San Francisco Bay Area's Building Permits & Housing Crisis
Are new developments helping or hurting the crisis?

Mid-Point Work in Progress Report
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Introduction

San Francisco and the larger Bay Area region are becoming unlivable and it is not simply because it is too unaffordable. The Bay Area hasn't built enough housing – and it hasn't for the last century. It isn't that cities don't have enough land, the issue is simply that the cities' zoning regulations, politicians, and citizens have restricted the ability to receive building permits. The result is the haunting, ambiguous effects of *'gentrification'*.

This project seeks to locate where buildings are actually being permitted and if those buildings are relieving the lack of housing, cost of living, and gentrification indicators. To understand if the building permits are pushing the Bay Area into a deeper stage of gentrification, the project will follow these steps:

Step 1. Gather Permits – Analyze 2008-2022 building permits for the cities of San Francisco, Oakland, & Berkeley – focusing on their neighborhood location, amount of housing units, amount of affordable units, and legal status

Step 2. Analyze Changes – Determine which neighborhoods receive the most permits and if those same neighborhoods also have:

- Housing Market Increases – *via Home Prices, Rental Costs, Evictions*
- Changing Demographics – *via Race, Income, Age, Employment, Education*
- Historically Adverse Policies – *Exclusionary Zoning, Racial Discrimination*

Step 3. Compare Gentrification – Qualitatively & Quantitatively compare permitting, housing, and demographics between neighborhoods, cities, and regions – suggest which agencies help or hurt their citizens the most

This project's ultimate deliverable will be a report that selects neighborhoods & cities with the most concerning permitting & gentrification rates. It will be difficult to directly link building permits to housing costs, but the report will end by estimating the observed permit metrics' effects on the crisis as a whole.

Author's Side Note

I originally focused on comparing multiple Bay Area Cities *(including Oakland, Berkeley, & Walnut Creek)* using detailed permitting metrics – but the data might be too intense for the Capstone. For now, I will be focusing on the City of San Francisco and immediately accessible data. In the final draft, I aim to add in more cities and deeper analysis

This <u>Work in Progress Report</u> will aim to give a general picture of the final draft report and the current status. The structure of the report starts with a **Literature Review**, lists the **Data** to be used, frames the **Methods of Technical Implementation**, and finishes with the **Initial Analysis** of San Francisco's building permits (Step 1).

Literature Review

The San Francisco Bay Area is having a housing crisis and it has for a while. The core of the crisis is relatively simple. The Bay Area's housing supply is not meeting housing demand – and it hasn't since the 1960s. The result of this imbalance is that the Bay Area has become the most expensive area of the United States to live. Since 1990, Bay Area counties have been at the top of the United States' Housing Price Index counties – with at least 7 counties being in the top 10 every year.[1] San Francisco, which has sat at the top of the Housing Price Index, had its housing price increase by 39% from 2010 to 2020 but only had a 7% increase in housing units.[2]

The issue isn't the lack of development interest or developable area. The under-supplied housing is the result of exclusionary local regulations and the difficulty of finding & forming policy that will prevent negative effects. In the Bay Area, and many other U.S. cities, the permitting process is long and expensive with many opportunities for public hearing bodies to pressure public representatives to deny projects. Besides affecting housing supply and costs, the local regulations have indirectly or directly resulted in racial discrimination, rising homelessness, and increased economic inequality.

The housing crisis & the larger *'gentrification'* have largely remained ongoing and un-addressed as this the full problem is too immense and complicated for one local government to take responsibility, measure, and absolve. Japonica Brown-Saracino, in "Explicating Divided Approaches to Gentrification & Growing Income Inequality", emphasizes that gentrification is typically qualitatively viewed as a:

> *nearly unstoppable force bearing down on cities that exacerbates economic and racial inequalities and plays a prominent role in the spatial reorganization of urban life.*[3]

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[1] Bogin, Doerner, and Larson, "Local House Price Dynamics."

[2] US Census Bureau, "National, State, and County Housing Unit Totals: 2010-2019."

[3] Brown-Saracino, "Explicating Divided Approaches to Gentrification and Growing Income Inequality," 516.

But how can you quantitively define or measure 'gentrification'? Brown-Saracino and other gentrification researchers highlight that it is more difficult to quantifiably measure all of the root causes and direct/in-direct effects of gentrification.[4] Let alone forming a policy solution to address the quantified measurements.

