLE	0.83	0.99	0.95	0.87	0.83	0.99
WEST ASHEVILLE	0.76	0.94	0.86	0.80	0.80	0.97
WOODFIN	0.86	0.98	0.93	0.88	0.81	0.99
Countywide	**0.84**	**0.98**	**0.91**	**0.86**	**0.83**	**0.99**

Figure 10

Median Sales Ratios by Year

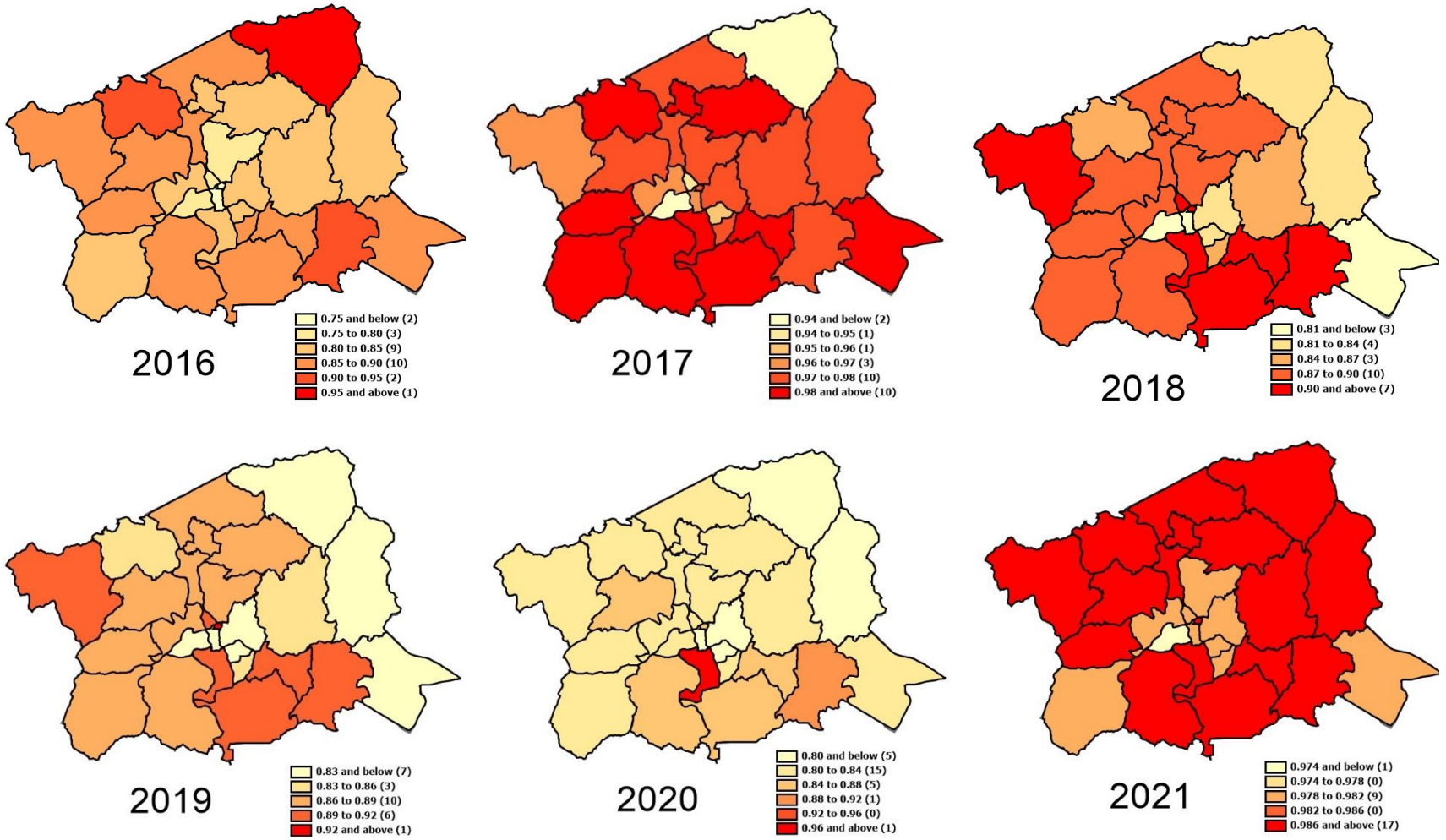


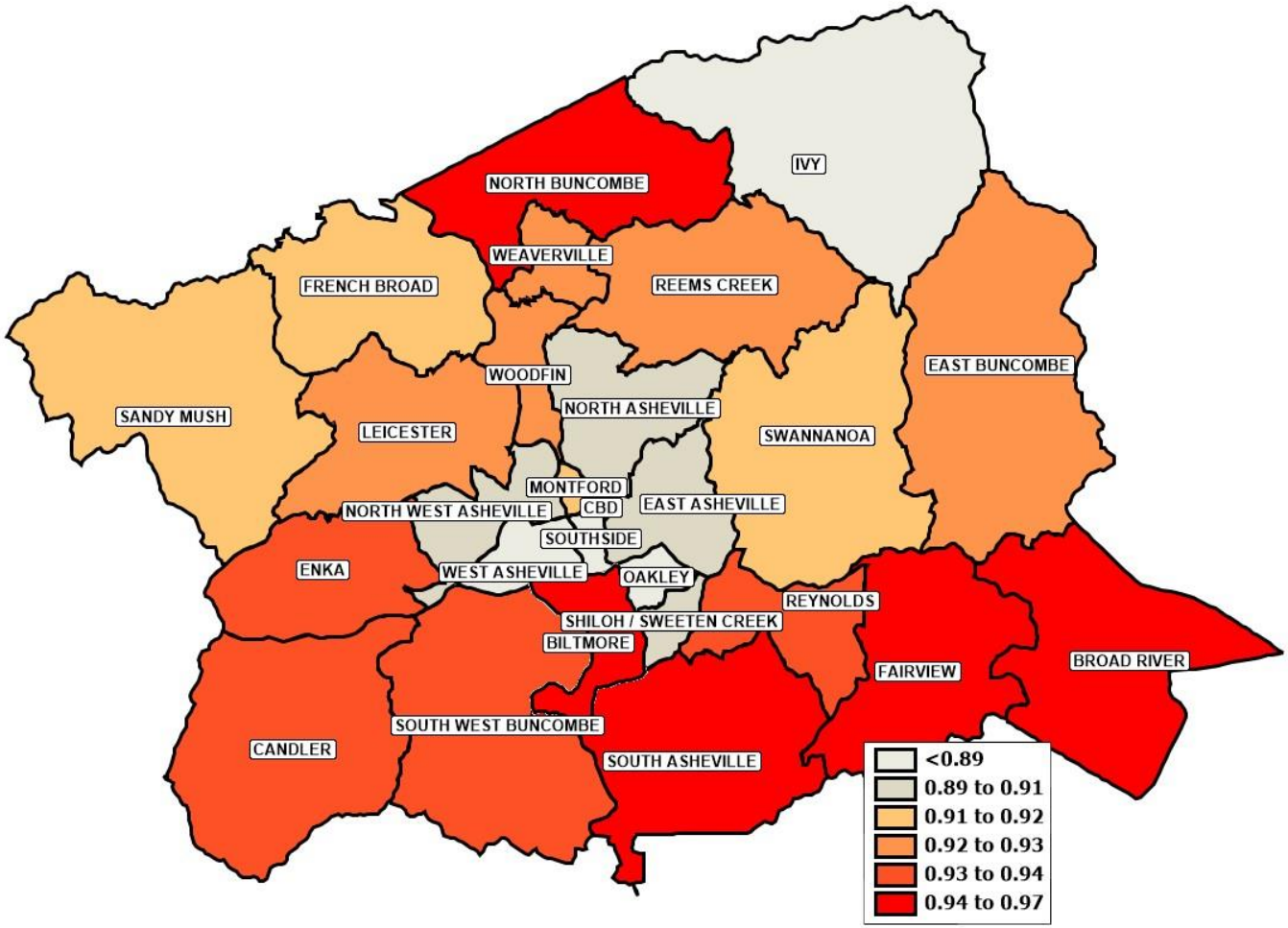
Table 4

Median Sales Ratio 2016-2021

Community	Median Sales Ratio
BILTMORE	0.97
BROAD RIVER	0.95
CANDLER	0.93
CBD	0.90
EAST ASHEVILLE	0.90
EAST BUNCOMBE	0.92
ENKA	0.94
FAIRVIEW	0.96
FRENCH BROAD	0.91
IVY	0.88
LEICESTER	0.93
MONTFORD	0.92
NORTH ASHEVILLE	0.91
NORTH BUNCOMBE	0.94
NORTH WEST ASHEVILLE	0.89
OAKLEY	0.86
REEMS CREEK	0.93
REYNOLDS	0.93
SANDY MUSH	0.92
SHILOH / SWEETEN CREEK	0.90
SOUTH ASHEVILLE	0.94
SOUTH WEST BUNCOMBE	0.93
SOUTHSIDE	0.87
SWANNANOA	0.92
WEAVERVILLE	0.93
WEST ASHEVILLE	0.86
WOODFIN	0.92
Countywide	**0.92**

Figure 11

Median Sales Ratio 2016-2021



Note on Correlation

Correlation is a widely used statistical measure to evaluate relationships between two variables. **It is important to understand that correlation does not imply causation, merely an association between variables.**

For each set of variables analyzed, correlation coefficients (using Pearson methodology) are provided to gauge how strong a relationship is between the two variables. A correlation coefficient of 1 means that for every positive increase in one variable, there is a positive increase of a fixed proportion in the other. Similarly, a correlation coefficient of -1 means that for every positive increase in one variable, there is a negative decrease of a fixed proportion in the other.

Additionally, P-Values are included to help to determine if the correlation results are valid. P-Values are expressed as decimals. For example, a P- value of 0.0254 means there is a 2.54% chance the results could be random or happen by chance. A large P-value of .9 or (90%) means your results have a 90% probability of being completely random. **The smaller the p-value, the more important or "significant" are the results.**

General Guideline on Interpreting P-Values
If P-Value > .10 then "not significant"
If P-Value ≤ .10 then "marginally significant"
If P-Value ≤ .05 then "significant"
If P-Value ≤ .01 then "highly significant."

Finally, for each set of variables examined, a scatter plot and trendline is provided, which offers an easy visual representation of the variable relationships, helping to show the decree which they may be associated with each other.

Depending on the variables examined, the time periods vary. For example, some demographic information is current only for the 2015 to 2019 period, in which sales ratios for 2016 to 2019 are used, while other demographics are available for only 2020 and the accompanying sales ratios are then limited to that single year. For each correlation examined the source notes the time period examined. Detailed community-level data used for the correlations can be found in the Appendix.

Community Correlations by Median Sales Ratios

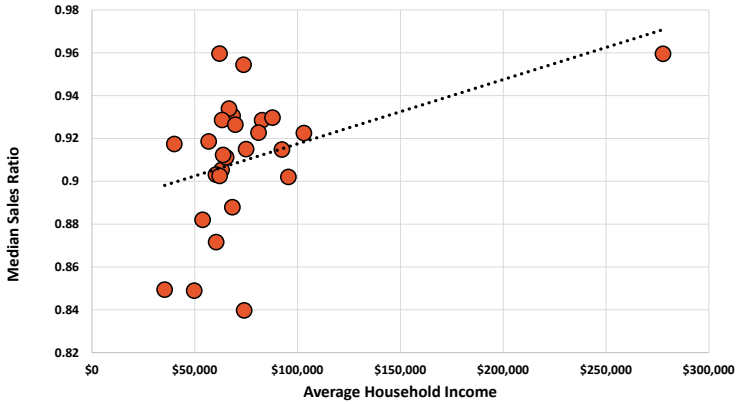
Using the median sales ratios of each community, a set of correlation analyses was conducted to further examine if there are certain community characteristics that are associated with the level of median sales ratios. For example, is income, race, or the rate of home price appreciation associated with the levels of sales ratios?

Readers are encouraged to examine each correlation and judge the results for themselves. Those results showing solid correlations should *not* be viewed as definitive outcomes but imply the need for further analyses.

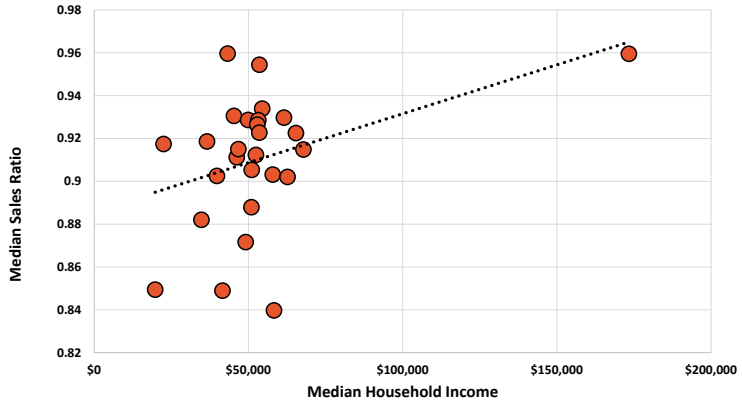
Noting just those correlations that exhibit some level of statistical significance and the association to median sales ratios (▲=higher median sales ratios, ▼=lower median sales ratios):

- *Higher Average Household Income* ▲
- *Higher Median Household Income* ▲
- *Higher Percent Population Below Poverty Level* ▼
- *Higher Percent Owner-Occupied Households Black or African American* ▼
- *Higher Average House Sales Price* ▲
- *Higher Five-Year Percent Change Average House Sales Price* ▼
- *Higher Average Number Home Sales as Percent of Residential Parcels* ▼
- *Higher Average Annual Value of New Residential Building Permits Divided by Total Parcels* ▲
- *Higher Average Annual Value of Residential Renovation & Addition Building Permits Divided by Total Parcels* ▲

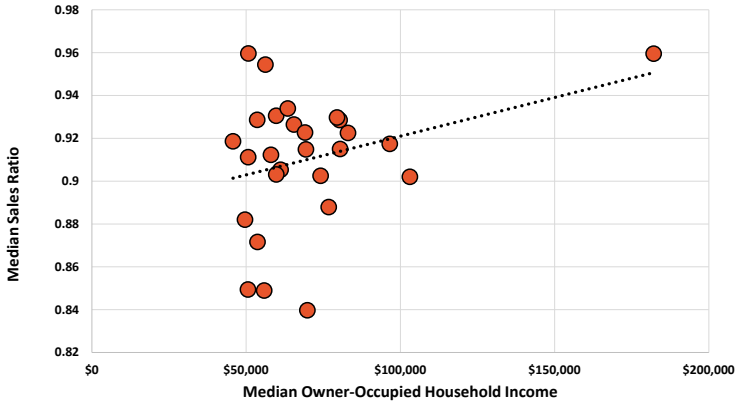
Average Household Income & Median Sales Ratio
Correlation Coefficient = 0.41779
P-Value = 0.0301256 (significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



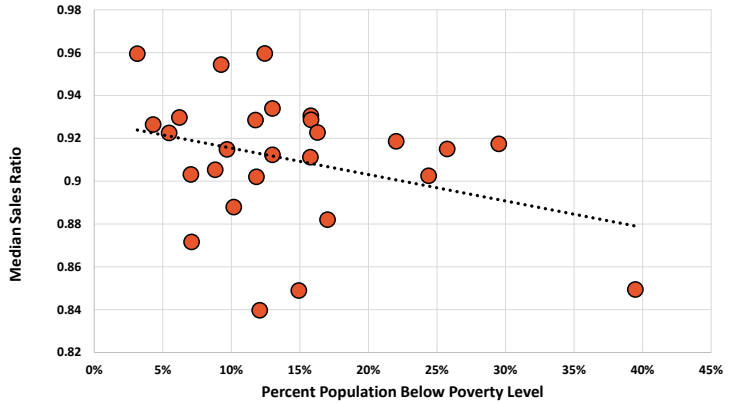
Median Household Income & Median Sales Ratio
Correlation Coefficient = 0.39061
P-Value = 0.0439620 (significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



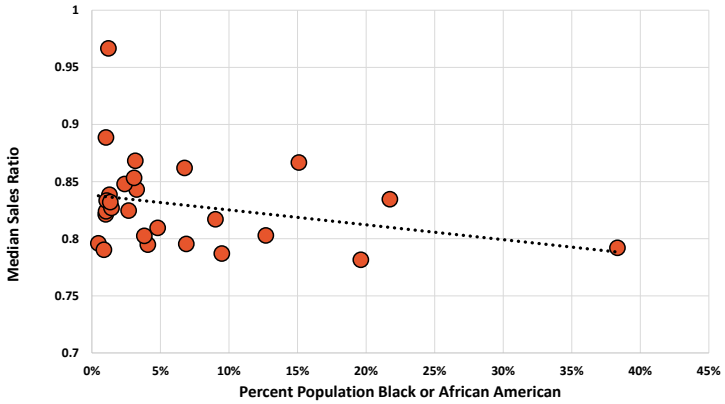
Median Owner-Occupied Household Income & Median Sales Ratio
Correlation Coefficient = 0.31027
P-Value = 0.1152334 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



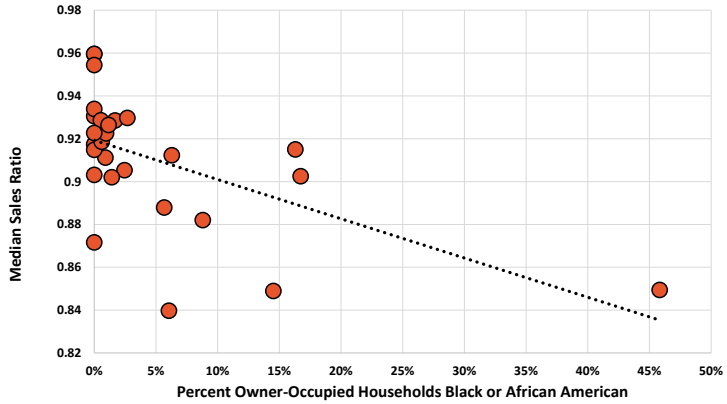
Percent Population Below Poverty Level & Average Sales Ratio
Correlation Coefficient = -0.32778
P-Value = 0.0951027 (marginally significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



