An Examination Into Zoning Policies and Chinatown Gentrification: The Effects of Floor Area Ratio Limits on Affordable Housing

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Abstract

Gentrification in Chinatowns across the United States has become an ever more prevalent issue. Chinatowns are experiencing an increasing decline in authenticity, culture, and local identity due to displacement and "Disneyfication." Rising rent prices and housing costs have led to the continual displacement of thousands of native Chinese residents. Although the topic of gentrification has been substantially researched, there is a lack of academic attention on Chinatown gentrification and specifically on the effects of zoning policies. This study aims to explore the relationship between the floor area ratio limits enacted by zoning policies and housing affordability in Chinatown. A Pearson's product-moment correlation was run between the residential floor area ratio limits of 10 Chinatown cities and their corresponding home value index, rent value index, and housing affordability index. From this analysis, we find that there is no statistically significant correlation between residential floor area ratio limits and the three indices. The inconsistencies between the results of this study and the trend that is observed in preliminary research might be explained by an analysis of the limiting factors of this study. Further research is necessary to come to a conclusive conclusion.

Background

Chinatowns across the United States have served as cultural and ethnic centers for decades. Since the mid-1800s, Chinatowns have been an integral part in connecting Chinese Americans to their cultural heritage. However, many modern-day Chinatowns have begun to provide less of a sense of home to many Chinese residents due to demographic, economic, social, and cultural changes. Historic Chinatowns have become increasingly vulnerable to gentrification and many are experiencing its significant effects. Increases in housing costs, tourists attractions, and the white population have spurred displacement and a decrease in "authenticity" throughout Chinatowns across the country.

The issue of authenticity dilution and displacement is becoming more prevalent as Chinatowns are being increasingly gentrified. Study shows that the number of white residents in several East Coast Chinatowns is growing at a faster rate than the white population in those cities (Hung, 2017) whereas the ethnic Chinese population has declined. For instance, from 2009 to 2014, the number of ethnic Chinese residents in Manhattan's Chinatown decreased by 9,000 and the proportion of ethnic Chinese in Philadelphia's Chinatown decreased from 76% to 48% (Xie and Batunova, 2019). Analysis also shows that there has been a decrease in the proportion of restaurants serving Chinese cuisine in Chinatown. In Manhattan Chinatown, many non-Asian restaurants have opened in Chinese residential areas. Throughout Chinatown and the Lower East Side, the proportion of Asian restaurants is now lower than non-Asian restaurants, with 43% of restaurants serving Asian cuisine (36% of which are specifically Chinese cuisine) and 57% serving non-Asian cuisine (AALDEF). This pattern is reflected in most Chinatowns throughout the United States as native Chinese residents continue to move out due to the myriad of factors compounded by gentrification.

Despite a rising amount of research studying gentrification and displacement, little attention has been directed specifically towards historically ethnic neighborhoods, such as Chinatowns. Historically ethnic neighborhoods experience gentrification on a two-fold level: economic and cultural. Not only are local residents of Chinatown facing inflation and displacement, but they are also experiencing a decline in culture, local identity, and heritage. It is important to analyze how these two levels directly influence each other and the cause and effect relationships between them. One way the relationship between economics and culture can be assessed is through an analysis of racial capitalism and its applicability to the history behind Chinatown's gentrification (Naram, 2017). Racial capitalism coincides with gentrification when economic development depends on, what Naram calls, a "selling of culture" and "exploiting the commodity of non-whiteness for value." Using racial capitalism as an analytic, an example of the connection between economics and culture is the usage and commodification of Chinese culture and

"exotic" products to attract tourism (Naram, 2017), which in turn increases the gentrification and Disneyfication of Chinatown and feeds back into the ongoing cycle.

These cycles of Disneyfication and economic attraction underpins the continual displacement of native Chinatown residents due to financial struggle. Rent in Chinatowns across the nation has surged rapidly in recent years. For instance, a two-bedroom apartment that originally had a monthly rent of approximately $700 five years ago now has a monthly rent of approximately $1500 (Cheng, 2021). Moreover, study shows that over the past two decades, the median housing values and rents in the Chinatowns of Philadelphia, Boston, and New York have all risen to exceed the cities' overall values (AALDEF).

