The Effects of Silicon Valley Companies on the Bay Area Housing Crisis

A Thesis Presented to the Faculty of Architecture and Planning

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Master of Science in Urban Planning

by

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Background Summary

The Bay Area Housing Crisis

The Bay Area housing crisis is one marked by a lack of affordable homes and apartments for middle and lower class families. These families are unable to afford the median cost of a home in the city, which is now sitting at $500,000. This is more than twice the national median home cost. It expands beyond the city's boundaries though. In the Silicon Valley, some are living out of recreational vehicles in parking lots because of their challenges finding an affordable place to live (Dougherty, 2017). This isn't uncommon though. In San Francisco, there are stories of other living solutions residents are utilizing such as living in their truck, tent, or wooden box (Abbey-Lambertz, 2017). One example of someone affected by this crisis is that of a nurse who commutes two hours to her job in San Francisco each day from her home in Manteca, CA. Her home is 80 miles away from her workplace, despite her making a salary of $180,000 a year. Her frustration of not being able to live close to her job despite making a decent amount of money is at the heart of this "crisis" (Dougherty, 2017).

However, there are some that believe San Francisco's outrageous prices began as many as 60 years ago following a phenomena called the 6.6 percent trend. This concept tells us that prices began steadily rising when the city ran out of vacant land to build houses on. There are documents from as far back as the year 1968 denoting

gentrification in neighborhoods like the Mission. This points to an issue that is much older than many originally had thought (Abbey-Lambertz, 2017).

Some critics say that this crisis is partially due to the state of California ending a 60 year-old program that infused 1 billion each year into redevelopment agencies that set aside a portion for affordable housing. Similarly, the state has also finished out 5 billion dollars in affordable housing bonds that voters have passed in both 2002 and 2006. These changes are only a part of what is creating a decrease in the availability of new homes. The California Department of Housing and Community Development reports that on average California saw 80,000 new homes built each year during the past decade, which is short of the 180,000 new homes that have been need each year to keep up with demand. This shortage of new homes is causing the rent prices to skyrocket. According to the National Low Income Housing Coalition, California counties continue to lead the nation in having the most expensive rental housing, the Bay Area being home to six of the top 10 least affordable counties in the USA: Marin, San Francisco, San Mateo, Santa Clara, Alameda, and Contra Costa counties (Gutierrez, 2017).

By now, one might ask: *So what role have the Silicon Valley companies played then in the housing crisis, and are they actually at the root of the issue?* A recent Wall Street Journal report on housing prices looked at neighborhoods in both San Francisco and San Jose, a town just south of San Francisco, that had high proportions of Apple

employees living in them. The goal of the report was to see whether or not their presence was driving up nearby housing prices. The report utilized US Census data and housing statistics from Zillow, similar to the methods that will be used for the conducting of an analysis in this report later on. It is concluded that the prices of homes in neighborhoods where Apple's headquarter employees lived in Cupertino, CA. tended to rise at a faster rate. Similarly, it was found that the difference in price between an Apple employee's home and the average San Franciscan's home was close to $400,000. While it isn't Apple, alone that is causing such a disparity, they are representative of a more widespread problem present across other tech companies and their employees (Lam, 2015).

The San Francisco Bay Area's income inequality is undeniably a major factor contributing to it's housing crisis with a large portion of this inequality coming from the incomes of tech employees who make up 8% of the workers in San Francisco. Since the tech industry alone accounts for over 30% of San Francisco's job growth since 2010, we can only expect this number rise (Lam, 2015). The city of San Francisco and other Bay Area cities therefore need to think about how they are creating affordable housing, especially for the people in other industries.

Current Affordable Housing Policies

Today, the city of San Francisco in particular has a few different programs in place to accommodate the growing need of affordable units across the city. Their Inclusionary Housing program is a part of Planning Code Section 415 and includes information on how a household can qualify for one of their available 3,000 affordable units. These requirements include specific income requirements. The program was enacted in 2002 and requires all new residential projects in the city to either pay an Affordable Housing Fee or meet the program requirement of providing a percentage of the new units at "below market rate" also known as BMR on the project site or at another location in the city ("Inclusionary Housing Program", 2017).