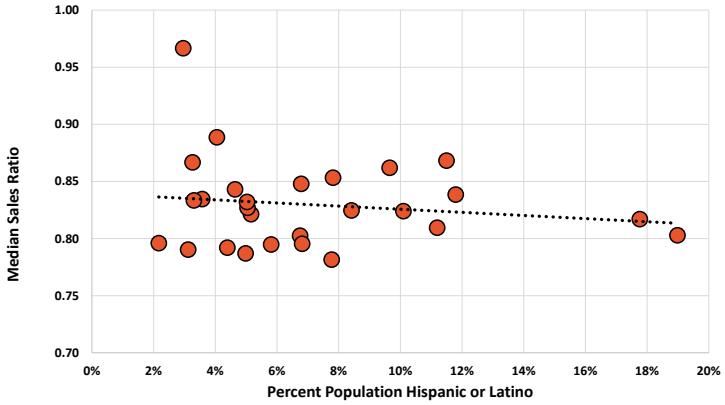
Percent Population Black or African American & Median Sales Ratio
Correlation Coefficient = -0.28429
P-Value = 0.15068 (not significant)
Source: US Census Bureau, 2020 decennial, 2020 Buncombe County Home Sales



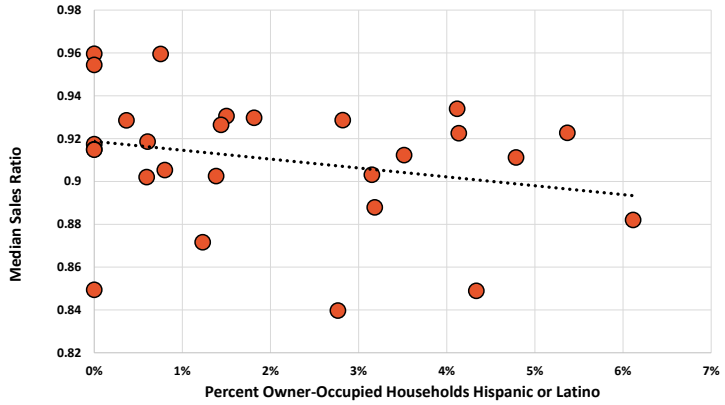
Percent Owner-Occupied Households Black or African American & Median Sales Ratio
Correlation Coefficient = -0.56930
P-Value = 0.0019399 (highly significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



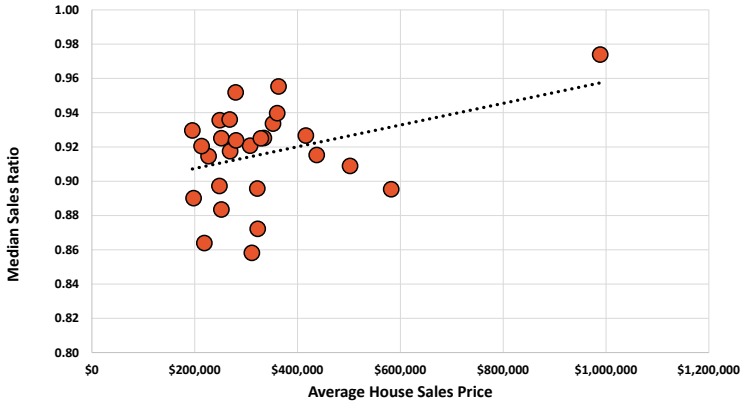
Percent Population Hispanic or Latino & Median Sales Ratio
Correlation Coefficient = -0.14825
P-Value = 0.46054 (not significant)
Source: US Census Bureau, 2020 decennial, 2020 Buncombe County Home Sales



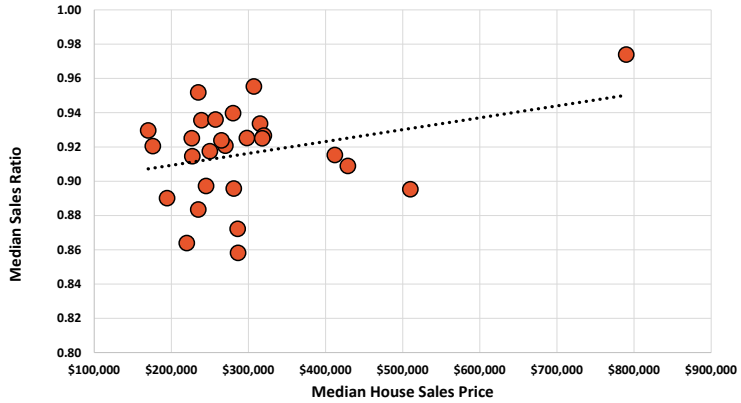
Percent Owner-Occupied Households Hispanic or Latino & Median Sales Ratio
Correlation Coefficient = -0.25132
P-Value = 0.2060377 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



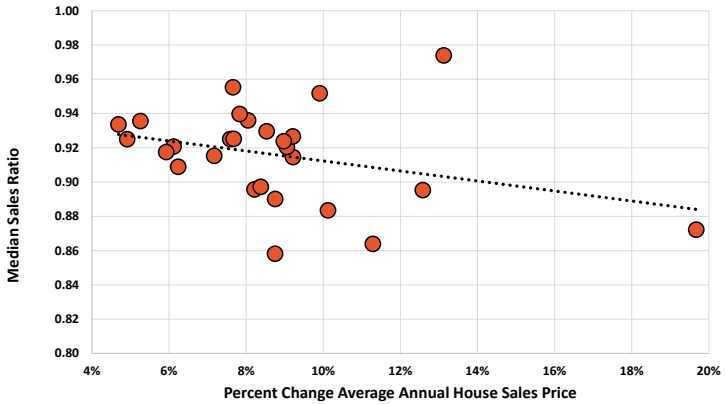
Average House Sales Price & Median Sales Ratio
Correlation Coefficient = 0.368489
P-Value = 0.058585 (marginally significant)
Source: 2016-2021 Buncombe County Home Sales



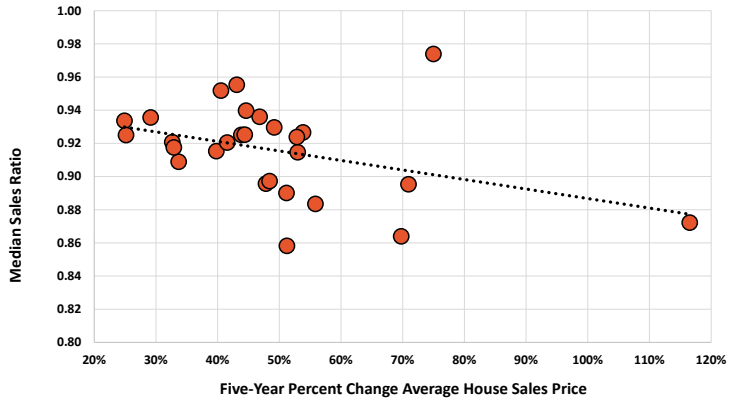
Median House Sales Price & Median Sales Ratio
Correlation Coefficient = 0.313133
P-Value = 0.111748 (not significant)
Source: 2016-2021 Buncombe County Home Sales



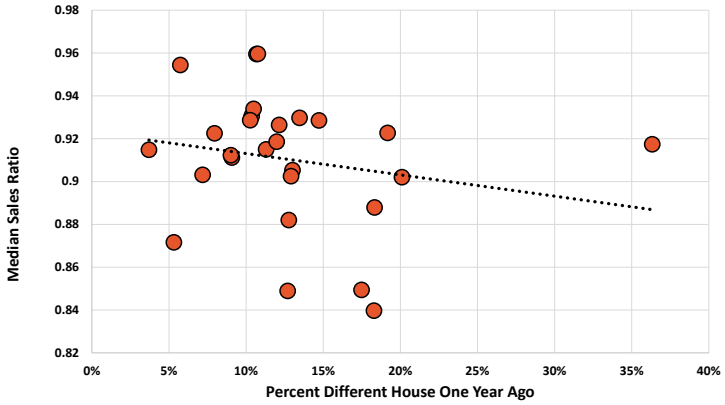
Percent Change Average Annual House Sales Price & Median Sales Ratio
Correlation Coefficient = -0.321723
P-Value = 0.101743 (not significant)
Source: 2016-2021 Buncombe County Home Sales



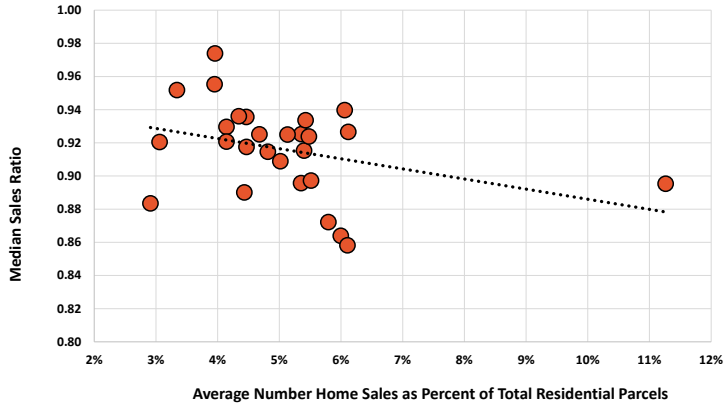
Five-Year Percent Change Average House Sales Price & Median Sales Ratio
Correlation Coefficient = -0.388414
P-Value = 0.045268 (significant)
Source: 2016-2021 Buncombe County Home Sales



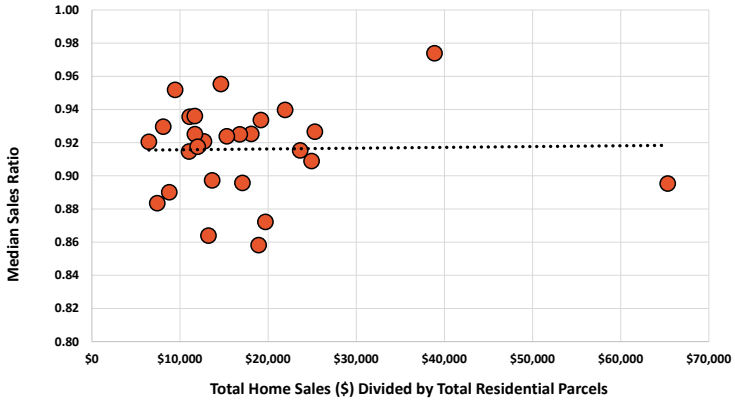
Percent Population Different House One Year Ago & Median Sales Ratio
Correlation Coefficient = -0.20240
P-Value = 0.3113260 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



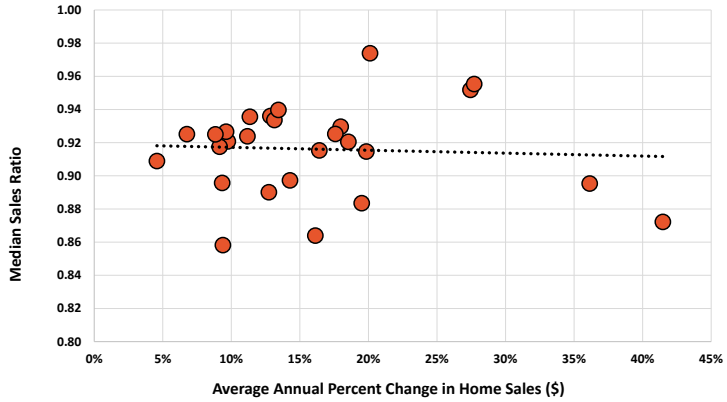
Average Number Home Sales as Percent of Total Residential Parcels & Median Sales Ratio
Correlation Coefficient = -0.343168
P-Value = 0.079699 (marginally significant)
Source: 2016-2021 Buncombe County Home Sales



Total Home Sales ($) Divided by Total Residential Parcels & Median Sales Ratio
Correlation Coefficient = 0.020627
P-Value = 0.918662 (not significant)
Source: 2016-2021 Buncombe County Home Sales



Average Annual Percent Change in Home Sales ($) & Median Sales Ratio
Correlation Coefficient = -0.055482
P-Value = 0.783421 (not significant)
Source: 2017-2021 Buncombe County Home Sales

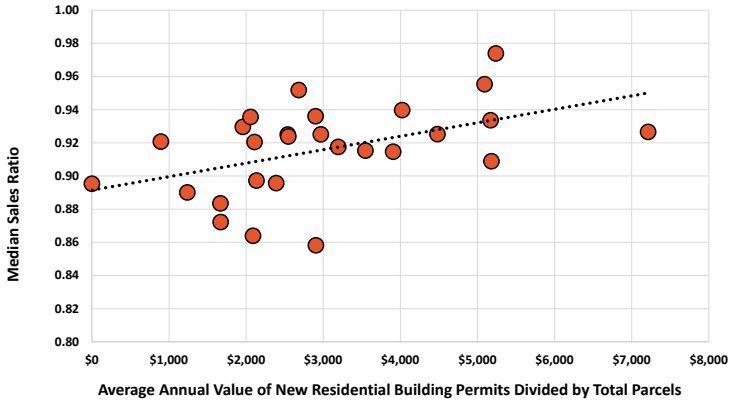


Average Annual Value of New Residential Building Permits Divided by Total Parcels & Median Sales Ratio

Correlation Coefficient = 0.474590

P-Value = 0.012375 (significant)

Source: 2016-2021 Buncombe County Home Sales, County Building Permits

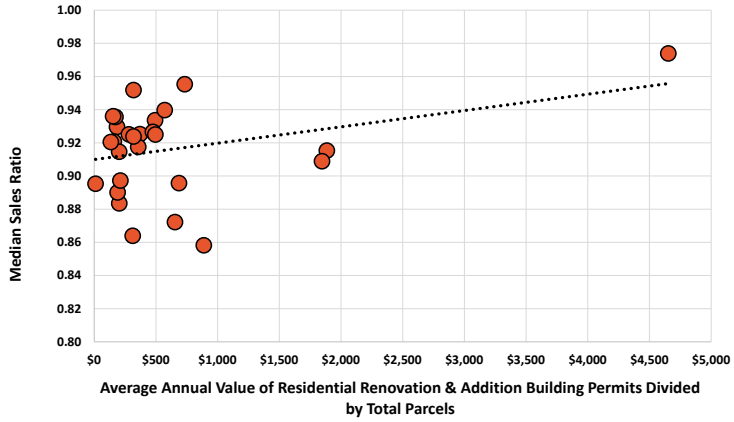


Average Annual Value of Residential Renovation & Addition Building Permits Divided by Total Parcels & Median Sales Ratio

Correlation Coefficient = 0.332551

P-Value = 0.090105 (marginally significant)

Source: 2016-2021 Buncombe County Home Sales, County Building Permits



Overassessed Sale Properties

As an inquiry into assessment equity, it is sensible to take a closer look at just those overassessed properties (sales ratios greater than 1.10) and evaluate whether there are community patterns or characteristics that are associated with the proportion of overassessment.

Across the entire six-year period there were 1,397 overassessed home sales, accounting for 5.7% of all home sales (Table 5). The range of annual overassessment includes a low of 1.9% (83 sales) in 2020 to a high of 9.1% (413 sales) in 2017.

Among communities, Sandy Mush had the highest percentage of overassessed sales at 14.3% (31 sales), followed closely by Ivy with 12.2% (Figure 12).

Geographically, communities with higher percentages of overassessed properties tend to be in northern, more rural communities, Biltmore being the exception (Figures 13, 14).

