Tracking Urban Evolution Patterns Following Development Policy Changes, in North American Cities Using the Urban Genome Project Model

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Background

Over the last two years, the affordability crisis in the United States and Canada has only increased in significance. With the average price of rent reaching approximately $1,900 in the United States at the end of 2021, it is evident that either demand is significantly outpacing the housing supply or that there are overwhelming burdens faced by the housing construction industry that is slowing development to a crawl (Redfin 2022).
The goal of this paper is to explore these policies and to understand which ones have succeeded and which ones have failed to produce results. Furthermore, this research will **apply the Urban Genome Project's model to better isolate the characteristics that may be leading to the successes and failures of these varying policies**.

Research Questions

How does the elimination of restrictive zoning impact development trends in urban areas and how can said changes be correlated to specific policy changes instead of other macroeconomic factors?

Which policies restrict developments most and what commonalities exist between urban areas that choose not to remove such barriers while struggling to overcome affordability crises?

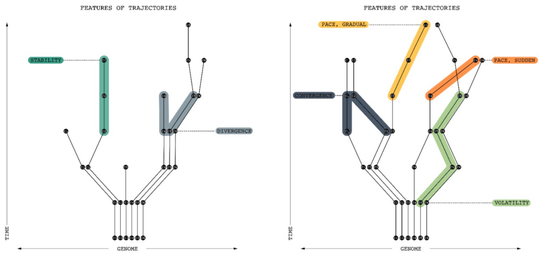

Figure 1: Evolutionary Pathways Baselining Changes Seen in Urban Areas Following Zoning Reforms

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Methodology

The UGP model requires the identification of (P) Forms, (A) Activities and (G) Groups for analysis. First, the Forms represent the set of all possible physical elements, Forms and patterns that may exist within a given community. Second, the Activities associated with a city's respective Forms must be discussed to understand the ways in which the inhabitants of the cities interact with their physical environment. Finally, the Groups that conduct the Activities will be examined to further the understanding around the interrelations between the Forms and Activities. The identification of these three components will be procedural and be preceded by a review of the available government documents pertaining to the areas that this research paper focuses on.

The use of the UGP is not limited to the identification of the PAG elements but requires their **encoding in Formemes and their aggregation into Signatures for Spatial Area being analyzed**. Each Formeme represents a different component of the research's scope. Although the focus of this paper is on the impacts of zoning, the Formemes for zoning and its associated impacts go beyond the zoning code of a city. The impacts are represented by the built area, the geographic limitations of the city, the demand for new housing and the external economic conditions that enable or hinder development. The key question: **what does this project have to do with the UGP and how does the UGP help to inform the outcome of the research question?** By tying city boundary areas together with their associated Formemes and looking at patterns that emerge throughout that city, within the guidelines of the Formemes and Signatures, one can see how, for example, the city boundary of city X has seen an increase in rental costs while the same city boundary of city X has seen home prices decrease. With multiple Formemes stacked on top of one another, the Formeme-enabled encoding helps to highlight patterns that will inform this paper's conclusion. With the encoding, one can begin to view each city through their signatures, being the city-specific patterns that emerge for the various Formemes and identify areas of divergence, as exemplified in Figure 1.

Findings

The findings borne out of the data collection process, analysis and interviews will be used to discuss what a potential answer to both research questions may be. First, to reiterate where each of the three cities exists along the spectrum of zoning, San Francisco, during the period of data collection, has the most restrictive zoning, followed by Minneapolis with less restrictive, single-family eliminated zoning, and finally Houston with no formal zoning.

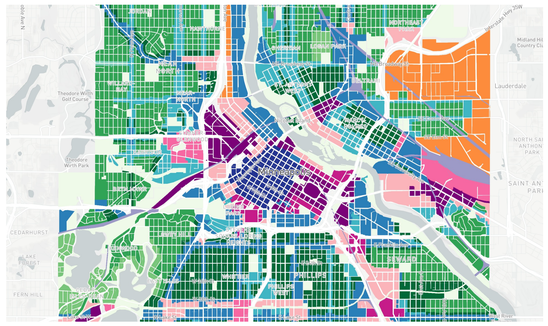

Figure 2: Minneapolis' Zoning Changes Following the Implementation of the 2040 Plan

Findings cont.

Minneapolis eliminated single-family zoning in 2018 and therefore, the impacts of their new policy are likely captured in a limited capacity with the 2020 Census. However, using post-2020 Census data, it is possible to further contextualize the growth patterns Minneapolis has seen in subsequent years. The data would suggest that since the baseline year, **Minneapolis has had the most significant transformation in housing stock** among the three cities in this analysis. It had the greatest increase in the proportion of leasable units with an increase of 76%, far exceeding San Francisco and Houston. Furthermore, **Minneapolis had the smallest increase in average rent at 17%.** This figures on their own may suggest that Minneapolis' zoning policies have worked, but when considered alongside the metric reflecting the city's population growth rate which was higher than either peer city, one can begin to conclude that the city's policies are undeniably working. Although the data makes it apparently clear that **Minneapolis' housing stock is transitioning towards rentals and rents are relatively stable**, against the backdrop of a growing population, those who opposed the elimination of single-family zoning may point to the city's high rate of increase in home prices.

Findings cont.

Presented as a percentage of household income, the affordability, or lack thereof, becomes more apparent as it will take the average San Franciscan 9 years' worth of work to purchase a home, compared to 4 years and 3.5 years in Minneapolis and Houston, respectively.

Conclusion

This paper and the data collected show that **although strict zoning can be a significant hinderance in increasing housing stock and keeping cities affordable, removing single-family or restrictive zoning, on its own, cannot make cities more affordable**. As affirmed in the many interviews conducted, cities must also embrace other policies that incentivize housing construction. Cities must look towards policies that are pro-housing, pro-density and pro-affordability. **Enacting inclusionary zoning city-wide, building along existing and future transit corridors, incentivizing developers through reduced fees and environmental review burdens, among others**, can help to create cities that have housing abundances which will lead to true housing affordability.

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