Because data is usually created by individual public agencies or hidden by private companies, it is difficult to measure gentrification across geographic scales, boundaries, and time. Quantitative research – with a limited geographic, time, or subject focus – might have null or adverse affects as a study could ignore important social, economic, or political causes. Without an influential body of work that can directly be related to a single area, local policymakers and the public will continue to sustain exclusionary zoning and practices.

since it easy to qualitatively notice the complex crisis and not as easy to (1) quantitively measure & break-down the factors

"Does the gentrifier bring in the coffee shop, or does the coffee shop bring in the gentrifier?"

Building Construction Permits can be notoriously difficult to receive – with many cities having systematic methods of slowing down the process. The public hearing bodies, that are supposed to provide transparency to the process, now are points where NIMBY (Not in My Backyard) residents can publicly pressure officials to legally or illegally halt the projects. The San Francisco Bay area is known for its housing crisis and difficult permitting processes.

Because local government typically has siloed data and data illiteracy, it is difficult to get accurate measurements of the permit process. Luckily, many West Coast cities contract Accela to manage their permitting system through software and structured data. Accela is difficult to navigate but it does have a secret but public API. Because of my work with Walnut Creek, I have already created Python scripts that pull permit timelines from Accela, process each task into time measurements, then aggregate them. My personal contacts at San Francisco & Berkeley would allow me to perform a similar function with their permits as well.

There is existing research that analyzes the overall American building permitting process and how it contributes to the housing economy. Overall, the local government's permitting process is purposely difficult to navigate as a result

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4 Desmond and Perkins, "Housing and Household Instability"; Humphries et al., "Does Eviction Cause Poverty?"

of public hearing bodies – specifically Berkeley, CA[5] & San Francisco[67] – and/or land use regulations[8]. Literature evaluate how public hearing bodies favor older, wealthier, and white communities.[91011] Some quantitative studies reinforce this claim with users surveys[12] and meeting minutes[13].

This study helps support the previous claims with valuable quantitative measurements of (1) how long the permit process takes and (2) if permit times based on the applicants, building type, or the area.

Datasets

1. Raw timeline of each permit process – e.g. start date, end date, public hearing

2. Processed time measurements of each permit

3. Locations of permits

4. Census Tract Demographic & Economic data

Methods of Technical Implementation

1. Find the Length of Permits with Scripts

   - In short, this data is typically unavailable; however, I am currently in a rare position as a pseudo-GIS/data analyst for a medium-sized city's planning department (i.e. Walnut Creek) and have already started this project.

   - For Walnut Creek, I have already created python scripts that process permit times based on raw permit data from a permitting database called Accela.

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[5] Dougherty, "The Great American Single-Family Home Problem."
[6] McNee and Pojani, "NIMBYism as a Barrier to Housing and Social Mix in San Francisco."
[7] Egan, "The Economics of San Francisco Housing."
[8] Glaeser and Gyourko, "The Impact of Zoning on Housing Affordability."
[9] Einstein, Glick, and Palmer, *Neighborhood Defenders*.
[10] Schaffner, Rhodes, and Raja, *Hometown Inequality*.
[11] Trounstine, *Segregation by Design*.
[12] Einstein, "The Privileged Few."
[13] Einstein, Palmer, and Glick, "Who Participates in Local Government?"

- The raw data format is a timeline of every task for a permit. My script parses the timeline's dates to count the
    - total days,
    - days it is in a city worker's hands, &
    - days as a result of public hearing bodies.
- Fortunately, Accela is a widely used permit software on the West Coast & has a fairly strict data format.
- Combined with my prior experiences with the IT & planning departments of San Francisco & Berkeley, it wouldn't be a reach to have access to their raw data and then reconfigure my script to process their data.

2. Compare Permits Lengths
- Correlate different variables (e.g. cities, demographics) to measurements

Initial Analysis

1. Dashboard of Live Permit Processing Metrics
- Could be used for a city's operational processes or for the public's interest

2. Research Paper of Permit Process Comparisons
- Would help fill the quantitative gap in understanding the permitting process, public participation process, and potential discrimination
- Could also help me get into a new job and/or another graduate school program