Figure 12

2016-2021
Percent Sale Properties Overassessed

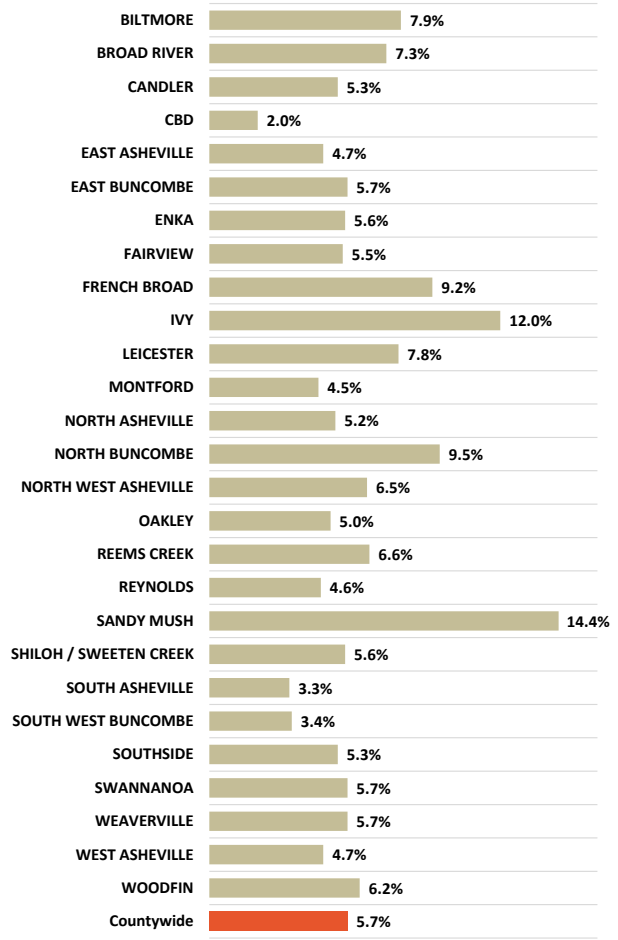


Table 5

Overassessed Sale Properties

	2016		2017 Reappraisal		2018		2019		2020		2021 Reappraisal		Six-Year Total	
Community	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**
BILTMORE	3	12.0%	0	0.0%	3	13.0%	1	6.7%	4	20.0%	0	0.0%	**11**	**7.9%**
BROAD RIVER	4	20.0%	4	12.1%	2	6.1%	1	4.3%	0	0.0%	2	5.6%	**13**	**7.3%**
CANDLER	0	0.0%	15	10.7%	10	8.4%	2	1.8%	3	2.8%	6	5.3%	**36**	**5.3%**
CBD	0	0.0%	0	0.0%	1	4.2%	0	0.0%	3	2.7%	2	3.8%	**6**	**2.0%**
EAST ASHEVILLE	7	2.1%	32	9.1%	13	4.2%	7	3.0%	1	0.4%	26	8.0%	**86**	**4.7%**
EAST BUNCOMBE	16	7.3%	21	8.6%	10	4.7%	9	4.3%	6	2.8%	15	5.8%	**77**	**5.7%**
ENKA	2	1.1%	16	7.4%	19	8.3%	5	2.9%	0	0.0%	26	11.5%	**68**	**5.6%**
FAIRVIEW	8	13.3%	8	8.8%	4	4.8%	4	4.7%	0	0.0%	5	4.0%	**29**	**5.5%**
FRENCH BROAD	14	17.1%	15	17.6%	15	13.0%	1	1.0%	2	1.9%	10	7.9%	**57**	**9.2%**
IVY	10	31.3%	4	12.9%	1	3.4%	2	4.9%	2	5.1%	7	15.6%	**26**	**12.0%**
LEICESTER	17	7.8%	34	16.1%	12	6.3%	6	2.9%	5	2.7%	21	10.3%	**95**	**7.8%**
MONTFORD	1	1.8%	4	7.5%	2	3.4%	0	0.0%	0	0.0%	7	11.5%	**14**	**4.5%**
NORTH ASHEVILLE	9	2.3%	34	9.0%	12	4.0%	8	2.8%	8	2.6%	33	9.3%	**104**	**5.2%**
NORTH BUNCOMBE	14	12.3%	16	12.5%	17	12.4%	6	4.8%	3	2.3%	17	12.2%	**73**	**9.5%**
NORTH WEST ASHEVILLE	8	4.9%	25	15.0%	10	5.0%	4	2.6%	3	1.7%	17	9.5%	**67**	**6.5%**
OAKLEY	2	1.5%	17	13.2%	6	4.4%	3	2.1%	4	2.5%	11	6.8%	**43**	**5.0%**
REEMS CREEK	6	5.5%	11	9.0%	10	7.9%	5	4.3%	4	2.8%	16	9.6%	**52**	**6.6%**
REYNOLDS	8	6.6%	13	8.1%	4	2.8%	2	1.6%	5	3.0%	9	5.2%	**41**	**4.6%**
SANDY MUSH	5	17.9%	10	23.3%	5	10.6%	5	16.7%	1	3.2%	5	13.9%	**31**	**14.4%**
SHILOH / SWEETEN CREEK	2	2.8%	15	14.6%	5	6.3%	0	0.0%	0	0.0%	6	7.9%	**28**	**5.6%**
SOUTH ASHEVILLE	30	5.9%	24	4.3%	13	2.5%	6	1.2%	8	1.5%	26	4.1%	**107**	**3.3%**
SOUTH WEST BUNCOMBE	6	1.7%	17	4.6%	13	3.6%	7	2.3%	6	1.7%	22	6.2%	**71**	**3.4%**
SOUTHSIDE	1	3.2%	2	5.0%	4	12.5%	0	0.0%	0	0.0%	7	11.3%	**14**	**5.3%**
SWANNANOA	12	5.2%	20	8.4%	21	8.2%	6	2.5%	6	2.6%	18	6.8%	**83**	**5.7%**
WEAVERVILLE	2	2.3%	11	9.4%	5	6.9%	3	4.6%	4	4.0%	5	5.9%	**30**	**5.7%**
WEST ASHEVILLE	7	2.2%	35	10.2%	14	4.0%	6	1.9%	1	0.3%	30	9.1%	**93**	**4.7%**
WOODFIN	4	3.9%	10	8.3%	11	9.5%	2	1.8%	4	3.5%	11	9.9%	**42**	**6.2%**
Countywide	**198**	**4.8%**	**413**	**9.1%**	**242**	**5.6%**	**101**	**2.6%**	**83**	**1.9%**	**360**	**7.6%**	**1,397**	**5.7%**

Figure 13

Locations of Overassessed Sales (2016-2021)

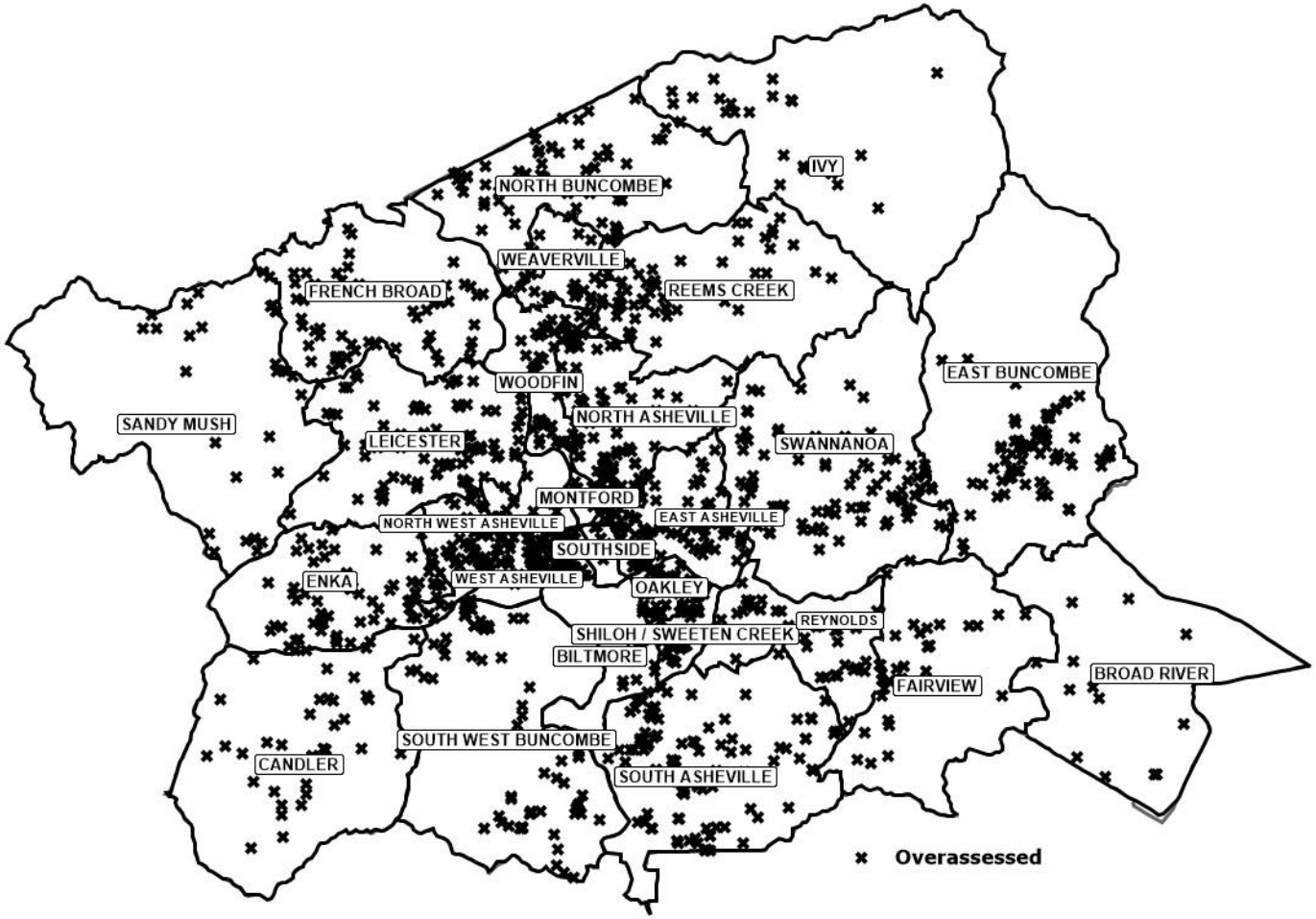
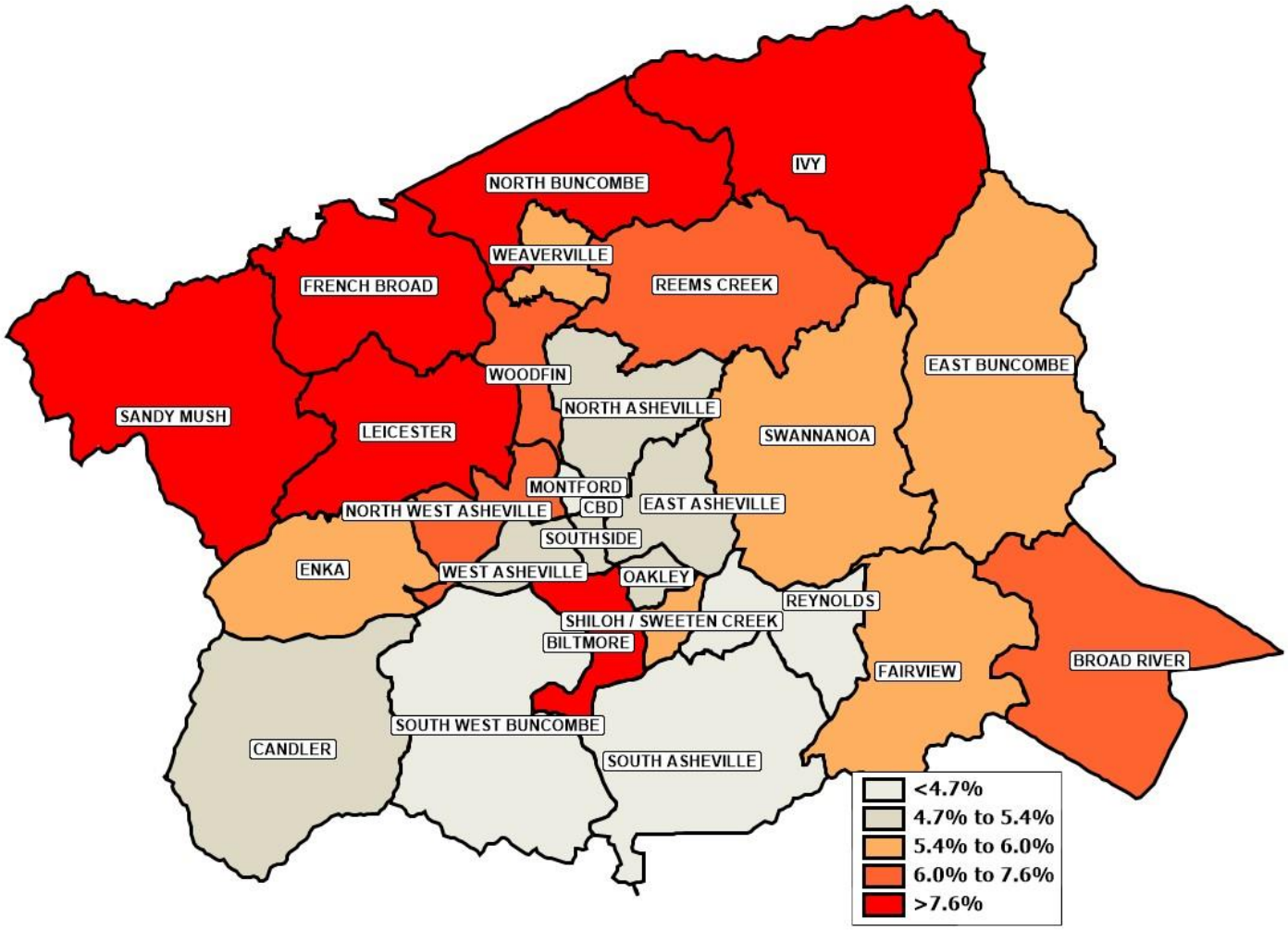


Figure 14

Percent Sale Properties Overassessed (2016-2021)



Community Correlations by Overassessed Sale Properties

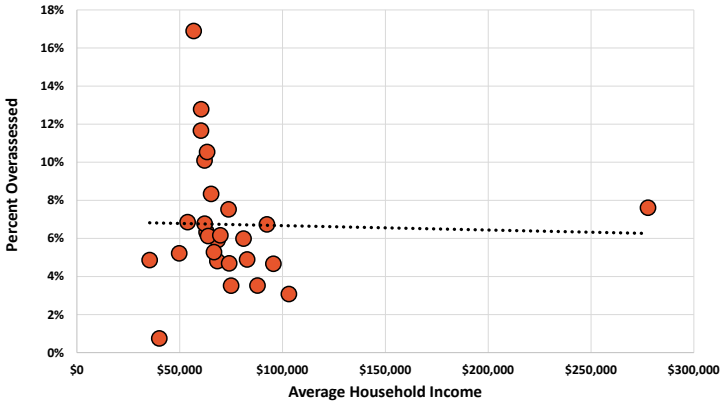
Using the percentage of homes sold that were overassessed for each community over the entire six-year period, a set of correlation analyses was conducted to further examine if there are certain communities or characteristics that are associated with the level of overassessment. For example, is income, race, or the rate of home price appreciation associated with the level of overassessment?

Readers are encouraged to examine each correlation and judge the results for themselves. Those results showing solid correlations should not be viewed as definitive outcomes but imply the need for further analyses.

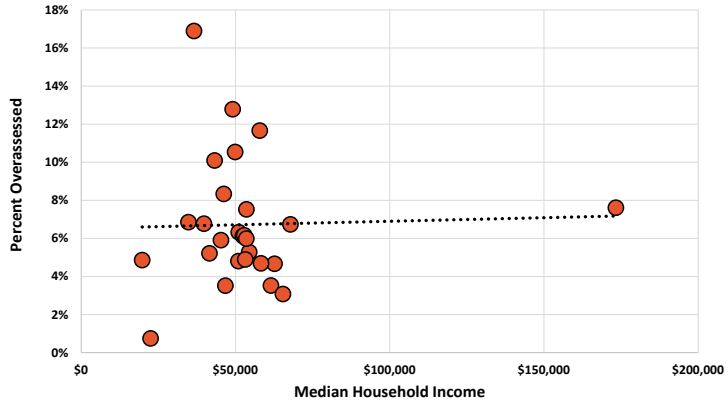
Noting just those correlations that exhibit some level of statistical significance and the association to overassessment (▼=lower percent of overassessment):

- *Higher Median Owner-Occupied Household Income* ▼
- *Higher Percent Population Different House One Year Ago* ▼
- *Higher Average Number Home Sales as Percent of Total Residential Parcels* ▼
- *Higher Total Home Sales ($) Divided by Total Residential Parcels* ▼

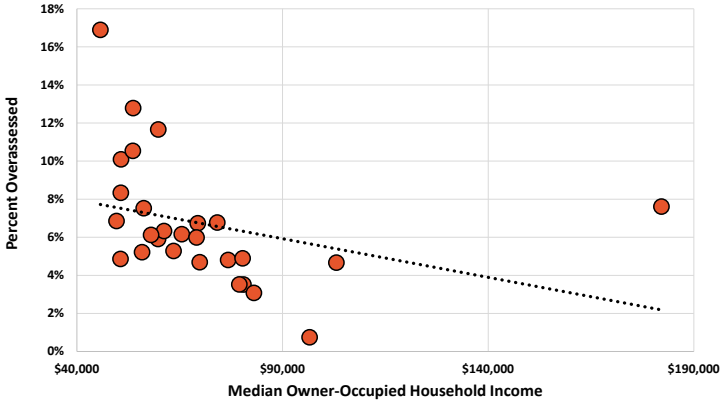
Average Household Income & Percent Overassessed
Correlation Coefficient = -0.029789
P-Value = 0.8827423 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



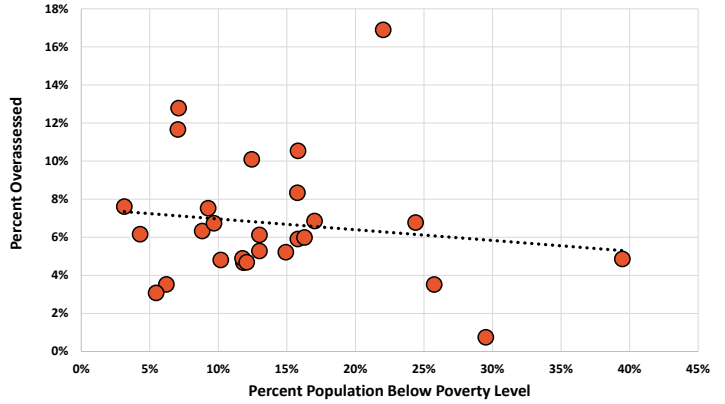
Median Household Income & Percent Overassessed
Correlation Coefficient = 0.029867
P-Value = 0.8824357 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



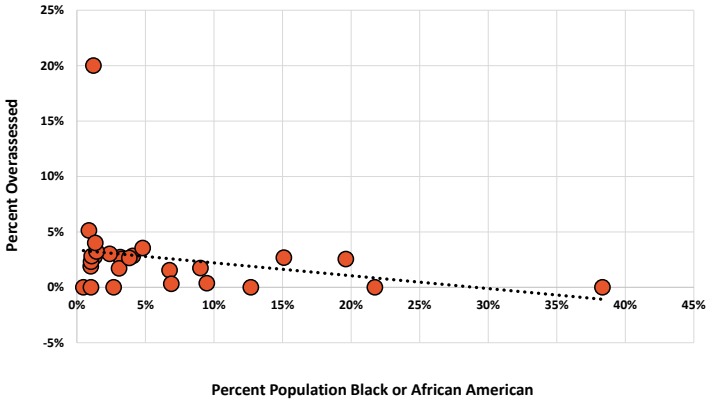
Median Owner-Occupied Household Income & Percent Overassessed
Correlation Coefficient = -0.324461
P-Value = 0.0986992 (marginally significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