San Francisco also has a nonprofit affordable rental housing program, public housing, and a housing choice voucher program. The affordable rental housing programs help the city create entire buildings of affordable rental housing for those whose household income falls between 0% and 60% of the area's median income. Public housing in the city provides subsidized units for low-income families and is funded through the federal housing program. The housing choice voucher program assists not only low-income families, but also the elderly and disabled by providing federal funds for housing that each individual finds on their own. Residents can also utilize resources from the city such as a loan assistance programs for first time homebuyers, a rental assistance information line, homeless services, and eviction

prevention services to further enhance their efforts to stay within the county's limits

("Affordable Housing Resources", 2017). These are just a few of the current policies in

place aimed at keeping housing affordable, but the question still lies of: *Is it enough?*

Research Questions

Questions

How are major Silicon Valley companies affecting home price and affordability in the

San Francisco Bay Area housing market?

- *Is the average home price increasing faster in cities where the average*

  household income is also increasing?

- *Are city planners making effective programs and policies that are increasing the*

  number of affordable units and addressing income inequality?

Purpose Statement

The purpose of this study is to better understand the effects of Silicon Valley

companies on the Bay Area housing crisis. The rationale behind this study is that

certain Silicon Valley companies have had an effect on the prices of homes in the Bay

Area due to the high salaries their employees are earning.

Value to Planners

This study will be valuable to future planners in the San Francisco Bay Area and beyond

due to the unique circumstances that have come about from the Silicon Valley. Other

cities around the world will be able to learn what a fast growing and powerful industry

such as the tech industry can have on its surrounding neighborhoods and pre-existing

residents. They can learn how to predict an oncoming crisis and hopefully take

preventative steps earlier to minimize home displacement and inflated home prices.

Literature Review

Home Price Surge Causes

Prior research done on the San Francisco Bay Area's Silicon Valley is highly available, yet little has been studied on the direct cause of the housing crisis as a result of high tech companies such as Facebook, Twitter, Yahoo, Google, and Apple. However, the restructuring of the Bay Area's geography and home prices have been studied. Dr. Alex Schafran, a scholarly leader on the contemporary restructuring of urban regions. In his study, *Origins of an Urban Crisis: The Restructuring of the San Francisco Bay Area and the Geography of Foreclosure*, Schafran looks at demographics, policy, and capital in order to see the ways in which foreclosure and plummeting property values have occurred since the emergence of the tech industry in the 1970s.

Schafran believes that the problem may have started with war industry, foreign and domestic immigration, and exclusionary housing policies that created segregation in the Bay Area in the early 1970s. He believes that this led to the initial clustering of African Americans to certain Bay Area communities including Oakland, Richmond, East Palo Alto, Pittsburg, and certain neighborhoods within the city of San Francisco. In an article done by Bloomberg Business Week, "Silicon Valley's Housing Haven Is Under Siege", it is learned that East Palo Alto is one of the last areas in which low-income housing is available in the Silicon Valley where companies like Tesla Motors, Facebook, and Google have created nearly two dozen billionaires and many more millionaires. As

the rich continue to gentrify old neighborhoods, the places for lower and middle-income people in California are becoming more and more scarce. In fact, East Palo Alto, with a population of roughly 29,000 people, is the only city between San Francisco and San Jose that has a rent control law in place (Perlberg, 2014).

Schafran explains in his findings that the tech industry first started to take off in the year 1999, the height of the dot-com boom. It was during this time that the Bay Area received twice as much venture capital as the next largest metropolitan area. Furthermore, their number sitting at 5.5% was about ten times the nationwide average. Monetarily, Schafran found that this $1.65 billion was not spread evenly throughout the Bay Area, but was concentrated in both Santa Clara and San Francisco counties (Schafran, 2013).

Since most of the tech industry companies lie geographically within Santa Clara, San Mateo, and San Francisco counties, investments increased this same year having an impact on home price and rents in the Silicon Valley and San Francisco. In his study, Schafran informs us that: "the profits and salaries earned from the growing tech miracle quickly multiplied in the local real-estate economy as a new generation of dot-com millionaires and young twenty-somethings bought and rented Silicon Valley and San Francisco real estate to new heights" (Schafran, 2013, p. 671). Because of this, an upsurge of high-end residential buildings went up in the city of San Francisco, making

the demand for market-rate and affordable homes increasingly harder to find.