Racial commodification of Chinatowns is significantly perpetuated by legal mistreatment, and lack of legal representation and protection (Naram, 2017). Governmental zoning policies that are proposed and implemented with the intended goal of "improving Chinatown" and providing more affordable housing inevitably further gentrification due to the lack of native representation and input. Past experience shows that developer-driven zoning plans that claim to increase affordable housing in the community have actually led to a decrease in the amount of affordable housing (CCPD). The new building complexes that are built under these governmental programs, such as in the 2008 East Village Rezoning in NYC, are being constructed at heights significantly above the existing buildings (NYC Gov). This is due to an increase in the FAR (floor area ratio) limit that is implemented in the zoning policies with the intention of increasing affordable housing. The floor area ratio describes the relationship between the size of the building and the area of the lot the building is constructed on (CCDP) – thus affecting the height factor of buildings. In the 2008 East Village rezoning, the FAR limit was increased to 3.44, meaning that buildings could now be constructed with an area 3.44 times the lot area. Despite the intended goal, this increase in FAR has led to the demolition of original smaller buildings in order to create space for new, taller building complexes, which cost higher in value and rent. The 2010 Census shows that NYC has lost around 17% of its Chinese residents over the past decade with loss of affordable housing and forced eviction being the primary cause of this displacement (CAAAV).

Developer driven rezonings have caused and are continually Chinatowns to become hotspots for real estate speculation and luxury development. For this reason, the 2008 East Village rezoning elicited many protests and calls to *downzone* due to the fear that it would only further drive luxury development and gentrification of Chinatown. In a 2015 press release, the National Mobilization Against Sweatshops (NMASS) highlighted that, "The racist 2008 East village rezoning denied the Chinese, Latino, and African American community height protections that the wealthier and White community of the East Village received" (Savitch-Lew, 2015). In fact, the trend of a lack of height protection in Chinatowns can be traced in many Chinatowns throughout the United States. For example, most historic neighborhoods in

Boston are protected by a FAR limit of 3.0 whereas Boston Chinatown has a FAR limit of 4.0. This inequality in protection stems from historic discrimination and mistreatment: Chinatown was not recognized as a residential district until 1990 (CPA, 2019). This phenomenon can be assessed through Naram's aforementioned analysis regarding the racial commodification of Chinatown throughout American history. The commodification and exploitation of culture has caused Chinatown to no longer be viewed as a place of home for many immigrant families but rather a site of aesthetic attraction and tourism. This commodifying lens of Chinatown exacerbates developer-driven gentrification and pushes out native Chinatown residents' voices at the policy table.

There is still a lack of research on the impact of FAR limits on housing affordability and rental values in Chinatowns. While it has been noted that the number of luxury buildings and skyscrapers in Chinatown have drastically increased along with housing and living costs (CPA, 2019), there has not been adequate research that specifically examined Chinatown zoning policies. It is important that we explore ways to combat the increased gentrification of Chinatowns and displacement of native residents. This paper aims to address this issue by exploring the connection between developer-driven zoning FAR policies and housing affordability and answering the question: how can analyzing different factors and implications of FAR help us generate better policies and zoning plans to combat gentrification? For this study, it was hypothesized that an increase in FAR limit would generally correlate with a decrease in housing affordability and an increase in rent.

Methods

This study utilized residential FAR limit data for various Chinatown cities as well as 3 public datasets: the Zillow Home Value Index (ZHVI) dataset, the Zillow Observed Rent Index (ZORI) and the National Association of REALTORS: Affordability Index of Existing Single-Family Homes for Metropolitan Areas.

The ZHVI measures the seasonally adjusted, typical value for homes in the 35th to 65th percentile range across a given region and time. The ZORI is computed by taking the mean of listed rents within the 40th to 60th percentile range for all apartments and homes in a given region. It is weighted to reflect the rental housing stock to ensure that it is representative of the entire market and not just the homes and apartments currently listed for rent. This study utilized the most recent home and rental values that were measured (September 2021) and only for the regions in which residential FAR limit data was obtained.

The affordability index measures the ability an average family would be able to afford the monthly mortgage payments on a typical home, where an average family is defined as one that earns median income as reported by the US Census Bureau. The index is computed by dividing the median family income by the qualifying income and multiplying by 100, where the qualifying income is the median income necessary to qualify for the loan of a median priced house. For example, an index of 100 would represent that a family with median income has exactly enough income to qualify for the mortgage of a median priced home (NAR). This study utilizes the affordability indices computed for 2020 in cities for which residential FAR limit data was obtained.

The residential FAR limit data for this study was obtained from varying sources, depending on the city. Data was mainly taken from reports or the zoning codes of the state or city. The FAR limit was obtained specifically for cities with Chinatowns. The residential FAR limits for Chinatowns was taken whenever possible but if a Chinatown did not have a unique residential FAR limit, which was usually the case, the city's or state's FAR limit was used. In the cases of East Village (NYC), Boston, and San Francisco, the unique residential FAR limit for their respective Chinatowns were taken. Due to differences in zoning policies in different cities, the FAR limits of areas with multiple limits due to multiple residential zones were averaged. Table 1 shows the cities/Chinatowns in which residential FAR limit data was obtained and the corresponding ZHVI, ZORI, and affordability index for those areas. The cities where the average FAR limit was taken are noted.