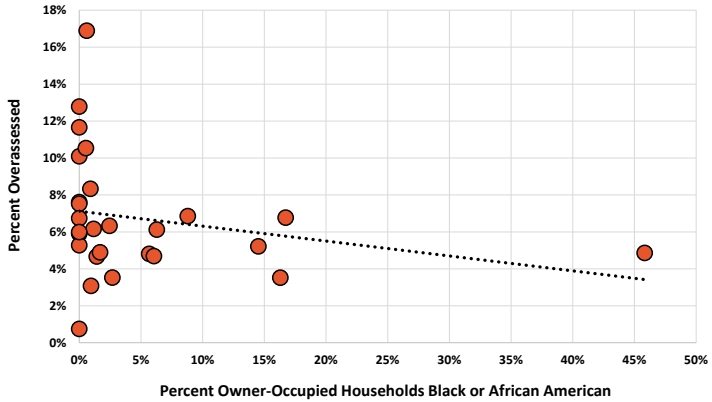
Percent Population Below Poverty Level & Percent Overassessed
Correlation Coefficient = -0.139173
P-Value = 0.4887335 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



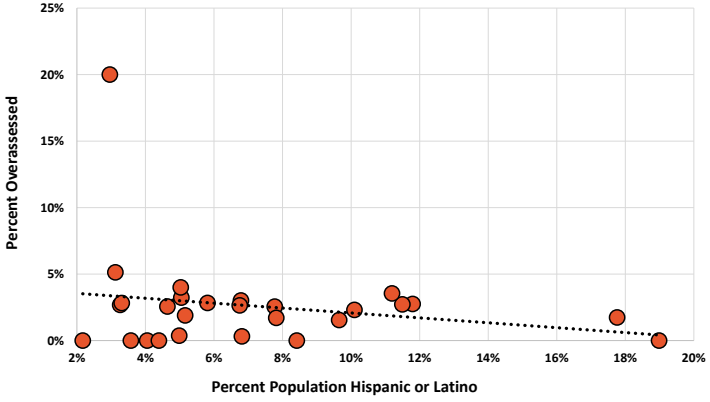
Percent Population Black or African American & Percent Overassessed
Correlation Coefficient = -0.26574
P-Value = 0.18034 (not significant)
Source: US Census Bureau, 2020 decennial, 2020 Buncombe County Home Sales



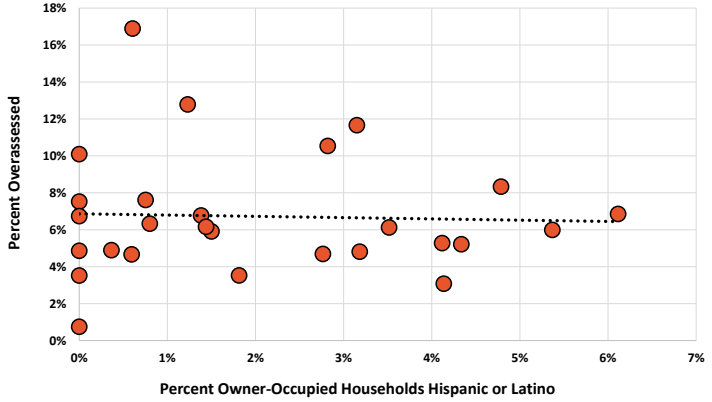
Percent Owner-Occupied Households Black or African American & Percent Overassessed
Correlation Coefficient = -0.233147
P-Value = 0.2418578 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



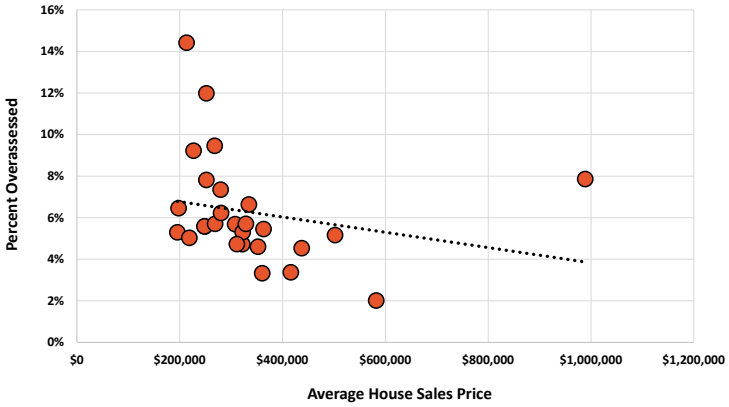
Percent Population Hispanic or Latino & Percent Overassessed
Correlation Coefficient = -0.20864
P-Value = 0.29631 (not significant)
Source: US Census Bureau, 2020 decennial, 2020 Buncombe County Home Sales



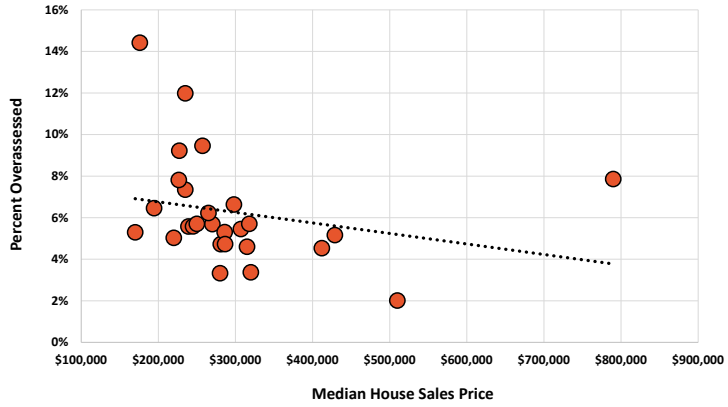
Percent Owner-Occupied Households Hispanic or Latino & Percent Overassessed
Correlation Coefficient = - -0.039000
P-Value 0.8468554 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



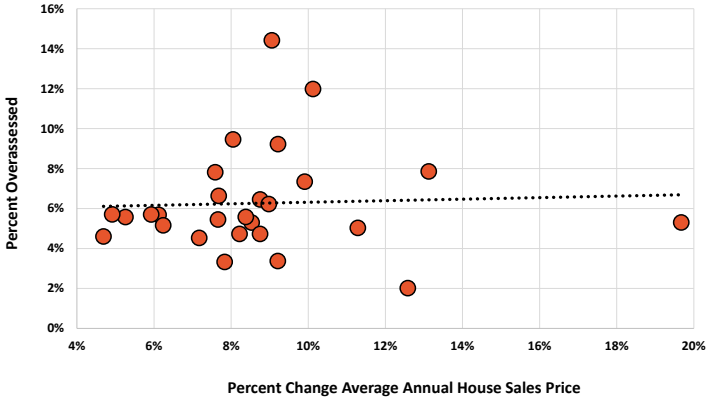
Average House Sales Price & Percent Overassessed
Correlation Coefficient = -0.2241373
P-Value = 0.26104904 (not significant)
Source: 2016-2021 Buncombe County Home Sales



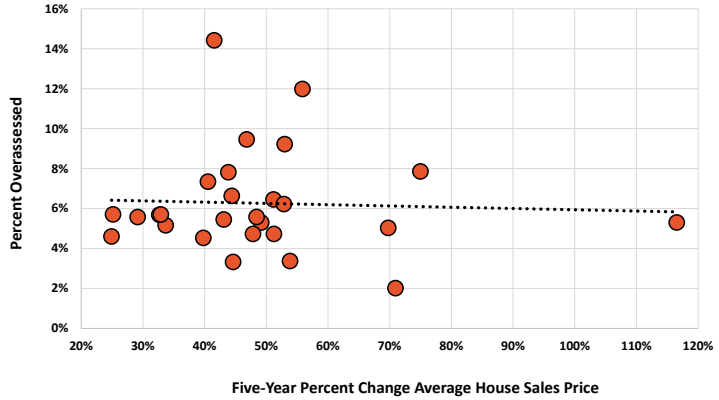
Median House Sales Price & Percent Overassessed
Correlation Coefficient = -0.2398314
P-Value = 0.22823634 (not significant)
Source: 2016-2021 Buncombe County Home Sales



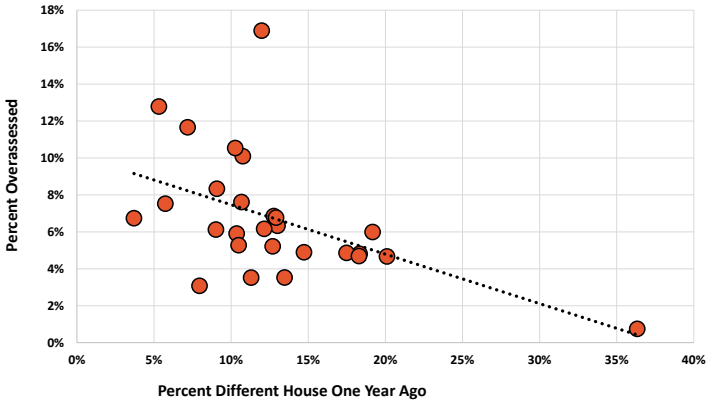
Percent Change Average Annual House Sales Price & Percent Overassessed
Correlation Coefficient = 0.0443143
P-Value = 0.82627957 (not significant)
Source: 2016-2021 Buncombe County Home Sales



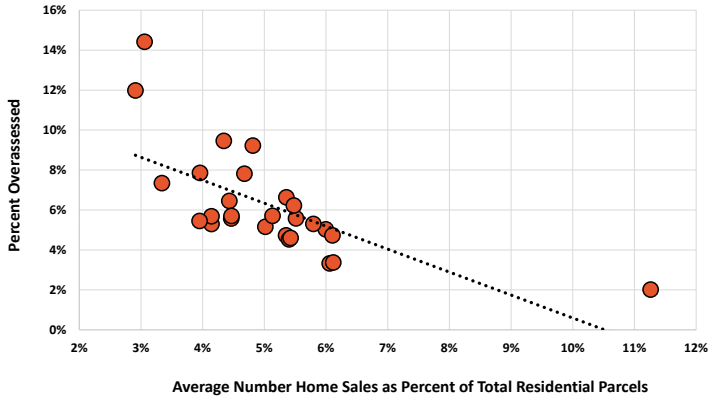
Five-Year Percent Change Average House Sales Price & Percent Overassessed
Correlation Coefficient = -0.0452851
P-Value = 0.82253275 (not significant)
Source: 2016-2021 Buncombe County Home Sales



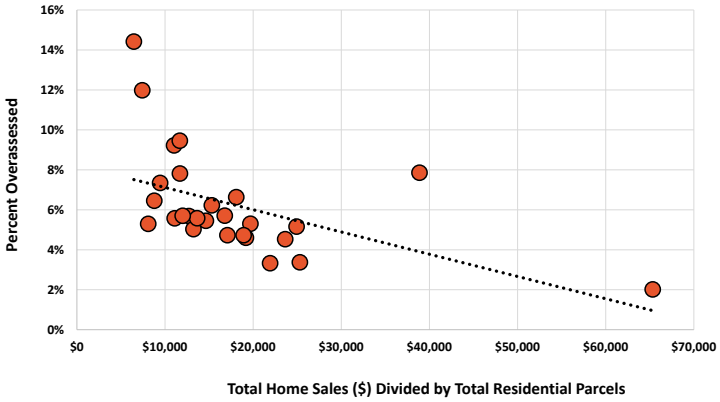
Percent Population Different House One Year Ago & Percent Overassessed
Correlation Coefficient = -0.506853
P-Value = 0.0069733 (highly significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



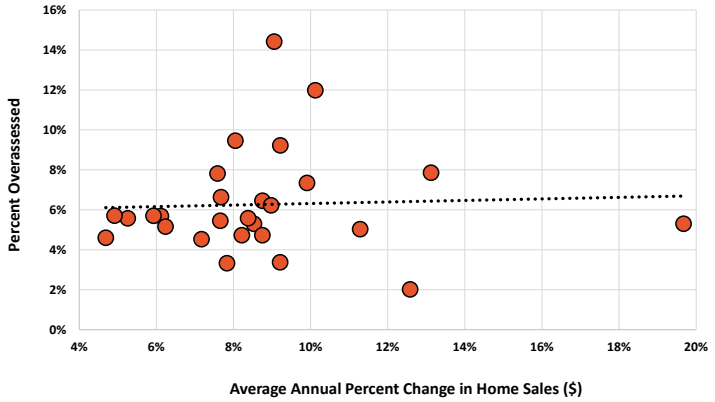
Average Number Home Sales as Percent of Total Residential Parcels & Percent Overassessed
Correlation Coefficient = -0.6764766
P-Value = 0.00010709 (highly significant)
Source: 2016-2021 Buncombe County Home Sales



Total Home Sales ($) Divided by Total Residential Parcels & Percent Overassessed
Correlation Coefficient = -0.5043633
P-Value = 0.00730310 (highly significant)
Source: 2016-2021 Buncombe County Home Sales



Average Annual Percent Change in Home Sales ($) & Percent Overassessed
Correlation Coefficient = 0.0443143
P-Value = 0.82627957 (not significant)
Source: 2017-2021 Buncombe County Home Sales

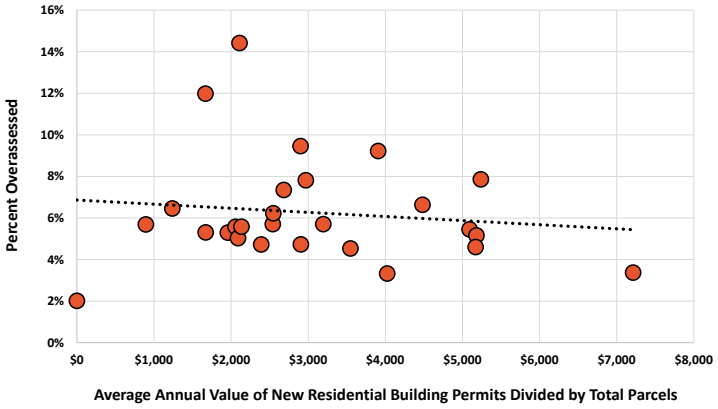


Average Annual Value of New Residential Building Permits Divided by Total Parcels & Percent Overassessed

Correlation Coefficient = -0.1210371

P-Value = 0.54758360 (not significant)

Source: 2016-2021 Buncombe County Home Sales, County Building Permits

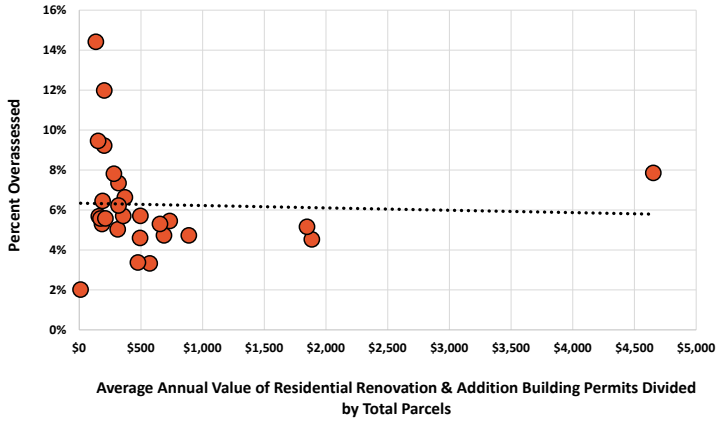


Average Annual Value of Residential Renovation & Addition Building Permits Divided by Total Parcels & Percent Overassessed

Correlation Coefficient = -0.0415754

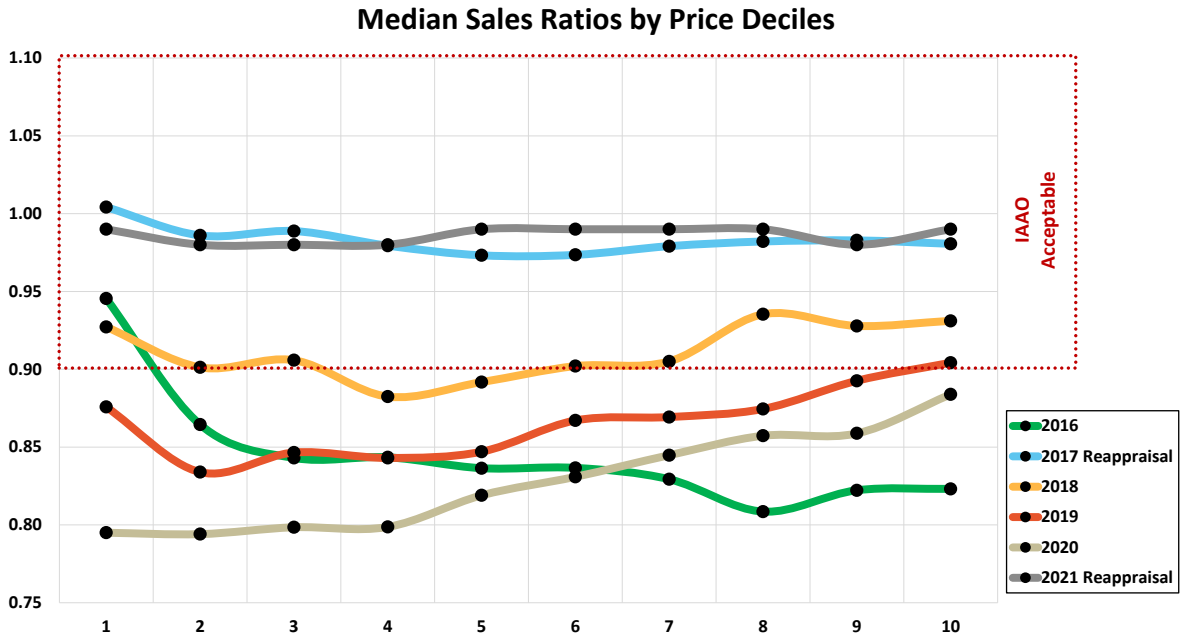
P-Value = 0.83687015 (not significant)

Source: 2016-2021 Buncombe County Home Sales, County Building Permits



Low-Priced Home Sales

Figure 15



Low-Priced home sales are those homes that are priced in the bottom 10% of all homes sold that year. Because the price ranges change each year they are represented as the number "1" in multi-year analyses (lowest price decile). As an inquiry of assessment equity, it is reasonable to examine assessment performance of low-priced home sales.

The low-price range for each year can be found in Table 6. A complete list of all home price decile ranges can be found in the Appendix.

