

Short Term Rentals & Housing Costs in Denver

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Abstract

This analysis examines whether short term rentals increase housing costs in Denver. Short term rentals could increase housing costs in Denver in two ways. First, by decreasing the overall supply of housing units used for normal residential purposes, thereby increasing rents and home prices. Second, by increasing the value of housing units, which would raise rents and home prices. This report evaluates whether either of these two mechanisms of increasing housing costs are occurring in Denver.

Since short term rentals are 1% of Denver's entire housing supply and are required by city ordinance to be the host's primary residence, it is reasonable to assume that they do not decrease the housing supply enough to impact housing prices. Examining housing price changes by Census Tract alongside the proportion of short term rentals by tract indicates that a geographic concentration of short term rentals is moderately positively correlated with localized increases in owner-occupied home values (.329), and has a weak positive correlation with local rent increases (.033). However, this correlation is likely an indication that increased home values and rents reflect an area's perceived desirability, which makes short term rentals more economically viable – rather than evidence that short term rentals have a localized impact on housing costs.

Background

The definition of short term rental varies across the country and throughout the world. Short term rental hosts advertise offerings as entire homes, accessory dwelling units, or rooms within a home. Hosts offering these rentals may be owner occupants, renter occupants, or owners who do not occupy the residential unit. Regulations on short term rentals vary as well – some jurisdictions have no policies regarding these units, while others have strict governance and compliance enforcement.

There are several ways short term rentals are hypothesized to impact neighborhoods, both positive and negative. Proponents of the home sharing market suggest there are positive impacts, such as increased income for lower income residents and improvements made to properties that were previously not well maintained. Suggested negative impacts of short term rentals include decreased property values, changes to neighborhood character, and increased rental prices due to a diminished supply of rental units.

Regulatory Overview

The City and County of Denver began regulating short term rentals in 2016, in part to mitigate the potential negative impacts to neighborhoods and residents.

According to Denver's Short Term Rental Advisory Committee, the goal of these regulations is:

...to prevent wholesale purchasing of market rate units from business entities, corporations, commercialization, etc. Preserve residential fabric of neighborhoods for residential use, and treat STRs as an accessory use like other home-based businesses (not primary use). (Short Term Rental Advisory Committee 2017).

Prior to 2016, the Denver zoning code defined rental of residential property as month-to-month or lasting more than thirty days; rentals of less than thirty days were not an acceptable use of residential properties (Denver Community Planning and Development, 2018).

Short term rentals are now permitted with certain restrictions and can only be offered at the host's primary residence. Denver County defines short term rentals as, "a primary residence used for lodging accommodations to transients for a period of less than 30 consecutive days" (Denver Short Term Rental Ordinance, 2016).

In addition, hosts must obtain a business license and pay appropriate taxes, and all short term rentals must be insured and have an operable smoke detector, carbon monoxide detector and fire extinguisher (Denver Excise and License, 2019). The Denver Department of Excise and License enforces these policies and regulations through various means, including complaint based investigations and primary residence audits.

Do Short Term Rentals Increase Housing Costs in Denver?