Table 1. **Chinatowns (cities) in which residential FAR limit data was obtained and the corresponding ZHVI, ZORI, and affordability index for those area**

- * indicates averaged value

Chinatown (City)	Residential FAR	ZHVI	ZORI	Afford Index
San Francisco	1	1341085	2960	77.7
East Village (NYC)	3.44	567059	2623	125.6
Boston	4	603291	2519	133
Philadelphia	1	307863	1643	217
Seattle	1.5	687363	2058	117.4
Honolulu	0.7	841037	2561	74.8
Chicago	2.06*	284285	1693	208.6
Los Angeles	3	846526	2455	83.1
Atlanta	2.12*	315033	1811	205
Cleveland	2.18*	198532	1356	267.5

All variables are continuous, thus a bivariate correlation was run to test the association between residential FAR limit and the three indexes.

Results

A Pearson's product-moment correlation was run to assess the relationship between the residential FAR limits and the three indices. Data for all the Chinatown cities in Table 1 were utilized (N=10). Preliminary analyses showed the relationship to be linear with both variables normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$), and there were no outliers.

Correlations

		ResFARLimit	HomeValue	Rent	AffordIndex
ResFARLimit	Pearson Correlation	1	-.208	.135	.020
	Sig. (2-tailed)		.564	.711	.956
	N	10	10	10	10
HomeValue	Pearson Correlation	-.208	1	.880**	-.887**
	Sig. (2-tailed)	.564		<.001	<.001
	N	10	10	10	10
Rent	Pearson Correlation	.135	.880**	1	-.919**
	Sig. (2-tailed)	.711	<.001		<.001
	N	10	10	10	10
AffordIndex	Pearson Correlation	.020	-.887**	-.919**	1
	Sig. (2-tailed)	.956	<.001	<.001	
	N	10	10	10	10

**. Correlation is significant at the 0.01 level (2-tailed).

Table 2. **Pearson correlation of the residential FAR limit ("ResFARlimit") and the three indices: ZHVI ("HomeValue"), ZORI ("Rent"), and affordability index ("affordinex").**

There was no statistically significant correlation between residential FAR limit and home value, $r(10) = .208$, $p = .564$, with residential FAR limits explaining 4% of the variation in home values (r^2). There was also no statistically significant correlation between residential FAR limit and rent values, $r(10) = .135$, $p = .711$, with residential FAR limits explaining 1.8% of the variance in rent values. Lastly, statistical significance was also not found in the correlation between residential FAR limits and the affordability index, $r(10) = 0.02$, $p= .956$, with residential FAR limits explaining approximately 0% of the variance in affordability.

Discussion

The relationships between residential FAR limits and the three indices were not statistically significant. Therefore, we cannot reject the null hypothesis and cannot accept the alternative hypothesis. This study did not find statistical support for the connection between FAR limits and housing affordability in Chinatown. However, preliminary research seems to suggest that there should be a relationship between FAR limits and housing affordability in Chinatown because buildings constructed at the new heights have higher value and rent prices than previous buildings. Additionally, an increase in FAR limits makes the city more susceptible to "Disneyfication" due to the construction of luxury condominiums, hotels, etc. Given this trend, why does this study seem to show that there is no statistically significant correlation between affordability and FAR limits?

This could be due to several limiting factors of the study. First, it might be the case that there was just not large enough of a sample size to show significance. In this study, the residential FAR limits were only taken from 10 cities due to the lack of resources and ability to obtain the FAR limits for more Chinatown cities. Future research could potentially reconduct the analysis with a larger sample size. Additionally, as aforementioned in the methods, some Chinatown cities have specific zoning while others do not and follow local or state FAR guidelines. Cross comparison could have affected the results of this study. Further research can be conducted by analyzing Chinatowns with specific zoning and those without independently to explore the implications of Chinatown-unique FAR limits.

The use of state/city-wide FAR limits for Chinatowns without specific zoning policies might have a notable impact on how the results for this study should be interpreted. The use of state/city-wide residential FAR limits means that the results of this study could more so apply to the relationship between FAR limits and housing affordability broadly, not specifically to Chinatown. This lens of analysis might explain why the study failed to reject the null hypothesis even though preliminary research seems to theoretically suggest otherwise. If the results of this study is a measure of the correlation broadly, then that could potentially support the need for new approaches to zoning policies in Chinatown. Ethnic enclaves such as Chinatown usually operate at a lower median wage and living cost than the city itself. Therefore, the relationship broadly might not be true for Chinatown specifically. Due to the economic differences between Chinatowns and the broader city, the rationale to increase housing affordability by increasing the FAR limit might not be applicable to Chinatown. Further research can be conducted to test more specifically the relationship between FAR limits and housing ability in Chinatown.

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