In some years, low-priced home sales have a slightly higher likelihood of having higher median sales ratios compared to other sales deciles. In particular, 2016 and 2019 show upticks in sales ratios of lower priced homes relative to the next (Figure 15, Table 7). However, across the six-year period, low-priced home sales overall had median sales ratios below 0.90 (underassessed) in 2019 and 2020 and were within the acceptable range for the remaining four years. Median sales ratios were the most accurate in the reappraisal years of 2017 and 2021, 1.00 and 0.99 respectively

Among individual communities Sandy Mush had the highest percent of low-priced homes with 35.8% of home sales, followed by Candler with 29.4% (Table 8 and Figures 16, 17, 18). A community median sales ratio of only low-priced home sales over the six-year period shows all within the acceptable assessment range of 1.05 to 0.90 (Table 9 and Figure 19).

Table 6

Low-Priced Home Price Range

Year	Minimum	Average	Maximum
2016	$20,000	$90,099	$120,000
2017 Reappraisal	$18,000	$97,365	$130,000
2018	$13,000	$102,324	$135,000
2019	$18,000	$115,512	$150,000
2020	$22,000	$124,589	$164,000
2021 Reappraisal	$25,000	$136,391	$184,000

Table 7

Median Sales Ratios by Price Decile

Sales Decile	2016	2017 Reappraisal	2018	2019	2020	2021 Reappraisal
1	0.95	1.00	0.93	0.88	0.80	0.99
2	0.86	0.99	0.90	0.83	0.79	0.98
3	0.84	0.99	0.91	0.85	0.80	0.98
4	0.84	0.98	0.88	0.84	0.80	0.98
5	0.84	0.97	0.89	0.85	0.82	0.99
6	0.84	0.97	0.90	0.87	0.83	0.99
7	0.83	0.98	0.91	0.87	0.84	0.99
8	0.81	0.98	0.94	0.87	0.86	0.99
9	0.82	0.98	0.93	0.89	0.86	0.98
10	0.82	0.98	0.93	0.90	0.88	0.99

Table 8

Low-Priced Home Sales (2016-2021)

Community	Low-Priced Homes Sales	Percent of Total Home Sales	Low-Priced Home Median Sales Ratio
BILTMORE	2	1.4%	1.00
BROAD RIVER	22	12.4%	1.05
CANDLER	200	29.4%	0.90
CBD	4	1.3%	0.94
EAST ASHEVILLE	185	10.2%	0.94
EAST BUNCOMBE	120	8.9%	0.98
ENKA	137	11.2%	0.94
FAIRVIEW	57	10.7%	0.97
FRENCH BROAD	123	19.9%	0.94
IVY	44	20.3%	0.95
LEICESTER	157	12.9%	0.94
MONTFORD	9	2.9%	0.94
NORTH ASHEVILLE	82	4.1%	0.98
NORTH BUNCOMBE	92	11.9%	0.98
NORTH WEST ASHEVILLE	190	18.3%	0.92
OAKLEY	160	18.7%	0.90
REEMS CREEK	56	7.1%	0.93
REYNOLDS	69	7.7%	0.94
SANDY MUSH	77	35.8%	0.90
SHILOH / SWEETEN CREEK	38	7.6%	0.92
SOUTH ASHEVILLE	362	11.2%	0.94
SOUTH WEST BUNCOMBE	112	5.3%	0.92
SOUTHSIDE	7	2.7%	1.03
SWANNANOA	152	10.4%	0.97
WEAVERVILLE	28	5.3%	0.98
WEST ASHEVILLE	83	4.2%	0.99
WOODFIN	70	10.4%	0.98
Countywide	**2,638**	**10.2%**	**0.95**

Figure 16

Low-Priced Home Sales
Percent of Total Home Sales

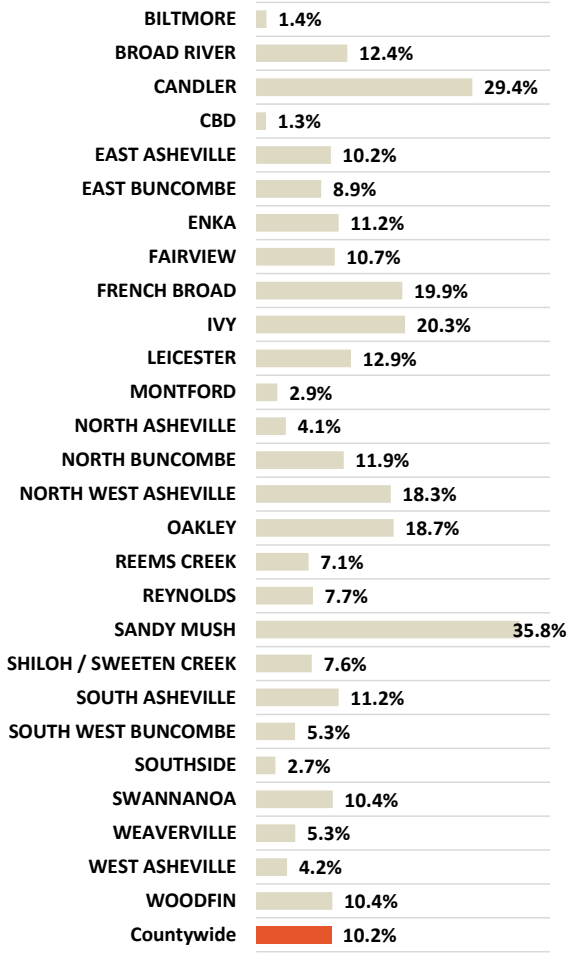


Figure 17

Locations of Low-Priced Home Sales (2016-2021)

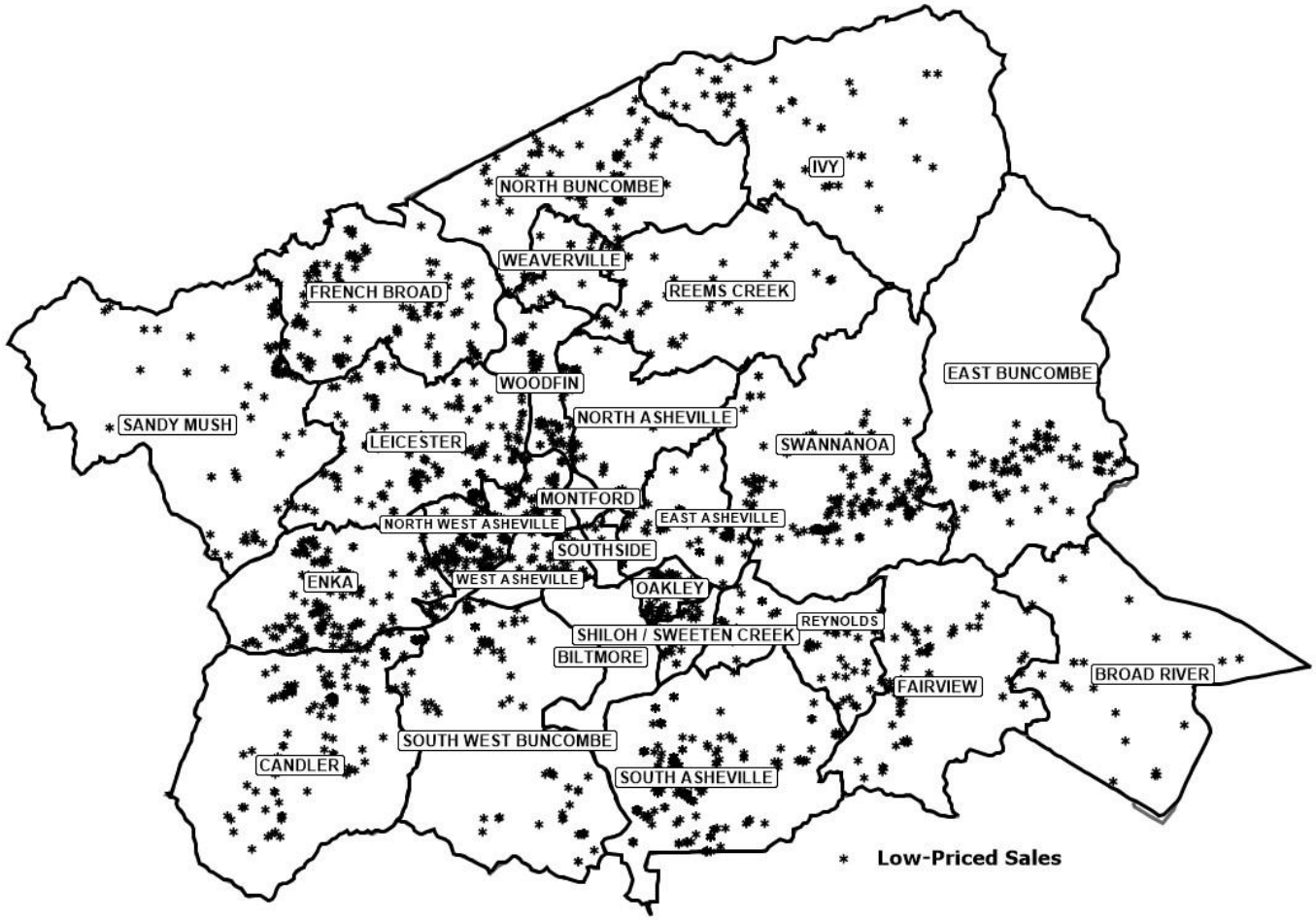


Figure 18

Low-Priced Home Sales as Percent of Total Home Sales (2016-2021)

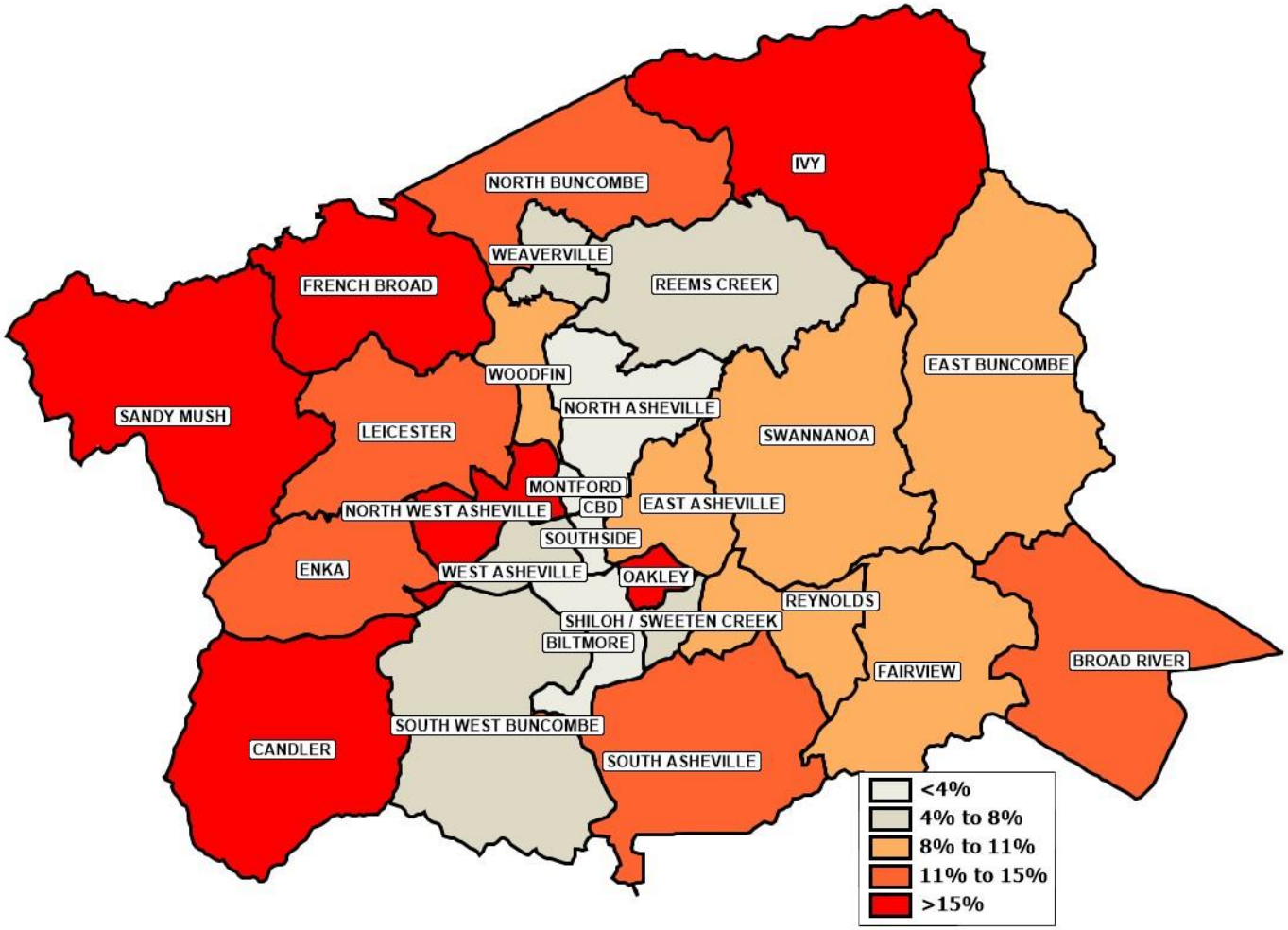
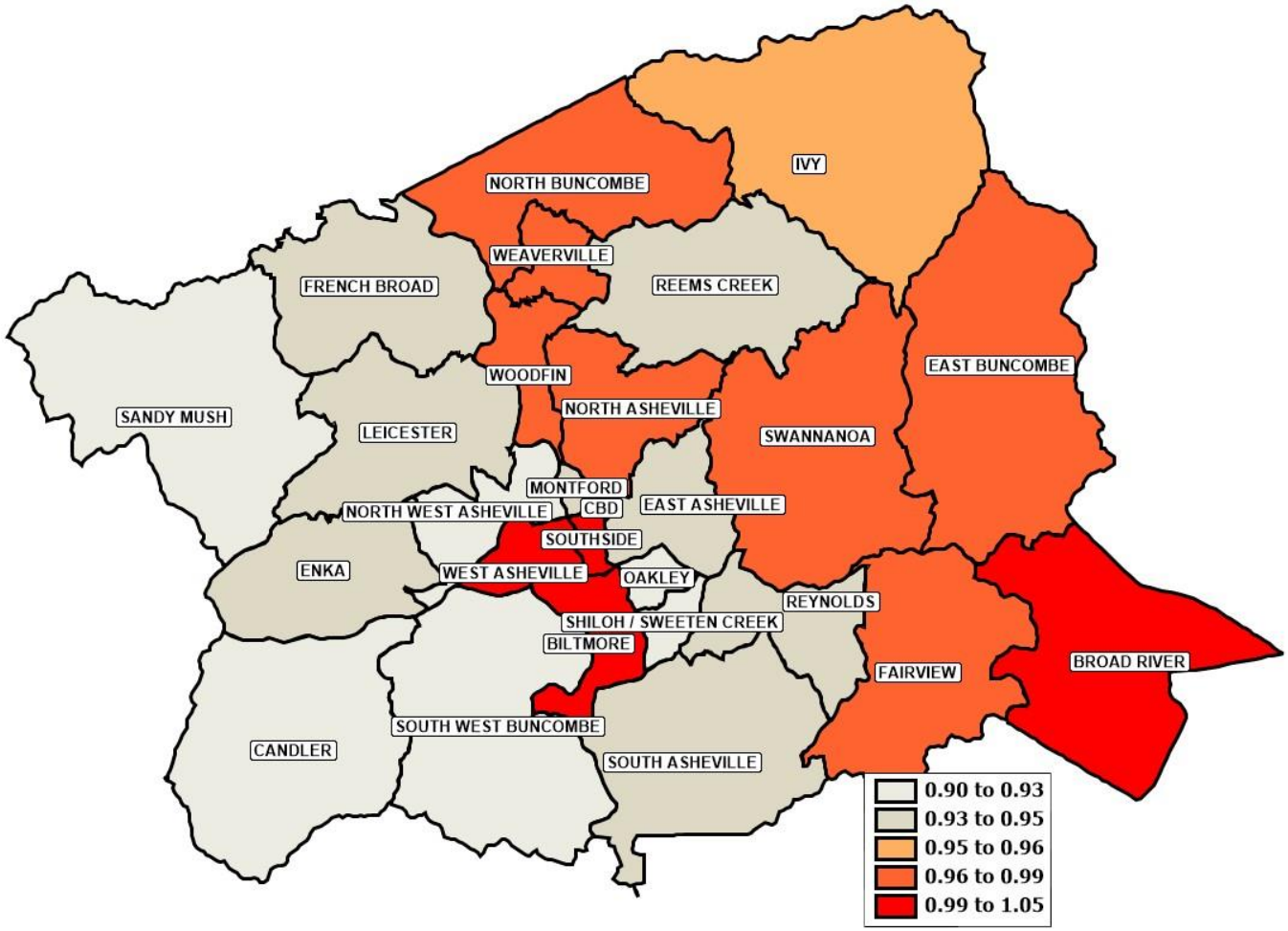


Figure 19

Low-Priced Home Median Sales Ratio (2016-2021)



Community Correlations by Low-Priced Home Sales

Examining the median sales ratios of only low-priced home sales offers a means to isolate the subject and help to determine if it is associated to certain community characteristics. For example, is income, race, or the rate of home price appreciation associated with the sales ratio levels of low-priced home sales?

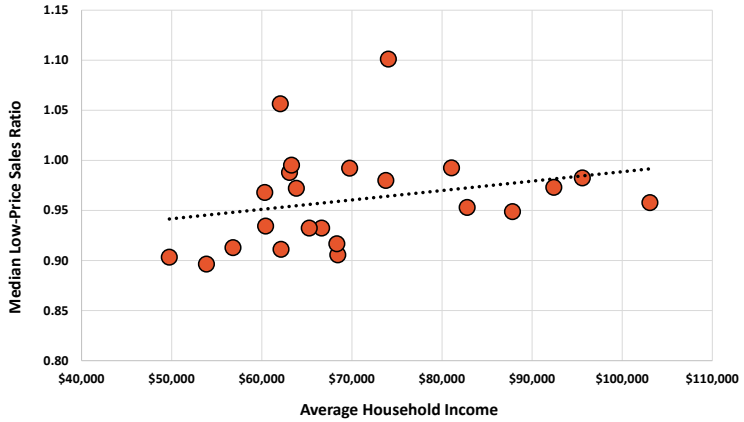
Several communities had no, or very few (less than five) low-priced home sales over the study periods and are excluded from several correlation analyses.