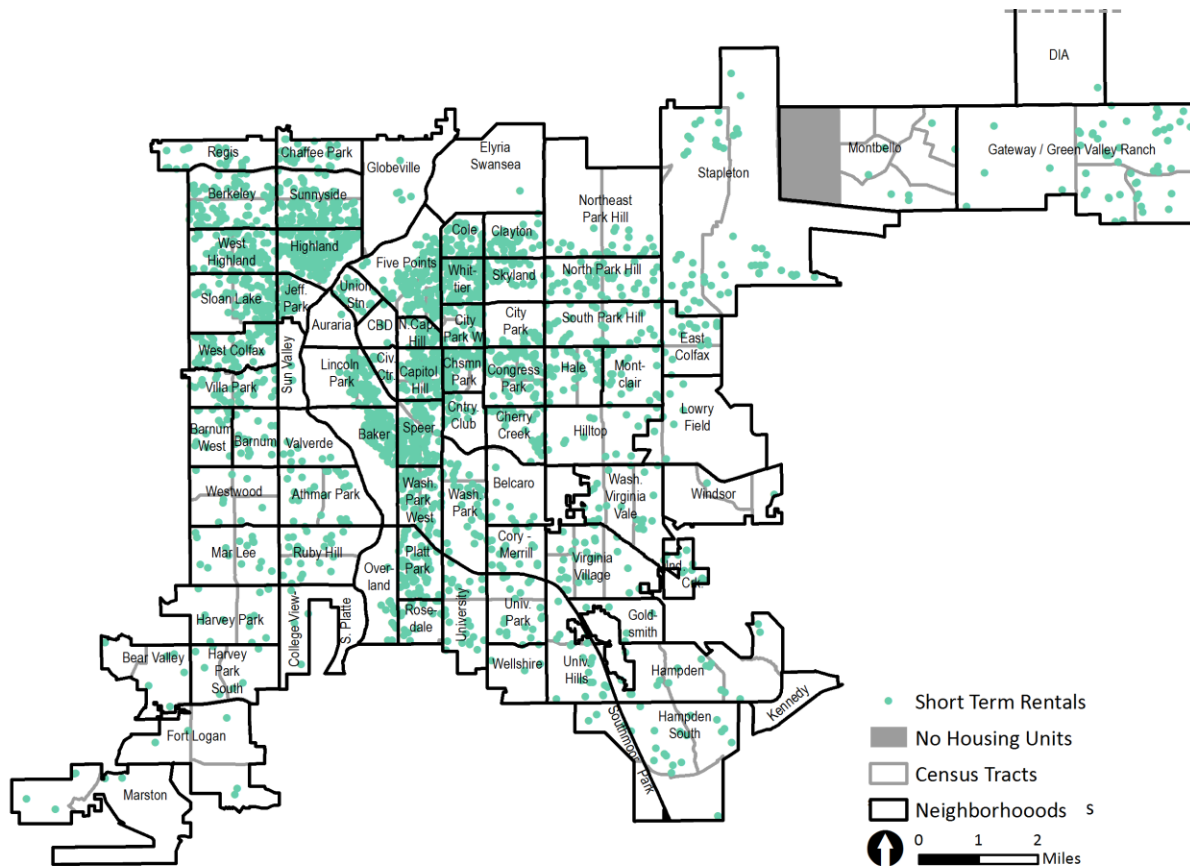
Short terms rentals might increase housing costs in Denver in two ways. First, by decreasing the overall supply of housing units used for normal residential purposes, thereby increasing rents and home prices. Second, by increasing the value of housing units, which would raise rents and home prices. This report evaluates whether either of these two mechanisms of increasing housing costs are occurring in Denver.

Short Term Rentals and Housing Supply

Short terms rentals could increase housing costs by decreasing the supply of housing units available for regular, long term residential use. Whether this is happening in Denver can be evaluated by examining the proportion of housing units that are being offered as short term rentals.

There are 306,714 housing units in Denver (American Community Survey, 2017 5-Year Estimates) and 2,777 short term rentals¹ (Denver Office of Excise and License, 2018), making short term rentals 1% of all housing units. Given that short term rentals are such a small portion of the entire housing supply, it is reasonable to assume that they do not decrease the housing supply enough to impact housing prices.

¹ Of the 2,777 short term rentals in the data set used for this study, 2,238 were licensed through the Denver Office of Excise and License and 539 were unlicensed listings provided to the Denver Office of Excise and License through the data provider Host Compliance. Since the time the data was provided to Denver Economic Development and Opportunity for this analysis, the Denver Office of Excise and License has cleaned the unlicensed data set and eliminated inactive listings; the current estimate of active unlicensed short term rentals is approximately 150.



Sources: Denver Excise & License, HostCompliance, DenverGIS, Denver Office of Economic Development, Census Bureau American Community 5-Year Survey

In addition to the small proportion of housing units being offered as short term rentals, Denver’s regulations require that short term rentals be the primary residence of the host. These regulations prevent investors from purchasing housing that would otherwise be used for normal, long term residential purposes.

In cities without such regulations, short term rentals may decrease housing supply enough to increase housing prices.² Of course, to be effective these regulations must be enforced. Denver’s Office of Excise and License has significantly increased compliance with Denver’s short term rental regulations over the past two years. From January 2017 to January 2019, the Department of Excise and License increased the licensing rate of short term rentals from 49% to 68%.