Tech Boom Impacts on Income Inequality

Both James K. Galbraith, and J. Travis Hale are scholars and government professors at the University of Texas, Austin. They released a study in 2006 titled, *American Inequality: From IT Bust to Big Government Boom*, where they discuss the ten counties in the United States with the largest increases in income inequality. Not surprisingly, Santa Clara County, was at the top of the list (Galbraith & Hale, 2006).

To follow this up, John M. Quigley, a leading scholar of housing market discrimination and economics professor at the University of California Berkeley, looked at the reasons why Santa Clara County's housing market was able to survive the dot-com bust that the rest of the United States experienced. Quigley informs us that while theoretically, prices of homes in the Silicon Valley should have gone down with the decline in local employment, they actually went up. He gives us three key possible explanations for this outcome, the first of which was that while yes, employment did fall, income level did not. Following the Dot Com bust, between the years of 1999 and 2003, income increased by 7 percent. The residents selling homes during those years were able to stick to higher asking prices given that the homebuyers in the market, were likely still able to pay. He says the second reason is that generally speaking most homeowners prefer to wait and would rather take a longer time to sell their home than

lower their asking price and sell it more quickly. Finally the third reason Quigley notes

for the housing markets price survival is that given the proximity of Santa Clara County

to the city of San Francisco (only 48 miles away), a loss of jobs in the immediate area

didn't necessarily mean people had to move away. They could stay and put up with a

longer commute. He found that this theory was consistent with the US Census, which

estimated that around 99,000 people lived in Santa Clara County and commuted out

to somewhere else for work (Quigley, 2006).

Additionally, in his analysis of the Silicon Valley, Quigley looked at housing

prices for the Silicon Valley in comparison to those throughout the rest of the state of

California. He reports that the home prices in Santa Clara County increased steadily

from 1999 to 2001,making them roughly 14% higher than those in the rest of the state

(Quigley, 2006). Quigley says that based on these statistics "we should not expect the

booming markets to burst suddenly" (Quigley, 2006, p. 4). This comment was further

confirmed by the study, *Long-Term Perspectives on the Current Boom in Home Prices*,

where Robert J. Shiller, a professor of economics at Yale University, finds that

historically, not all real estate booms have ended in recession and gives examples of a

few unique cases. Thus, similarly, Quigley concludes that in the case of the Silicon

Valley, home prices will slowly reach an equilibrium matching neighboring counties.

However, he also informs us that other cities without the proximity and easy commute

that the Silicon Valley has to nearby San Francisco, may be in danger of their housing boom turning into a bust (Quigley, 2006).

Effectiveness of Planners' Responses

Nationwide, there have been problems with planning objectives aimed at the creation of affordable units in response to the housing crisis. In the study, *Achieving Regional Housing Planning Objectives: Directing Affordable Housing to Jobs-Rich Neighborhoods in the San Francisco Bay Area*, Matthew Palm and Deb Niemeier, both researchers in federal housing policies at the University of California Davis, found that when the regional government, such as that of the city of San Francisco, is able to make their own mandatory affordable housing requirements, those cities have a better outcome at increasing the production of such units. In this study, it was noted that California has a regional housing mandate called: the Regional Housing Needs Allocation or RHNA for short. Through this initiative the RHNA works with local governments to estimate the amount of affordable units that each region should be producing to meet the growing households and employment of that area. Through their research, they found that California RHNA goals for the Bay Area counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma have had an impact on the number of affordable housing units built in each respective county. Furthermore, they found that the RHNA goals increased compliance with individual Bay Area city planning objectives between 1990 and 2005.

This demonstrated a positive correlation between compliance and the production of homes. The distribution of affordable housing production versus market-rate production was also looked at in the study in combination with respect to the jobs to housing balance between the years of 1999 and 2007. It was found that due to the RHNA targets, the jurisdictions that had jobs to housing imbalances of higher degrees were actually the ones who did end up producing larger shares of affordable units, thereby verifying the effectiveness of the RHNA collaboration. In other words, the new affordable housing units being built in the San Francisco Bay Area were indeed ending up in the cities that had greater needs for them (Niemeier & Palm, 2017).