Readers are encouraged to examine each correlation and judge the results for themselves. Those results showing solid correlations should not be viewed as definitive outcomes but imply the need for further analyses.

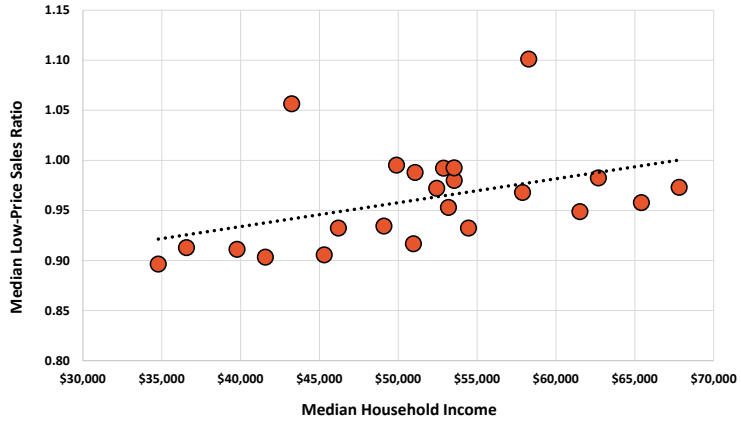
Noting just those correlations that exhibit some level of statistical significance and the association to assessment of low-priced home sales (◢=higher median sales ratio of low-priced home sales):

- *Higher Median Household Income* ◢
- *Higher Average House Sales Price* ◢
- *Higher Median House Sales Price* ◢
- *Higher Average Annual Value of Residential Renovation & Addition Building Permits Divided by Total Parcels* ◢

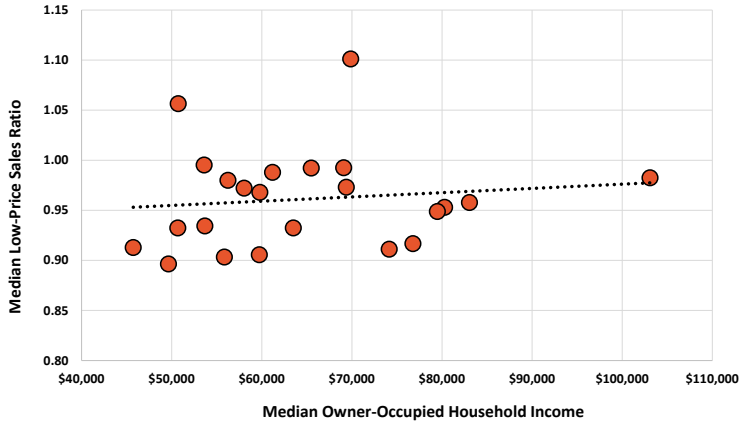
Average Household Income & Low-Price Sales Ratio
Correlation Coefficient = 0.26294
P-Value = 0.225444 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



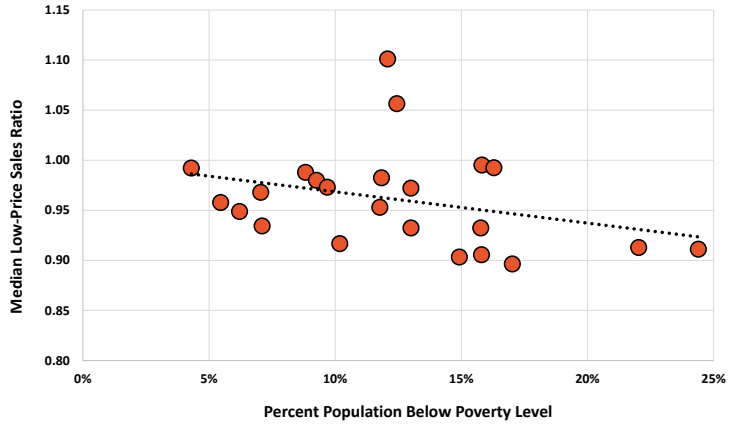
Median Household Income & Low-Price Sales Ratio
Correlation Coefficient = 0.42235
P-Value = 0.044682 (significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



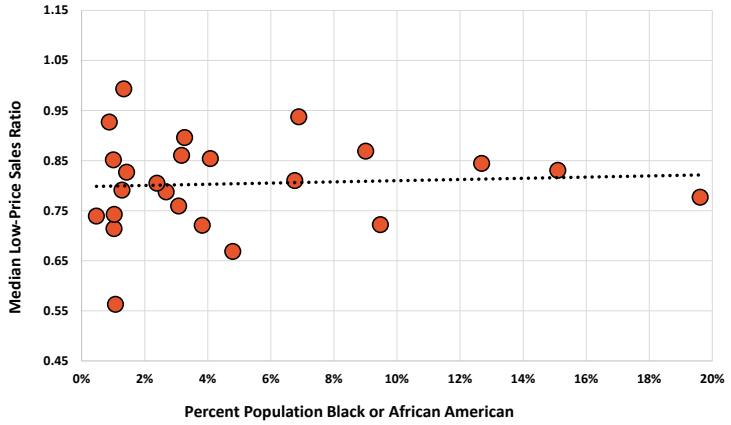
Median Owner-Occupied Household Income & Low-Price Sales Ratio
Correlation Coefficient = 0.11679
P-Value = 0.595617 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



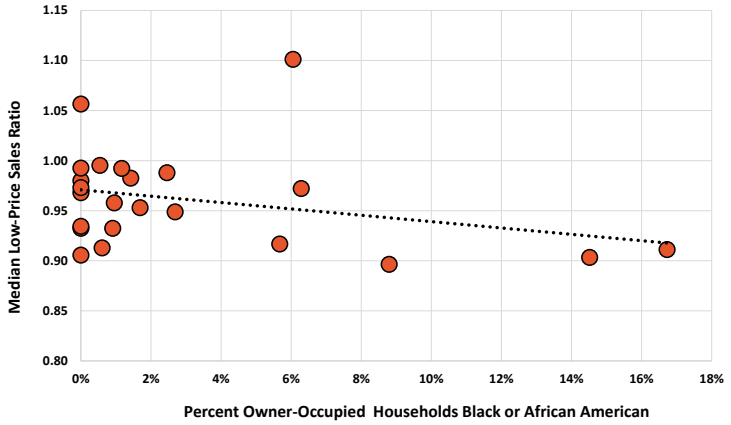
Percent Population Below Poverty Level & Low-Price Sales Ratio
Correlation Coefficient = -0.31954
P-Value = 0.137201 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



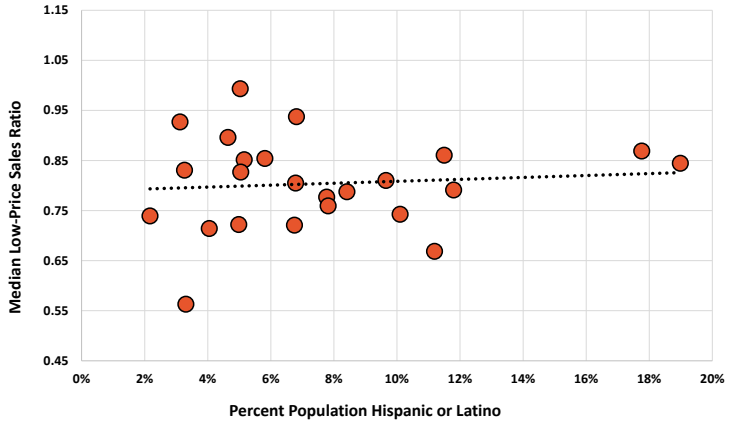
Percent Population Black or African American & Low-Price Sales Ratio
Correlation Coefficient = 0.063904
P-Value = 0.76673 (not significant)
Source: US Census Bureau, 2020 decennial, 2020 Buncombe County Home Sales



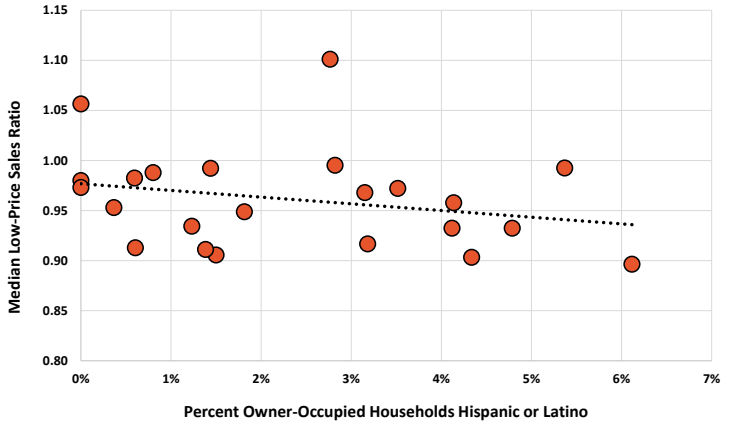
Percent Owner-Occupied Households Black or African American & Low-Price Sales Ratio Correlation Coefficient = -0.30138
P-Value = 0.162256 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



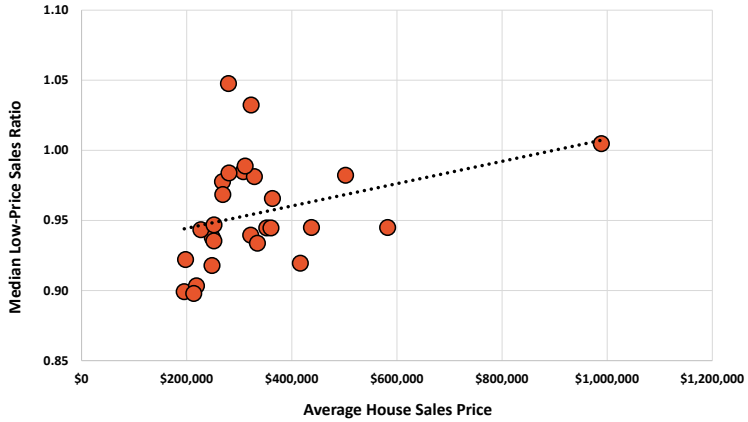
Percent Population Hispanic or Latino & Low-Price Sales Ratio
Correlation Coefficient = 0.088833
P-Value = 0.67977 (not significant)
Source: US Census Bureau, 2020 decennial, 2020 Buncombe County Home Sales



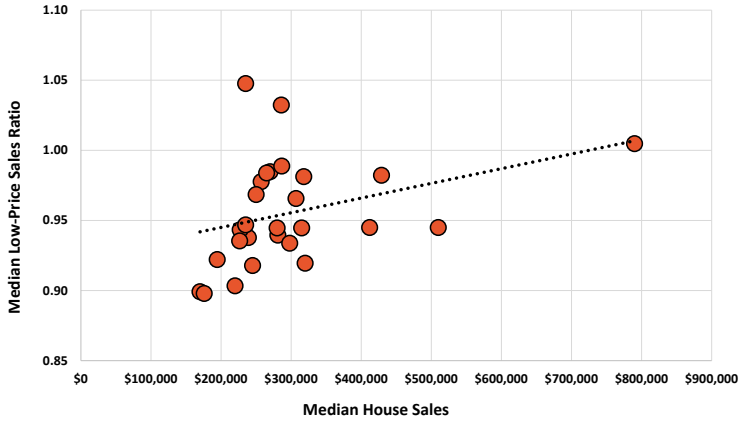
Percent Owner-Occupied Households Hispanic or Latino & Low-Price Sales Ratio
Correlation Coefficient = -0.25129
P-Value 0.247420 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



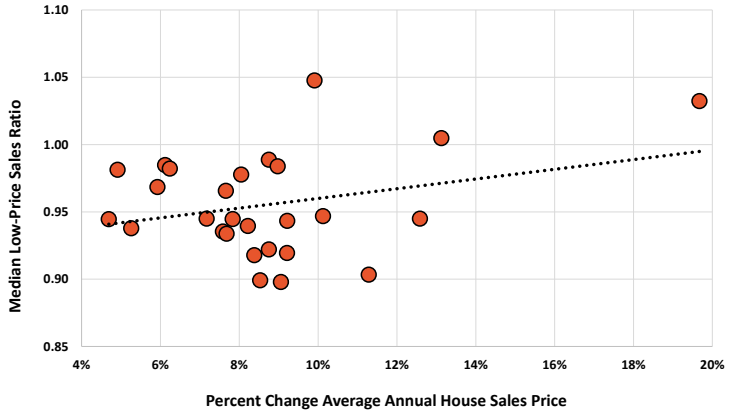
Average House Sales Price & Low-Price Sales Ratio
Correlation Coefficient = 0.336316
P-Value = 0.086303 (marginally significant)
Source: 2016-2021 Buncombe County Home Sales



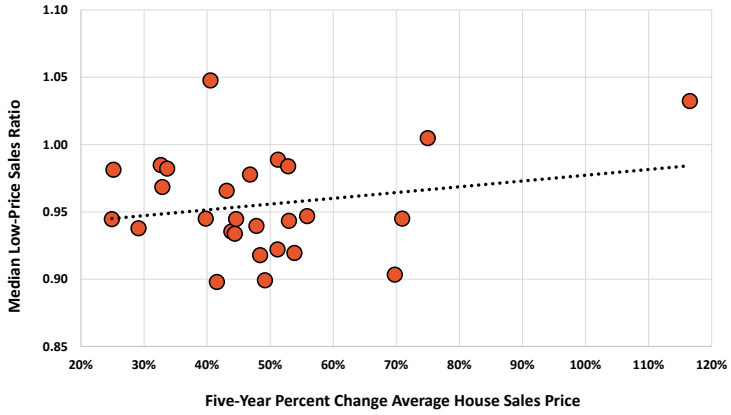
Median House Sales Price & Low-Price Sales Ratio
Correlation Coefficient = 0.343963
P-Value = 0.078957 (marginally significant)
Source: 2016-2021 Buncombe County Home Sales



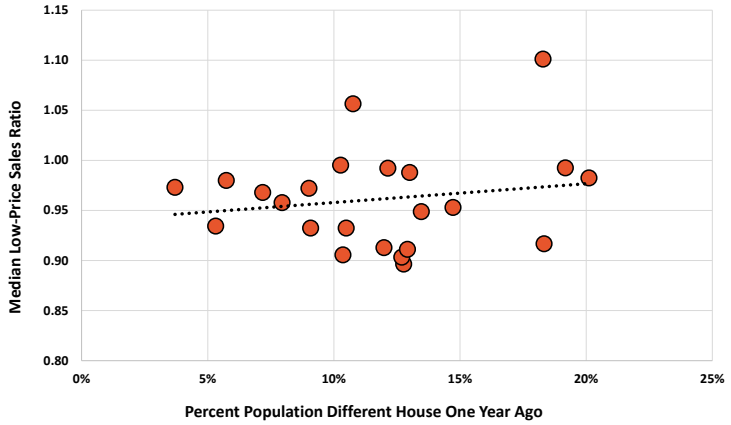
Percent Change Average Annual House Sales Price & Low-Price Sales Ratio
Correlation Coefficient = 0.288530
P-Value = 0.144412 (not significant)
Source: 2016-2021 Buncombe County Home Sales



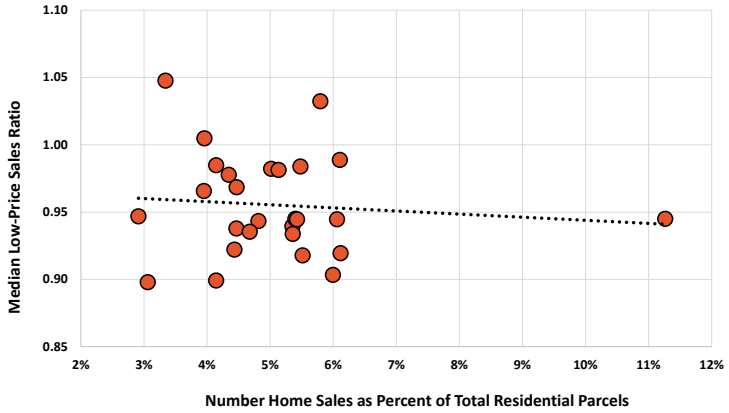
Five-Year Percent Change Average House Sales Price & Low-Price Sales Ratio
Correlation Coefficient = 0.210301
P-Value = 0.292396 (not significant)
Source: 2016-2021 Buncombe County Home Sales



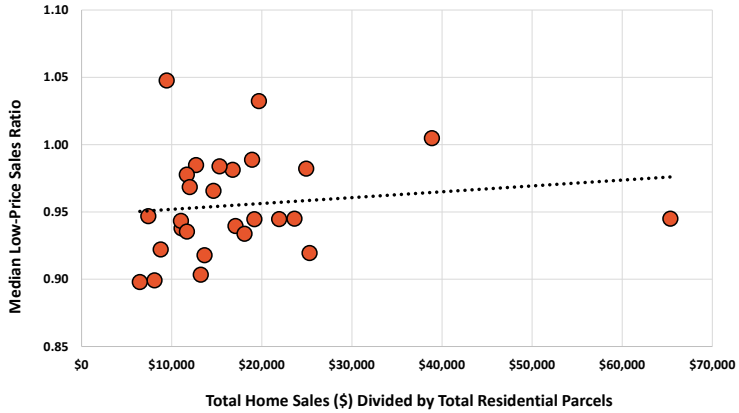
Percent Population Different House One Year Ago & Low-Price Sales Ratio
Correlation Coefficient = 0.16806
P-Value = 0.443374 (not significant)
Source: US Census Bureau, 2019 Five-Year American Community Survey, 2016-2019 Buncombe County Home Sales