Given these regulations and the increasing compliance rate, it is unlikely that short term rentals have the potential to decrease the supply of housing units in Denver enough to increase housing costs.

² A study of the Boston housing market shows an association between a higher density of Short Term Rentals and increased price of rental units by Census Tract (Horn, 2017). In January of 2019, Boston enacted policies to regulate short term rentals for the first time.

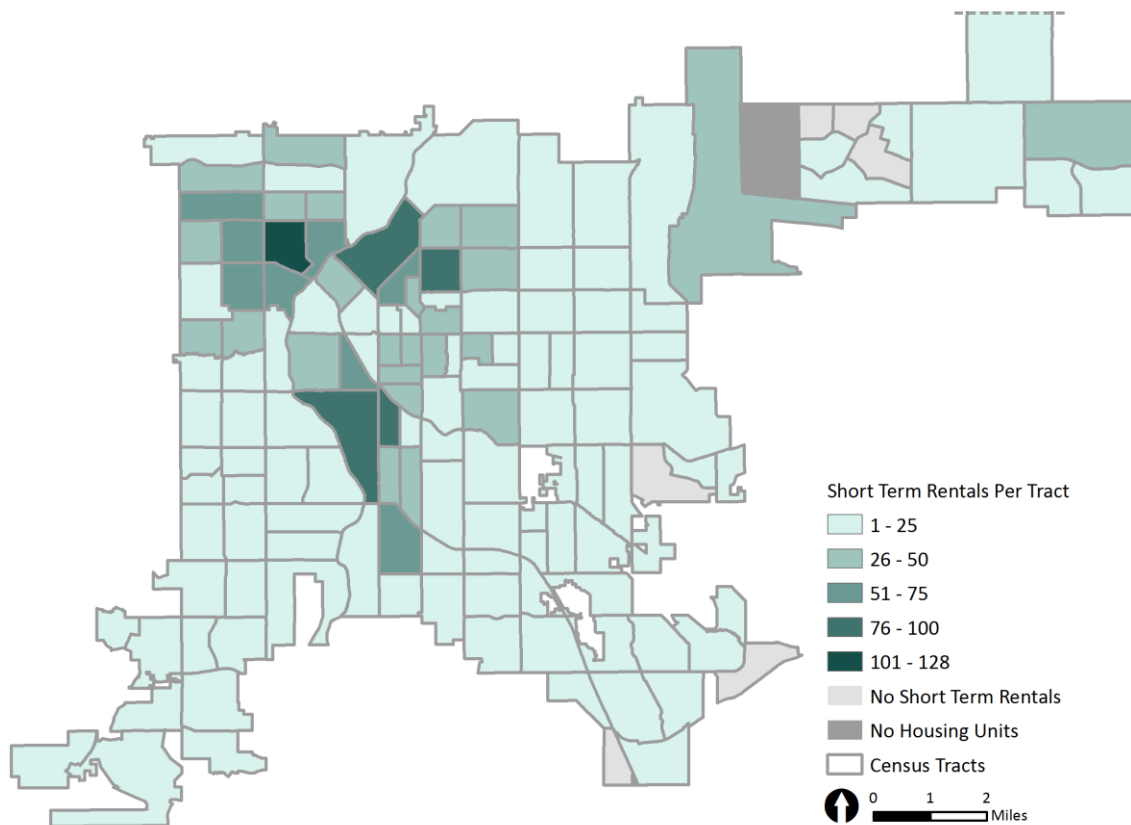
Short Term Rentals and Housing Values

Another mechanism through which short term rentals have the potential to increase housing costs is by increasing the overall value of housing units, thereby increasing rents and home prices.³

As discussed above, in cities where short term rentals are *not* required to be the host's primary residence, investors are more likely to purchase residential properties to be used solely as short term rentals, decreasing the supply of housing units enough to increase housing costs. However, even in cities like Denver where short term rentals are required to be the host's primary residence, the property's ability to generate income for the owner or tenant could influence housing prices.

Housing prices in Denver have increased dramatically in the past five years. It is difficult to isolate the potential influence of short term rentals on housing prices compared to other market factors. However, given that short term rentals are 1% of all housing units in Denver, it is unlikely that they have had a measurable impact on recent housing price trends in Denver County.

