

San Francisco's Building Permits & Housing Crisis

Are new developments helping or hurting the crisis?

Mid-Point Work in Progress Report
Alexander Nelms – CPLN 680 – 3/22/22

Introduction

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, restrictive permitting process, and limited & selfish public participation. 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.

Because there are many factors that lead to the lack of housing and increase in costs, it is difficult to point to a single reason for the crisis. As a result, this project aims to better understand crisis by:

1. determining where in the City of San Francisco building permits are more likely to be approved or denied; and,
2. if areas of higher amounts of new construction are also areas of:
 - relaxed legal restrictions;
 - rising '*gentrification*', income, & housing costs; or
 - historic racial discrimination.

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

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

Author's Side Note

I originally focused on comparing multiple Bay Area Cities (*including Oakland, Berkeley, & Walnut Creek*) but the differences in permitting systems, permit types, and API data made it too work intensive for this Capstone. For now, I will be focusing on the City of San Francisco and immediately accessible data (*instead of calculating permitting lengths*).

Literature Review

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.

Existing Research

There is existing research that analyze 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 of public hearing bodies – specifically Berkeley, CA³ & San Francisco⁴⁵ – and/or land use regulations⁶. Literature evaluate how public hearing bodies favor older,

³ Dougherty, "The Great American Single-Family Home Problem."

⁴ McNee and Pojani, "NIMBYism as a Barrier to Housing and Social Mix in San Francisco."

⁵ Egan, "The Economics of San Francisco Housing."

⁶ Glaeser and Gyourko, "The Impact of Zoning on Housing Affordability."

wealthier, and white communities.⁷⁸⁹ Some quantitative studies reinforce this claim with users surveys¹⁰ and meeting minutes¹¹.

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

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.
- 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, &

⁷ Einstein, Glick, and Palmer, *Neighborhood Defenders*.

⁸ Schaffner, Rhodes, and Raja, *Hometown Inequality*.

⁹ Trounstein, *Segregation by Design*.

¹⁰ Einstein, "The Privileged Few."

¹¹ Einstein, Palmer, and Glick, "Who Participates in Local Government?"

- 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

Deliverables

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