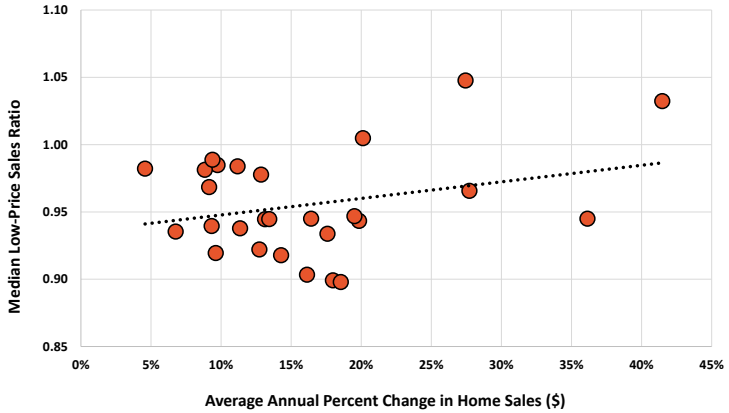
Number Home Sales as Percent of Total Residential Parcels & Low-Price Sales Ratio
Correlation Coefficient = -0.094111
P-Value = 0.640560 (not significant)
Source: 2016-2021 Buncombe County Home Sales



Total Home Sales ($) Divided by Total Residential Parcels & Low-Price Sales Ratio
Correlation Coefficient = 0.136045
P-Value = 0.498649 (not significant)
Source: 2016-2021 Buncombe County Home Sales



Average Annual Percent Change in Home Sales ($) & Low-Price Sales Ratio
Correlation Coefficient = 0.282292
P-Value = 0.153687 (not significant)
Source: 2017-2021 Buncombe County Home Sales

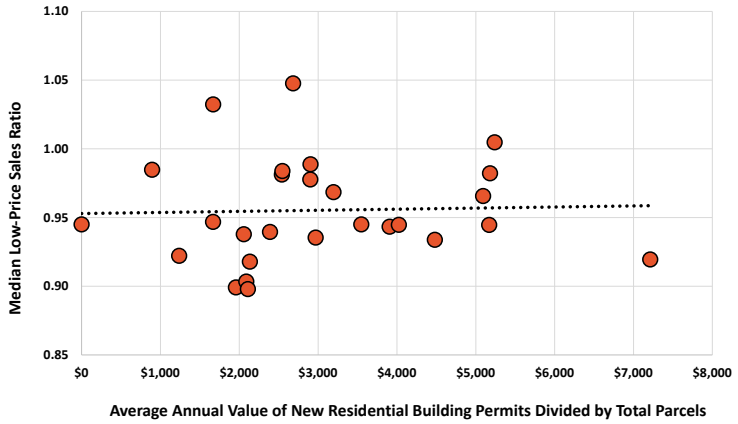


Average Annual Value of New Residential Building Permits Divided by Total Parcels & Low-Price Sales Ratio

Correlation Coefficient = 0.033783

P-Value = 0.867149 (not significant)

Source: 2016-2021 Buncombe County Home Sales, County Building Permits

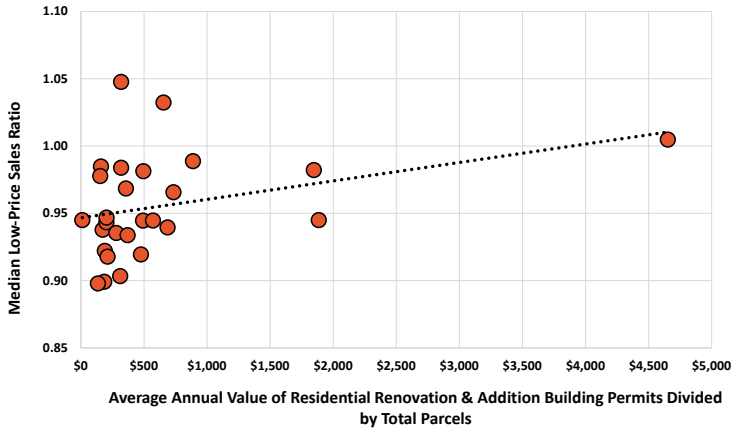


Average Annual Value of Residential Renovation & Addition Building Permits Divided by Total Parcels & Low-Price Sales Ratio

Correlation Coefficient = 0.335874

P-Value = 0.086743 (marginally significant)

Source: 2016-2021 Buncombe County Home Sales, County Building Permits



Other Measures of Assessment Equity[1]

The basic measure in ratio studies is the ratio of the appraised value to the sale price. The following measures are all derived from sales ratios.

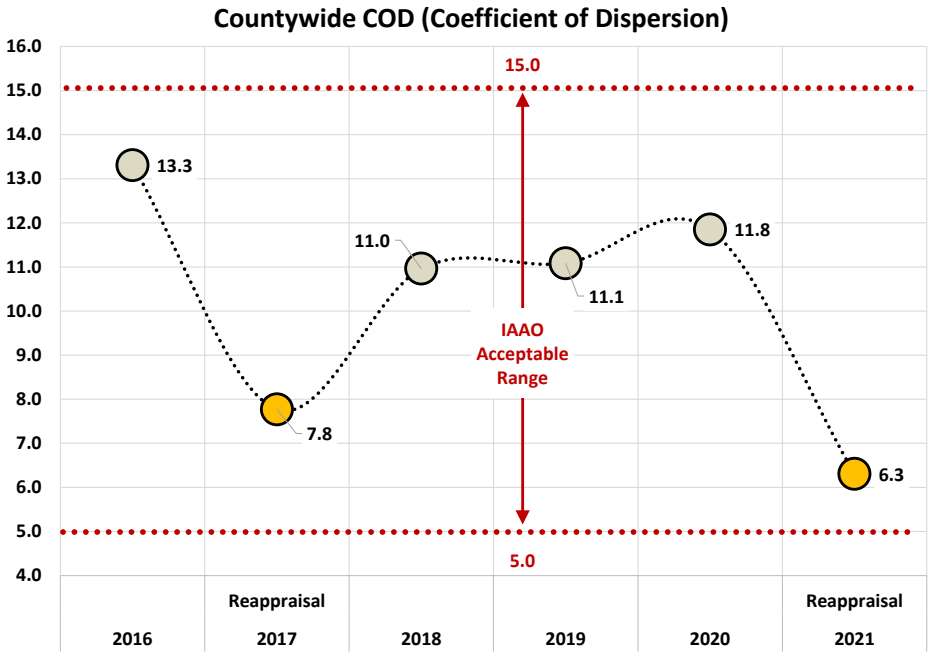
COD (Coefficient of Dispersion)

The COD or Coefficient of Dispersion is a commonly used measure of assessment variability or uniformity. The COD measures the average percentage deviation of the ratios from the median ratio. The IAAO acceptable range for single-family residential properties (primarily older, more heterogeneous areas) is between 5.0 and 15.0. For example, a COD of 15 means that properties have ratios that on average deviate by 15 percent from the median ratio. Generally, the lower the COD, the more uniform the ratios.

For the 2016 to 2021 period, the COD was within the acceptable range in all years (Figure 20).

Annual Coefficient of Dispersion by Community results can be found in Table 9 with those ratios outside of the acceptable range highlighted.

Figure 20



[1] Definitions and acceptable ranges from International Association of Assessing Officers (IAAO), *Standard on Ratio Studies* (2013), 314 W 10th St Kansas City, Missouri 64105-1616. Calculations performed with NCSS 2021 Statistical Software (2021). NCSS, LLC. Kaysville, Utah, USA, ncss.com/software/ncss

Table 9

Annual Coefficient of Dispersion by Community

Community	2016	2017	2018	2019	2020	2021
BILTMORE	16.6	3.6	6.9	6.9	9.6	3.2
BROAD RIVER	18.8	6.2	9.5	17.4	16.0	6.0
CANDLER	8.7	6.3	10.2	8.4	10.4	5.7
CBD	14.3	2.6	10.9	7.7	5.9	3.9
EAST ASHEVILLE	11.6	7.1	11.7	12.0	11.6	6.2
EAST BUNCOMBE	15.8	7.9	10.4	13.7	13.2	5.3
ENKA	8.4	5.9	11.4	9.7	11.3	6.5
FAIRVIEW	14.7	6.3	7.7	11.9	10.9	6.8
FRENCH BROAD	15.6	11.9	15.7	10.2	12.6	6.4
IVY	37.0	14.3	12.5	16.7	18.3	17.0
LEICESTER	12.7	10.8	12.1	10.3	11.9	6.8
MONTFORD	15.1	10.1	8.4	7.6	10.5	8.0
NORTH ASHEVILLE	13.6	7.4	9.8	10.1	12.0	7.2
NORTH BUNCOMBE	13.6	8.7	14.7	11.5	14.9	9.5
NORTH WEST ASHEVILLE	14.8	12.5	12.7	11.5	11.2	6.9
OAKLEY	10.1	10.8	11.4	11.4	12.6	6.5
REEMS CREEK	13.6	7.7	13.4	10.4	12.1	7.6
REYNOLDS	10.9	6.9	8.3	8.5	10.8	5.0
SANDY MUSH	16.7	15.7	14.4	11.7	16.8	7.1
SHILOH / SWEETEN CREEK	11.8	9.5	10.9	9.8	9.9	5.9
SOUTH ASHEVILLE	10.4	5.2	7.6	8.5	10.0	4.5
SOUTH WEST BUNCOMBE	9.8	4.4	8.8	9.9	10.2	4.9
SOUTHSIDE	13.6	7.9	15.1	10.6	11.7	7.0
SWANNANOA	12.4	6.6	11.2	12.9	11.8	5.4
WEAVERVILLE	12.1	7.4	10.7	12.1	12.9	6.4
WEST ASHEVILLE	13.6	11.5	11.9	12.1	11.9	8.1
WOODFIN	13.3	7.2	10.5	9.6	12.7	7.2
Countywide	**13.3**	**7.8**	**11.0**	**11.1**	**11.8**	**6.3**

PRD (Price-Related Differential)

The PRD or Price-Related Differential measures vertical equity (systematic differences in the appraisal of low- and high-value properties). The PRD is calculated by dividing the mean ratio by the weighted mean ratio. The PRD should be close to 1.00. A PRD of 1 indicates that homes are assessed at the same rate regardless of their sale price. Measures considerably above 1.00 tend to indicate assessment regressivity; measures below 1.00 suggest assessment progressivity. High PRDs generally indicate low appraisals on high-priced properties. The IAAO acceptable PRD range is between 0.98 and 1.03.

For the 2016 to 2021 period, the PRD was within the acceptable range for all years (Figure 21).

Annual Price-Related Differential by Community results can be found in Table 10 with those ratios outside of the acceptable range highlighted.

Figure 21

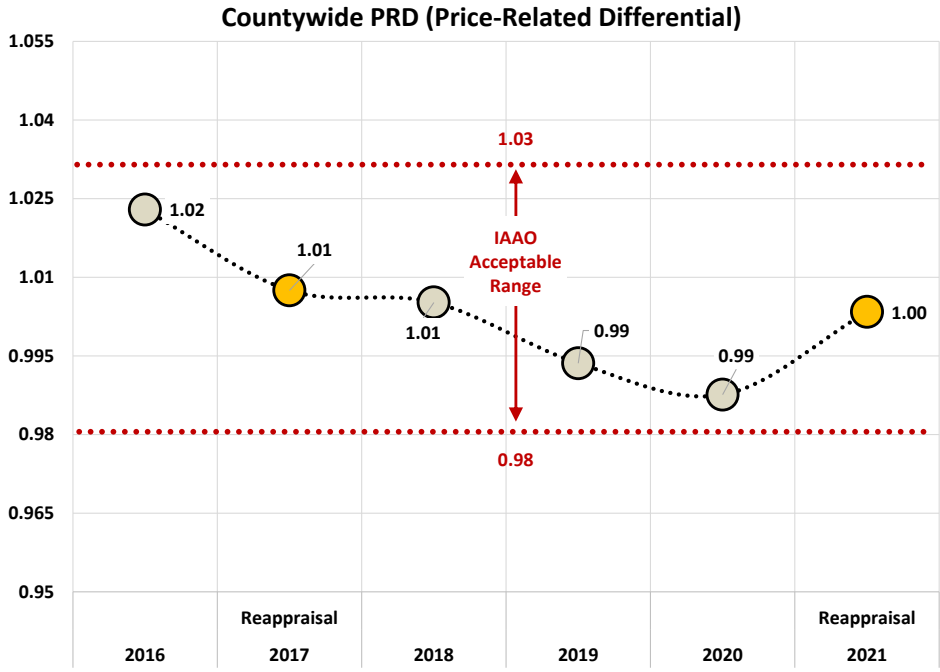


Table 10

Annual Price-Related Differential by Community

Community	2016	2017	2018	2019	2020	2021
BILTMORE	0.97	1.01	1.01	1.01	1.01	1.01
BROAD RIVER	1.09	1.00	1.02	1.01	0.97	1.05
CANDLER	1.00	1.00	0.99	1.00	1.00	1.00
CBD	1.04	1.00	1.04	1.02	1.00	1.00
EAST ASHEVILLE	1.01	1.01	1.03	1.00	0.99	1.01
EAST BUNCOMBE	1.02	1.01	1.00	0.99	0.99	1.01
ENKA	1.01	1.00	1.00	0.99	0.99	1.00
FAIRVIEW	1.05	1.01	1.00	1.03	0.98	1.00
FRENCH BROAD	1.05	1.04	1.02	0.99	1.00	1.00
IVY	1.20	0.99	1.00	0.99	1.01	1.02
LEICESTER	1.02	1.02	1.00	0.99	0.99	1.00
MONTFORD	1.03	1.02	1.00	1.00	0.99	1.01
NORTH ASHEVILLE	1.01	1.00	1.01	1.00	0.99	1.00
NORTH BUNCOMBE	1.04	1.01	1.02	1.00	0.98	0.99
NORTH WEST ASHEVILLE	1.03	1.02	1.00	1.00	1.00	1.00
OAKLEY	1.02	1.02	1.02	1.00	1.00	1.00
REEMS CREEK	1.03	1.00	0.99	1.00	0.98	1.00
REYNOLDS	1.01	1.00	1.00	0.99	0.99	1.00
SANDY MUSH	1.08	1.01	1.01	0.99	1.03	0.99
SHILOH / SWEETEN CREEK	1.03	1.01	1.01	0.99	1.00	1.00
SOUTH ASHEVILLE	1.00	1.00	0.99	0.99	0.99	1.00
SOUTH WEST BUNCOMBE	1.02	1.00	1.01	0.98	0.98	1.00
SOUTHSIDE	1.03	1.01	1.02	0.98	1.00	1.01
SWANNANOA	1.03	1.00	1.00	1.00	0.98	1.00
WEAVERVILLE	1.02	1.00	1.01	1.01	1.01	1.00
WEST ASHEVILLE	1.02	1.02	1.01	1.01	1.01	1.01
WOODFIN	1.03	1.00	1.01	0.99	1.01	1.00
Countywide	**1.02**	**1.01**	**1.01**	**0.99**	**0.99**	**1.00**

PRB (Coefficient of Price-Related Bias)

The PRB or Coefficient of Price-Related Bias is another measure of vertical equity and is calculated by regressing the percentage difference from the median ratio on percentage differences in value. For example, a PRB of −.045 indicates that assessment ratios fall by 4.5% when values double and increase by 4.5% when values are halved. According to the IAAO, the PRB coefficient acceptable range is between –0.05 and 0.05.

For the 2016 to 2021 period, the PRB was within the acceptable range for all years (Figure 22).

Annual Coefficient of Price-Related Bias by Community results can be found in Table 11 with those ratios outside of the acceptable range highlighted.

Figure 22

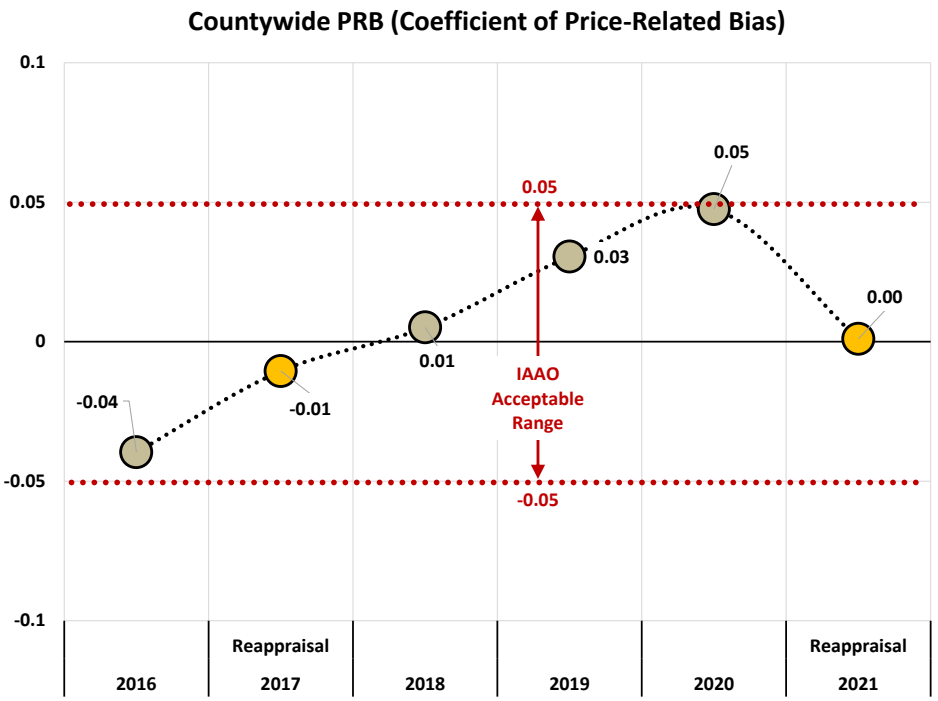


Table 11

Annual Coefficient of Price-Related Bias by Community

Community	2016	2017	2018	2019	2020	2021
BILTMORE	0.21	-0.02	0.00	-0.01	-0.01	-0.01
BROAD RIVER	-0.13	0.00	-0.03	0.04	0.14	-0.02
CANDLER	0.03	0.02	0.06	0.03	0.03	0.01
CBD	-0.05	-0.01	-0.06	-0.03	0.01	0.00
EAST ASHEVILLE	-0.01	-0.03	-0.01	0.03	0.06	-0.01
EAST BUNCOMBE	-0.01	-0.01	0.01	0.04	0.09	-0.05
ENKA	-0.02	0.00	0.00	0.06	0.10	0.02
FAIRVIEW	-0.12	-0.01	0.02	-0.04	0.06	0.02
FRENCH BROAD	-0.12	-0.07	-0.08	0.05	0.00	0.02
IVY	-0.32	0.04	0.04	0.07	-0.01	-0.03
LEICESTER	-0.03	-0.02	0.01	0.03	0.06	0.00
MONTFORD	-0.07	-0.02	0.02	0.03	0.07	-0.01
NORTH ASHEVILLE	-0.01	0.01	-0.01	0.01	0.04	0.01
NORTH BUNCOMBE	-0.14	-0.03	-0.01	0.03	0.08	0.06
NORTH WEST ASHEVILLE	-0.10	-0.06	0.03	0.06	0.03	-0.02
OAKLEY	-0.08	-0.08	-0.08	0.05	0.05	-0.01
REEMS CREEK	-0.04	0.00	0.06	0.03	0.13	0.01
REYNOLDS	-0.03	-0.01	-0.01	0.03	0.04	0.02
SANDY MUSH	-0.17	0.01	-0.01	0.04	-0.11	0.03
SHILOH / SWEETEN CREEK	-0.17	-0.01	-0.10	0.11	0.05	0.01
SOUTH ASHEVILLE	0.00	0.00	0.03	0.03	0.03	0.00
SOUTH WEST BUNCOMBE	-0.03	0.00	0.01	0.05	0.07	0.00
SOUTHSIDE	-0.02	-0.07	-0.03	0.07	0.07	0.00
SWANNANOA	-0.07	0.01	0.01	0.02	0.06	0.00
WEAVERVILLE	0.03	-0.01	-0.05	0.02	-0.05	0.03
WEST ASHEVILLE	-0.04	-0.10	-0.03	0.02	0.00	-0.02
WOODFIN	-0.07	0.01	-0.03	0.05	0.06	0.02
Countywide	**-0.04**	**-0.01**	**0.01**	**0.03**	**0.05**	**0.00**