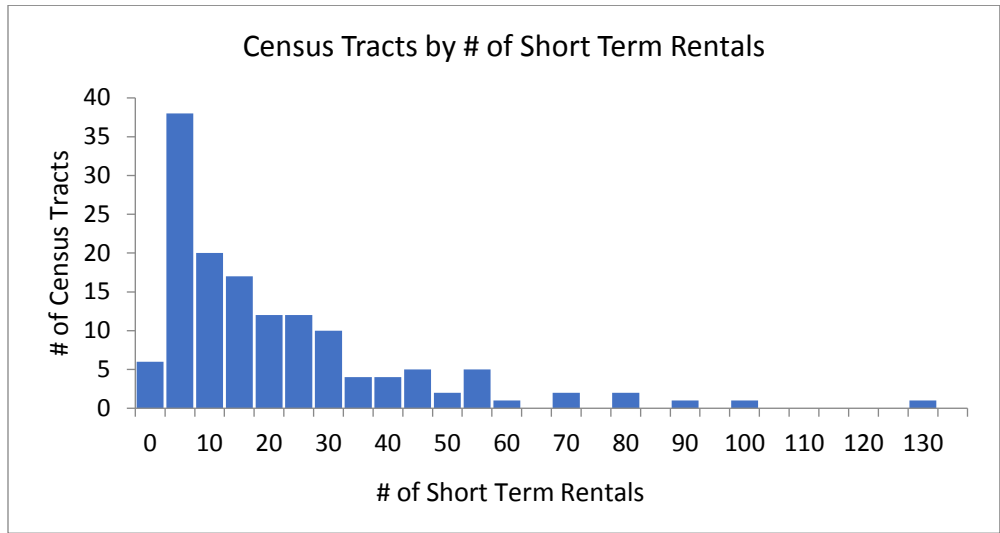
While short term rentals are unlikely to have a measurable impact on housing price trends at the county level, it is possible that geographic areas with high concentrations of short term rentals could have a localized effect on rents and home prices.



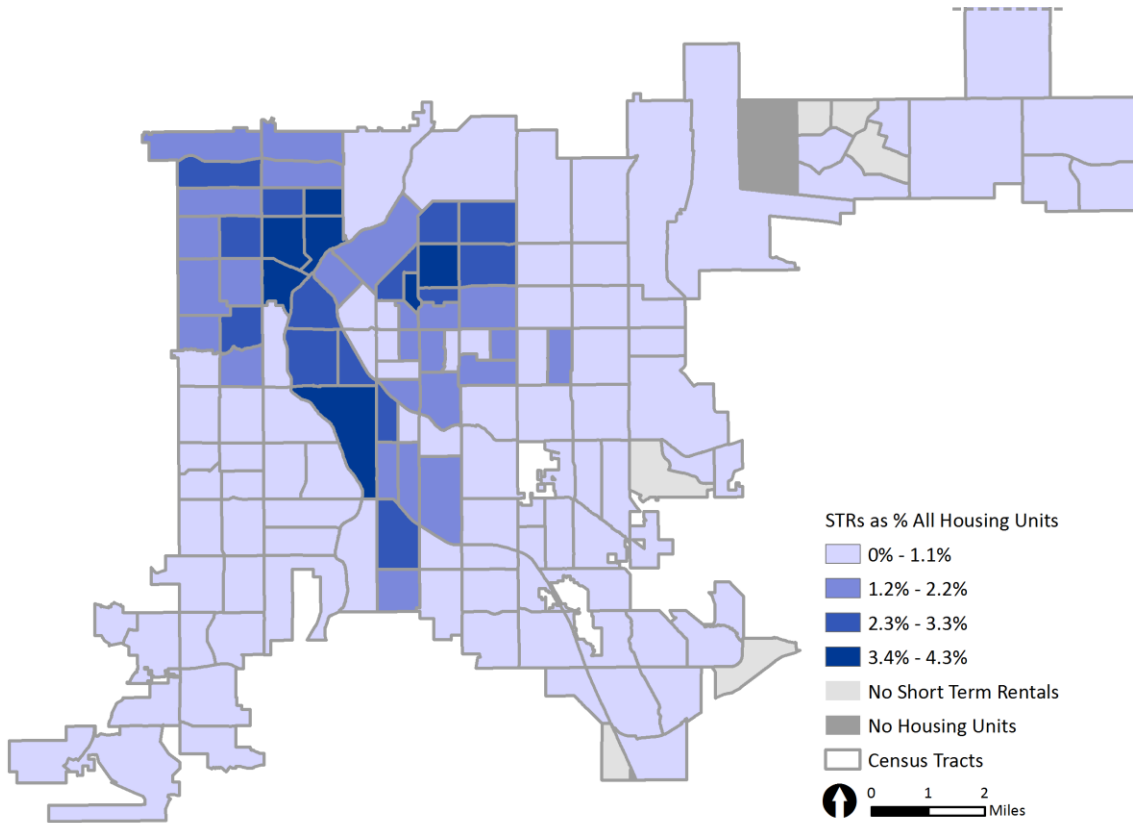
Sources: Denver Excise & License, HostCompliance, DenverGIS, Denver Office of Economic Development, Census Bureau 2017 American Community 5-Year Survey