To contrast this finding, in another study titled, *31 Flavors of Inclusionary Zoning*, Jenny Schuetz, a professor at the University of Southern California School of Planning, Policy, and Development, looked at San Francisco's Inclusionary Zoning programs and their effectiveness in providing affordable units. In the study, data revealed that Inclusionary Zoning Programs have produced a significant amount of affordable units in the city of San Francisco. Furthermore, it was of note that these units were produced by the city of San Francisco's own inclusionary programs during a time when federal funds and programs had recently been cut. One problem that was found during the study was that San Francisco's availability of buyout options for builders in lieu of building affordable units were actually lower than the construction costs would have

been. This finding highlighted a clear problem with the ways in which planners were

incentivizing developers to build new affordable units (Schuetz, Meltzer, & Been, 2009).

Methodology

Research Design

Primary data that is aggregated, anonymized, and publicly available for download will be gathered from the US Census Bureau from tables S2506, S2507, and B19001. The variables taken from these tables to answer will be average home price and average household income. Together they will be used to answer the question: *Is the average home price increasing faster in cities where the average household income is also increasing?* A statistical analysis will then be run in a linear regression format for two different cities: Palo Alto, California, a Silicon Valley city, and Vallejo, California, a Bay Area city outside of the Silicon Valley. Both results will be compared to look for statistical significance that will lead to the answer of whether or not the presence of tech companies is having an effect in either direction on average home price.

Statistical Procedures

Using the program Stata, the first linear regression will be run as a two-tailed t-test with average home price as the dependent variable and average household income as the independent variable for the city of Palo Alto, California. Then, a second linear regression will be run, but instead using the data of average home price and average household income for Vallejo, CA. Finally, using the results from both of these regressions, the relationship between average household income and average home price will be analyzed for statistical significance based on their relative p-values.

Task Schedule Overview

Brief Summary

My source for the schedule is the UP Thesis Guidelines 2017-2018 document. However, I am tentatively scheduling some other deadlines of my own to speed along the process of having the full draft prepared and ready for my first readers and the thesis jury. I will be finalizing my methodology in early January of 2018 so that I can run my statistical analysis and collect my data by the 3rd week of January. Following the data collection, the revisions of all previously written parts of the thesis as well as the writing of new parts such as the findings, conclusions, and recommendations will take place.

Important Dates

Draft Document Section Revisions Completion Dates

- o Data Collection Due: January 19th 2018
- o Lit Review Revisions Due: January 26th 2018
- o Backgr. Revisions Due: February 2nd 2018
- o Findings Section Due: February 9th 2018
- o Conclusion Section Due: February 16th 2018
- o Reader Approvals Due: February 16th 2018

Full Draft Revisions and Final Submittal

- o Draft Due/ Schedule Jury: March 19th 2018
- o Thesis Jury: April 9th-13th 2018
- o Final Edits: April 30th 2018
- o Final Draft Due: May 4th 2018

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why the town is a good candidate to be used as a comparison to a tech

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Appendix A: Timeline of Key Research, Writing, and Editing

Data Collection

- Use finalized methodology from Thesis proposal to conduct linear regression and collect results: January 15th-19th 2018
- Data Collection Complete and Update/Meeting Time Due: January 19th 2018

Literature Review

- Lit Review Week Editing: January 22nd-26th 2018
- Lit Review Due: January 26th 2018

Background Summary

- Background Summary Editing: January 29th- February 2nd 2018
- Background Summary Due: February 2nd 2018

Findings

- Findings Week Writing: February 5th-9th 2018
- Findings Due: February 9th 2018

Conclusion

- Conclusions Week Writing: 12th-16th 2018
- Conclusions Due: February 16th 2018

Reader Approvals

- Thesis Reader Approvals Due: February 16th 2018

Thesis Revisions

- March 2nd-18th 2018
- Thesis Revisions Due/ Schedule Jury: March 19th 2018

Thesis to Thesis Jury

- Thesis Review Week 1: March 26th-30th 2018
- Thesis Review Week 2: April 2nd-6th 2018
- Thesis Jury Week: April 9th-13th 2018

Final Edits

- Final Edits Week 1: April 16th-20th 2018
- Final Edits Week 2: April 23rd-27th 2018

- Final Edits Due: April 30th 2018
- Final Draft Due: May 4th 2018

Appendix B: Outline of Thesis

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10. Bibliography