Appendix

Community Correlation Data (Sources; US Census Bureau, Five-Year 2015-2019, 2020 Decennial)
Rank High to Low

Community	Median Household Income		Mean Household Income		Median Household Income Owner-Occupied		Percent Below Poverty		Percent Black or African American		Percent Hispanic or Latino	
	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank
BILTMORE	$173,360	1	$277,741	1	$182,145.84	1	3.1%	27	1.2%	21	3.0%	26
BROAD RIVER	$43,239	21	$62,053	20	$50,729.00	23	12.4%	14	0.5%	27	2.2%	27
CANDLER	$45,304	20	$68,432	12	$59,731.68	17	15.8%	9	1.3%	20	11.8%	3
CBD	$22,502	26	$40,082	26	$96,579.09	3	29.5%	2	15.1%	4	3.3%	24
EAST ASHEVILLE	$50,958	15	$68,335	13	$76,775.20	8	10.2%	18	9.5%	6	5.0%	18
EAST BUNCOMBE	$51,069	14	$63,083	18	$61,189.94	15	8.8%	21	4.1%	11	5.8%	14
ENKA	$54,451	8	$66,649	14	$63,499.42	14	13.0%	12	2.7%	16	8.4%	8
FAIRVIEW	$53,550	9	$73,775	10	$56,250.05	19	9.3%	20	1.0%	24	4.1%	21
FRENCH BROAD	$57,881	7	$60,328	22	$59,784.96	16	7.1%	23	1.0%	25	5.2%	15
IVY	$49,091	17	$60,421	21	$53,682.04	21	7.1%	22	0.9%	26	3.1%	25
LEICESTER	$46,202	19	$65,264	15	$50,680.71	24	15.8%	10	3.2%	14	11.5%	4
MONTFORD	$46,744	18	$75,005	8	$80,486.50	5	25.7%	3	21.7%	2	3.6%	22
NORTH ASHEVILLE	$62,690	4	$95,581	3	$103,094.27	2	11.8%	16	3.3%	13	4.6%	19
NORTH BUNCOMBE	$49,891	16	$63,303	17	$53,604.69	22	15.8%	8	1.0%	23	10.1%	6
NORTH WEST ASHEVILLE	$34,781	25	$53,856	24	$49,640.84	26	17.0%	6	9.0%	7	17.8%	2
OAKLEY	$41,573	22	$49,739	25	$55,850.85	20	14.9%	11	19.6%	3	7.8%	10
REEMS CREEK	$67,815	2	$92,415	4	$69,380.12	11	9.7%	19	1.1%	22	3.3%	23
REYNOLDS	$53,180	11	$82,797	6	$80,294.69	6	11.8%	17	2.4%	17	6.8%	12
SANDY MUSH	$36,565	24	$56,802	23	$45,726.71	27	22.0%	5	1.4%	18	5.0%	16
SHILOH / SWEETEN CREEK	$39,777	23	$62,133	19	$74,136.53	9	24.4%	4	12.7%	5	19.0%	1
SOUTH ASHEVILLE	$61,518	5	$87,824	5	$79,487.58	7	6.2%	24	6.8%	9	9.7%	7
SOUTH WEST BUNCOMBE	$65,419	3	$103,073	2	$83,048.16	4	5.5%	25	3.1%	15	7.8%	9
SOUTHSIDE	$19,747	27	$35,370	27	$50,597.27	25	39.5%	1	38.3%	1	4.4%	20
SWANNANOA	$52,436	13	$63,833	16	$58,037.40	18	13.0%	13	3.8%	12	6.8%	13
WEAVERVILLE	$52,873	12	$69,756	11	$65,488.63	13	4.3%	26	1.3%	19	5.0%	17
WEST ASHEVILLE	$58,270	6	$74,054	9	$69,871.73	10	12.1%	15	6.9%	8	6.8%	11
WOODFIN	$53,541	10	$81,058	7	$69,085.25	12	16.3%	7	4.8%	10	11.2%	5

Community Correlation Data (Sources; US Census Bureau, Five-Year 2015-2019, 2020 Decennial)
Rank High to Low

Community	Percent Black or African American Owner-Occupied		Percent Hispanic or Latino Owner-Occupied		Percent Different House One-Year Ago	
	#	Rank	#	Rank	#	Rank
BILTMORE	0.0%	26	0.8%	18	10.7%	17
BROAD RIVER	0.0%	27	0.0%	27	10.8%	16
CANDLER	0.0%	18	1.5%	13	10.4%	19
CBD	0.0%	24	0.0%	26	36.3%	1
EAST ASHEVILLE	5.7%	8	3.2%	8	18.3%	4
EAST BUNCOMBE	2.5%	10	0.8%	17	13.0%	9
ENKA	0.0%	20	4.1%	6	10.5%	18
FAIRVIEW	0.0%	22	0.0%	24	5.7%	25
FRENCH BROAD	0.0%	21	3.2%	9	7.2%	24
IVY	0.0%	25	1.2%	16	5.3%	26
LEICESTER	0.9%	15	4.8%	3	9.1%	21
MONTFORD	16.3%	3	0.0%	23	11.3%	15
NORTH ASHEVILLE	1.4%	12	0.6%	20	20.1%	2
NORTH BUNCOMBE	0.5%	17	2.8%	10	10.3%	20
NORTH WEST ASHEVILLE	8.8%	5	6.1%	1	12.8%	11
OAKLEY	14.5%	4	4.3%	4	12.7%	12
REEMS CREEK	0.0%	23	0.0%	25	3.7%	27
REYNOLDS	1.7%	11	0.4%	21	14.7%	7
SANDY MUSH	0.6%	16	0.6%	19	12.0%	14
SHILOH / SWEETEN CREEK	16.7%	2	1.4%	15	12.9%	10
SOUTH ASHEVILLE	2.7%	9	1.8%	12	13.5%	8
SOUTH WEST BUNCOMBE	1.0%	14	4.1%	5	7.9%	23
SOUTHSIDE	45.8%	1	0.0%	22	17.5%	6
SWANNANOA	6.3%	6	3.5%	7	9.0%	22
WEAVERVILLE	1.2%	13	1.4%	14	12.1%	13
WEST ASHEVILLE	6.1%	7	2.8%	11	18.3%	5
WOODFIN	0.0%	19	5.4%	2	19.2%	3

Community Correlation Data (Sources; Buncombe County Tax Parcels, MLS, Buncombe County Building Permits)
Rank High to Low

Community	Average Annual Value of New Residential Building Permits Divided by Total Parcels		Average Annual Value of Residential Renovation & Addition Building Permits Divided by Total Parcels		Average House Sales Price		Five-Year Percent Change Average House Sales Price	
	#	Rank	#	Rank	#	Rank	#	Rank
BILTMORE	$5,239	2	$4,653	1	$988,855	1	75.0%	2
BROAD RIVER	$2,683	14	$319	14	$279,563	16	40.5%	20
CANDLER	$1,958	22	$184	22	$195,322	27	49.2%	11
CBD	$0	27	$11	27	$582,295	2	70.9%	3
EAST ASHEVILLE	$2,390	17	$687	6	$321,858	12	47.8%	13
EAST BUNCOMBE	$895	26	$159	24	$307,703	14	32.7%	24
ENKA	$2,057	21	$172	23	$248,718	21	29.1%	25
FAIRVIEW	$5,093	5	$733	5	$363,102	6	43.1%	18
FRENCH BROAD	$3,907	8	$202	20	$226,975	23	53.0%	7
IVY	$1,667	24	$203	19	$251,903	19	55.9%	5
LEICESTER	$2,968	11	$281	17	$251,836	20	43.9%	17
MONTFORD	$3,548	9	$1,886	2	$437,356	4	39.8%	21
NORTH ASHEVILLE	$5,181	3	$1,846	3	$502,197	3	33.7%	22
NORTH BUNCOMBE	$2,901	13	$153	25	$268,131	18	46.8%	14
NORTH WEST ASHEVILLE	$1,238	25	$189	21	$197,754	26	51.2%	10
OAKLEY	$2,089	20	$312	16	$218,704	24	69.8%	4
REEMS CREEK	$4,481	6	$370	12	$334,496	9	44.4%	16
REYNOLDS	$5,171	4	$493	10	$352,257	8	24.9%	27
SANDY MUSH	$2,109	19	$135	26	$213,383	25	41.6%	19
SHILOH / SWEETEN CREEK	$2,135	18	$212	18	$248,135	22	48.4%	12
SOUTH ASHEVILLE	$4,024	7	$571	8	$360,395	7	44.6%	15
SOUTH WEST BUNCOMBE	$7,213	1	$476	11	$416,202	5	53.8%	6
SOUTHSIDE	$1,669	23	$655	7	$322,563	11	116.5%	1
SWANNANOA	$3,195	10	$357	13	$268,778	17	32.9%	23
WEAVERVILLE	$2,541	16	$495	9	$328,846	10	25.2%	26
WEST ASHEVILLE	$2,904	12	$888	4	$311,199	13	51.2%	9
WOODFIN	$2,547	15	$319	15	$280,461	15	52.9%	8

Community Correlation Data (Sources; Buncombe County Tax Parcels, MLS, Buncombe County Building Permits)

Rank High to Low

Community	Average Annual House Price Change		Median House Price		Average Number Home Sales as Percent of Total Residential Parcels		Total Home Sales ($) Divided by Total Residential Parcels		Average Annual Percent Change in Home Sales ($)	
	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank
BILTMORE	13.1%	2	$790,000	1	4.0%	23	$38,878	2	20.1%	5
BROAD RIVER	9.9%	6	$235,000	21	3.3%	25	$9,447	23	27.4%	4
CANDLER	8.5%	13	$170,000	27	4.1%	21	$8,097	25	18.0%	9
CBD	12.6%	3	$510,000	2	11.3%	1	$65,344	1	36.1%	2
EAST ASHEVILLE	8.2%	15	$281,000	12	5.4%	12	$17,080	11	9.3%	23
EAST BUNCOMBE	6.1%	23	$270,000	14	4.1%	22	$12,711	17	9.7%	20
ENKA	5.3%	25	$239,000	19	4.5%	18	$11,095	21	11.4%	18
FAIRVIEW	7.7%	19	$307,000	8	4.0%	24	$14,638	14	27.7%	3
FRENCH BROAD	9.2%	7	$227,250	22	4.8%	15	$11,032	22	19.8%	6
IVY	10.1%	5	$235,000	20	2.9%	27	$7,412	26	19.5%	7
LEICESTER	7.6%	20	$226,500	23	4.7%	16	$11,690	19	6.8%	26
MONTFORD	7.2%	21	$412,000	4	5.4%	10	$23,630	5	16.4%	11
NORTH ASHEVILLE	6.2%	22	$429,000	3	5.0%	14	$24,931	4	4.6%	27
NORTH BUNCOMBE	8.0%	16	$257,250	16	4.3%	20	$11,676	20	12.9%	16
NORTH WEST ASHEVILLE	8.8%	11	$194,500	25	4.4%	19	$8,782	24	12.7%	17
OAKLEY	11.3%	4	$220,000	24	6.0%	5	$13,232	16	16.1%	12
REEMS CREEK	7.7%	18	$298,000	9	5.4%	11	$18,081	10	17.6%	10
REYNOLDS	4.7%	27	$315,000	7	5.4%	9	$19,178	8	13.1%	15
SANDY MUSH	9.1%	9	$176,000	26	3.1%	26	$6,463	27	18.5%	8
SHILOH / SWEETEN CREEK	8.4%	14	$245,000	18	5.5%	7	$13,644	15	14.3%	13
SOUTH ASHEVILLE	7.8%	17	$280,000	13	6.1%	4	$21,926	6	13.4%	14
SOUTH WEST BUNCOMBE	9.2%	8	$320,000	5	6.1%	2	$25,299	3	9.6%	21
SOUTHSIDE	19.7%	1	$286,000	11	5.8%	6	$19,684	7	41.5%	1
SWANNANOA	5.9%	24	$250,000	17	4.5%	17	$12,009	18	9.1%	24
WEAVERVILLE	4.9%	26	$318,000	6	5.1%	13	$16,775	12	8.8%	25
WEST ASHEVILLE	8.8%	12	$286,500	10	6.1%	3	$18,918	9	9.4%	22
WOODFIN	9.0%	10	$265,000	15	5.5%	8	$15,308	13	11.2%	19

Home Sales Price Deciles

Decile	Range	2016	2017	2018	2019	2020	2021
1	Average	$90,099	$97,365	$102,324	$115,512	$124,589	$136,391
1	Minimum	$20,000	$18,000	$13,000	$18,000	$22,000	$25,000
1	Maximum	$120,000	$130,000	$135,000	$150,000	$164,000	$184,000
2	Average	$139,882	$149,122	$156,669	$171,574	$189,178	$211,382
2	Minimum	$120,500	$131,000	$135,500	$150,500	$164,500	$184,000
2	Maximum	$155,000	$165,000	$175,000	$190,000	$210,000	$230,000
3	Average	$167,087	$179,493	$190,928	$210,804	$226,693	$247,156
3	Minimum	$155,500	$165,500	$175,500	$190,500	$211,000	$231,000
3	Maximum	$178,000	$192,000	$207,000	$227,000	$240,000	$262,500
4	Average	$189,769	$206,928	$221,945	$239,819	$254,164	$277,565
4	Minimum	$178,500	$192,500	$207,500	$227,500	$240,500	$263,000
4	Maximum	$200,000	$220,000	$235,500	$252,000	$266,000	$293,000
5	Average	$214,844	$233,486	$249,252	$266,666	$281,323	$309,506
5	Minimum	$200,500	$220,500	$236,000	$252,500	$266,500	$293,000
5	Maximum	$227,000	$247,000	$262,500	$280,000	$295,500	$325,000
6	Average	$241,302	$261,183	$278,048	$298,500	$314,214	$346,928
6	Minimum	$227,500	$247,500	$263,000	$281,000	$296,000	$325,500
6	Maximum	$255,000	$277,000	$295,000	$318,000	$332,000	$365,500
7	Average	$273,234	$295,980	$316,318	$337,615	$353,972	$392,538
7	Minimum	$255,500	$277,500	$295,500	$319,000	$332,500	$366,000
7	Maximum	$291,500	$319,000	$337,500	$360,000	$376,000	$424,000
8	Average	$324,966	$350,173	$369,853	$395,547	$408,418	$458,803
8	Minimum	$292,000	$319,500	$338,000	$360,500	$376,500	$425,000
8	Maximum	$359,000	$386,000	$405,000	$430,000	$449,000	$505,000
9	Average	$407,283	$435,482	$461,415	$483,518	$504,441	$574,571
9	Minimum	$360,000	$386,500	$406,000	$430,500	$450,000	$506,000
9	Maximum	$470,000	$500,000	$530,000	$550,000	$572,500	$666,500
10	Average	$694,657	$760,777	$813,914	$837,710	$874,334	$987,501
10	Minimum	$471,000	$501,000	$532,000	$554,000	$573,000	$667,000
10	Maximum	$2,600,000	$3,400,000	$3,300,000	$3,625,000	$3,500,000	$7,700,000

Overview of Participating Firm

SYNEVA Economics, incorporated in the State of North Carolina since 2003 is an innovative leader in data-driven regional economic analysis. The firm's key value is providing clear and insightful information that enables clients to make knowledgeable, efficient, and effective decisions. As a regional economic research expert, SYNEVA Economics follows an adaptive business model, its role adjusting to the specific needs of each client and project. The firm at times works directly with municipal, commercial, community and economic development leadership and at other times serves as the research expert for firms such as Deloitte, Garner Economics, McCallum Sweeney Consulting, and Younger Associates.

SYNEVA Economics' broad portfolio includes economic assessments for dozens of communities, industry targeting, economic impact analyses, workforce & skills assessments, micro-demographic analyses, and a host of custom analyses answering specific site and client needs. The range of research activities has been as broad as economic impact analyses for universities, international airports, and major infrastructure projects to micro-demographic analyses of neighborhood gentrification and sub-state health insurance coverage.

A list of past and current clients can be viewed at www.syneva.com/clients