³ A nationwide study found that a 10% increase in short term rental listings is directly linked to a half percent of increase in rent and a three-quarters of a percent increase in home prices, with a more dramatic impact in zip codes with less owner-occupied homes (Barron, 2017).

An examination of short term rentals by Census Tract shows that the number of short term rentals in a tract ranges from 0 to 128, with an average of 19.4 short term rentals and a standard deviation of 21.2. The histogram below shows that the majority of Census Tracts have five or fewer short term rentals.

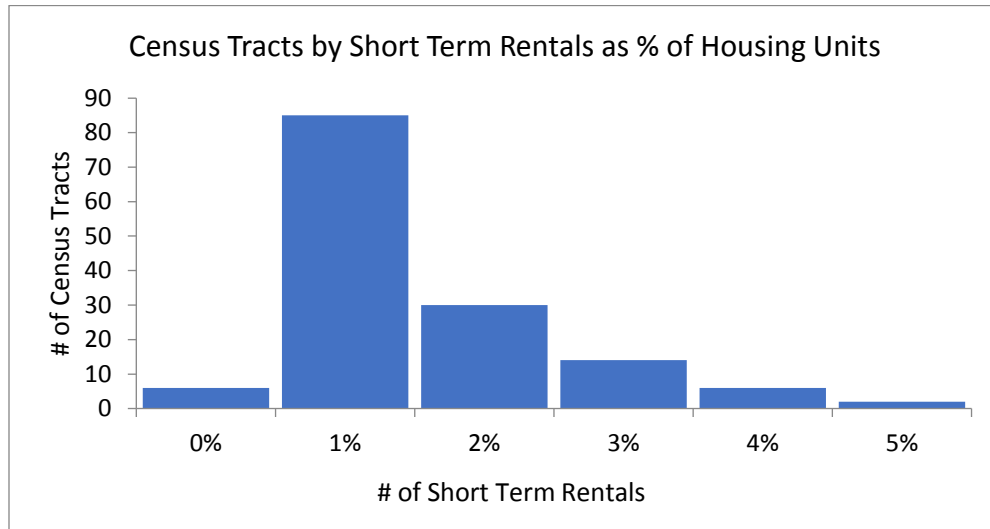


Since the number of housing units varies among Census Tracts, it is informative to look at the number of short term rentals *as a percent of housing units* by tract.



Sources: Denver Excise & License, HostCompliance, DenverGIS, Denver Office of Economic Development, Census Bureau 2017 American Community 5-Year Survey

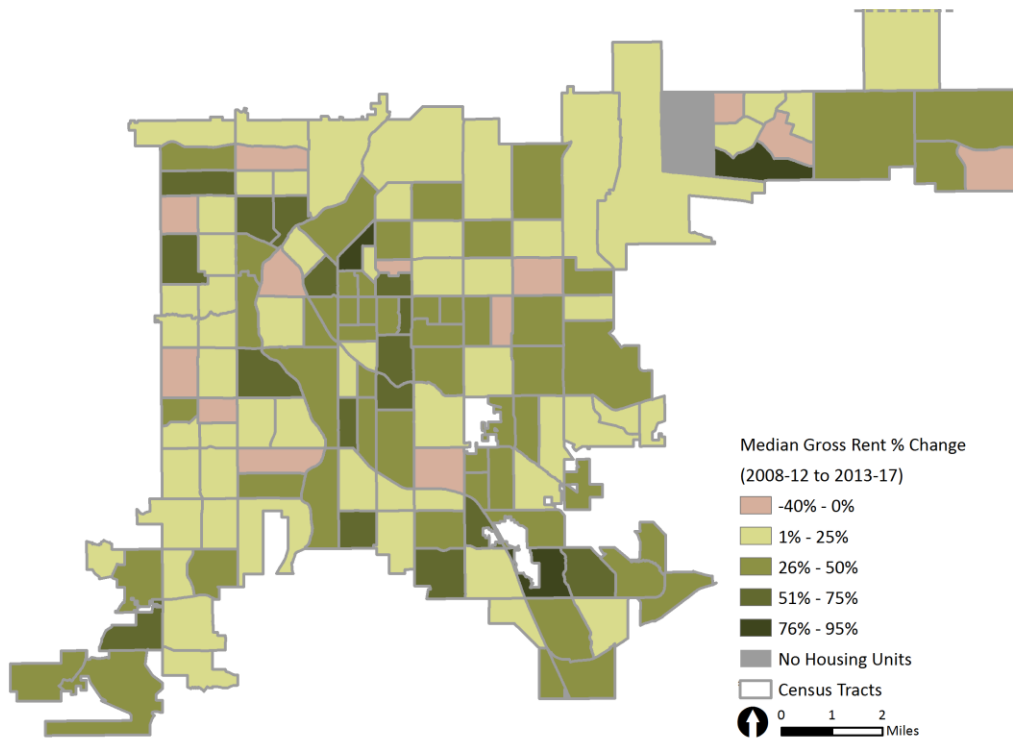
The number of short term rentals as a percentage of housing units in a tract ranges from 0% to 4.3%, with an average of 1% and a standard deviation of 1%. The histogram below shows that in most Census Tracts, short term rentals make up 1% or less of all housing units. If Census Tracts with a higher proportion of short term rentals have seen a greater increase in housing prices than Denver as a whole, it may indicate that short term rentals are having a localized impact.



Reliable data on rents and home values for the Census Tract level of geography is most readily available through the American Community Survey's five-year estimates. Investigating data from the five-year period 2008 through 2012 and the period 2013 through 2017 provides insight into localized home price changes. Comparing changes at the Census Tract level with changes in home prices at the county level helps isolate local areas that experienced unusually high increases in rent or home value.

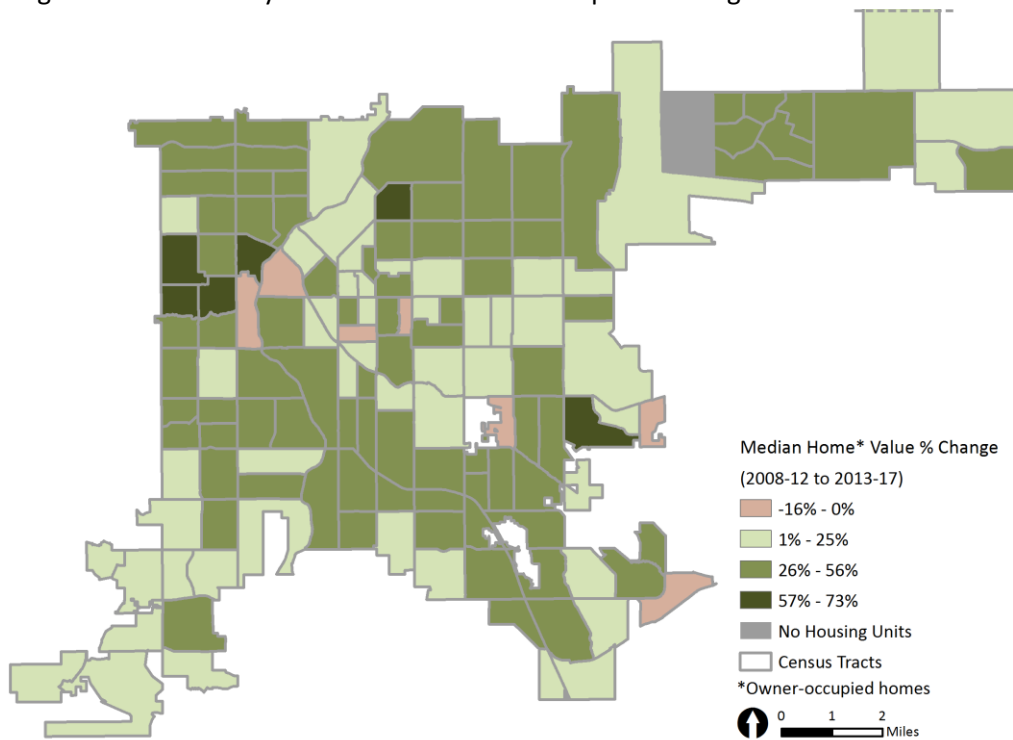
For Denver County as a whole, median gross rent increased from \$863 a month in 2008-12 to \$1131 a month for 2013-2017 – a 31% increase. For the same periods, the median value of owner-occupied homes increased from \$246,300 to \$322,900 – also a 31% increase.

In contrast, changes at the Census Tract level for the same time periods vary dramatically. In 2008-12 the median gross rent ranged from \$187 a month to \$1847 a month depending on the tract. In 2013-17 median rent ranged from \$242 to \$2269. The percent change in tract median rent between 2008-12 and 2013-17 varies between -40% and 95%.



Sources: Denver Excise & License, HostCompliance, DenverGIS, Denver Office of Economic Development, Census Bureau American Community 5-Year Survey

Median value of owner-occupied homes also shows high variability when examining Census Tract values. For the 2008-12 time period, median home value by tract ranges from a minimum of \$103,400 to a high of \$812,500. In 2013-17, the median home value by tract ranges from \$125,700 to \$957,500. Percent change in home value by tract between these time periods ranges from -16% to 73%.



Sources: Denver Excise & License, HostCompliance, DenverGIS, Denver Office of Economic Development, Census Bureau American Community 5-Year Survey

It is difficult to isolate the potential influence of short term rentals on local housing prices from the many other market factors that impact home values and rents. However, an examination of changes in tract home prices compared to the presence of short term rentals may provide insight. It is expected that if short term rentals cause a localized increase in home prices, a strong positive correlation will be seen between the number of short term rentals as a percentage of housing units in a Census Tract, and the tract's percent change in housing prices over time compared to Denver as a whole.⁴

The analysis shows a moderately positive correlation (.329) between tracts with a higher percentage of housing units used as short term rentals and tracts that experienced a greater increase in owner-occupied home values than Denver as a whole. A much smaller positive correlation (.033) is seen between tracts with a higher percentage of housing units used as short term rentals and tracts that experienced a greater increase in median rent than Denver as a whole.

A more complex statistical analysis would need to be conducted to determine whether short term rentals have a localized impact on housing prices in Denver. However, it is likely that the moderate correlation reflects that the presence of short term rentals is an indicator of an area's desirability, just as home values and rents reflect a local area's perceived value to residents and consumers. In other words, increased home values and rents reflect an area's perceived desirability, and potential hosts see short term rentals as more economically viable in those areas because they are more desirable to short term rental guests.

Conclusion

Short term rentals in Denver do not appear to have an impact on housing costs at the citywide level. A geographic concentration of short term rentals is moderately positively correlated with increased home values, but not increased rents. This is likely evidence that areas considered more desirable for residents are also more attractive to potential short term rental guests. It is unlikely that short term rentals have a localized impact on housing prices. One of the key factors mitigating the potential for short term rentals to increase housing costs is Denver's requirement that a short term rental must be a host's primary residence. This prevents investors from purchasing housing that would otherwise be used for normal, long term residential purposes, thereby decreasing the housing supply and inflating prices. The enforcement of these regulations is critical to ensuring that short term rentals do not inflate housing prices in Denver. Denver's Office of Excise and License has shown a commitment to enforcing these regulations and has continued to improve compliance rates.

⁴ It should be noted that a positive correlation is *not* an indication of cause and effect. Further, if a causal relationship between the variables is present, a correlation does not reveal which variable is influencing the other.

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