

Working Paper Written
by Dr. XiaoHang Liu

Policy Brief Designed by
Temur Umarov



CALIFORNIA COVID SOCIAL VULNERABILITY, INCLUSIONARY HOUSING, AND RACIAL SEGREGATION: AN EXAMINATION OF CITIES IN CALIFORNIA

**APPLIED HOUSING
RESEARCH INITIATIVE (AHRI)**



EXECUTIVE SUMMARY

- Cities with an IH program are significantly less vulnerable than cities without one.
- The association between having an IH program and racial residential segregation change varies by racial group and segregation aspect.
- Hispanic, Asian, and White segregation changed in one way or another. In contrast, Black segregation is intense and remains unchanged.
- The presence of an IH program had no impact on the change in minority's uneven distribution in a city. It is more relevant to the change in interracial exposure.



INTRODUCTION

Dr. XiaoHang Liu, a professor of Geography at San Francisco State University, wrote a [working paper](#) that examines the association between a city's inclusionary housing program, its vulnerability to COVID-19, and its change in racial residential segregation. The paper examined two questions: (1) Does the presence of IH programs in a city impact its vulnerability to COVID-19? (2) What's the relationship between having IH programs and a city's change in racial residential segregation?

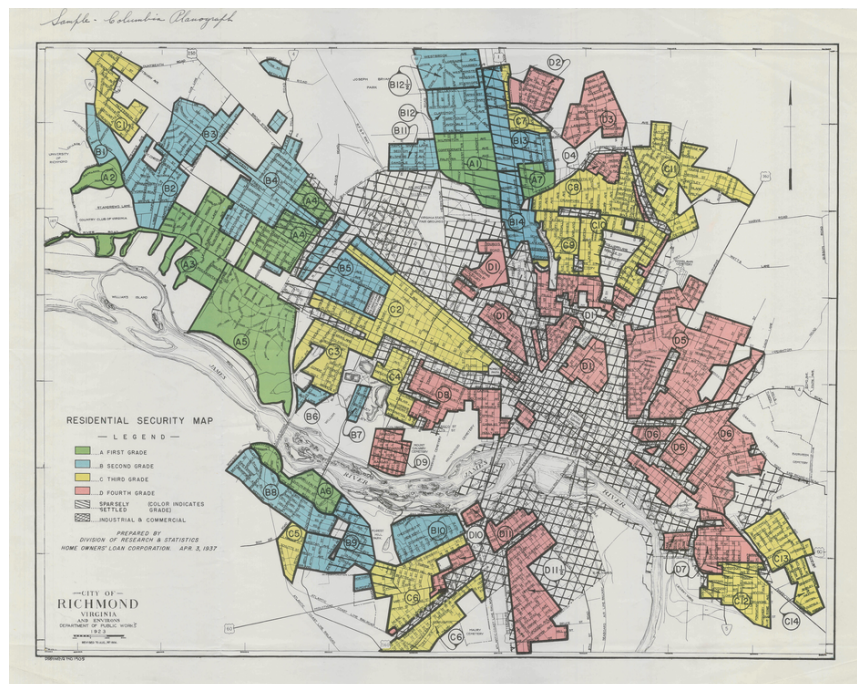


Photo From the National Archives Catalog of a Map of Redlining in Richmond, Virginia During the 1930s.



METHODOLOGY

To assess a city's vulnerability, a COVID-19 Social Vulnerability Index (COVIDSVI) was used. The COVIDSVI is composed of nine social determinants describing the socioeconomic status, minority status, household composition, and housing situation in a city. The socioeconomic status component factors in percentages of people with less than a high school education and no health insurance, the unemployment percentage, and median household income. Household composition focused on the percentage of single-parent households. Minority status was the percentage of Black/African American, Asian, and Hispanic populations. Lastly, housing situation was measured by percentages for over-crowdedness, rent burden and house ownership burden.

Data on IH programs in cities throughout California in 2019 was collected from the Inclusionary Housing Database by Grounded Solutions Network. Cities are divided based on their IH program availability. Two sample t-test was run to find whether the two city groups are significantly different in their average vulnerability; an F test was run to test whether they have equal variation in vulnerabilities.

To examine the relationship between having IH programs and racial residential segregation change, racial and ethnicity data was collected from the American Community Survey (ACS) conducted by the U.S. Census Bureau for years 2014 and 2019. Racial residential segregation was measured in several indices: the divergence index which describes the extent that neighborhoods' demographic composition differs from that of the city overall, the dissimilarity index which measures the evenness of minority distribution in a city, and the isolation index which assesses the interracial interaction of a racial group.



Paired Wilcoxin signed rank test, Komogrove-Sinov test, and Chi-squared independence test were run to examine whether racial residential segregation is significantly different between the two city groups, whether both city groups have seen changes, and whether the changes are significantly different from each other. No significant difference between the groups means the IH programs have no impact.

RESULTS

The COVIDSVI of the 482 cities and towns in California ranged widely from 0.54 to 8.54, with Piedmont in the San Francisco Bay Area being least vulnerable and Orange Grove in Central Valley being most vulnerable. At 95% confidence level, cities with IH programs are found to be significantly less vulnerable to COVID-19 than cities without.

The relationship between having IH programs and a city's racial residential segregation change is less conclusive because findings vary by racial group and segregation aspect. When divergence index is used, multi-racial segregation is found stronger in cities with IH programs than cities without, but there is no significant difference between their changes. This suggests that having IH programs impacts a city's multi-racial segregation status but not its change.

For individual racial groups, the relationship between their residential segregation change and IH program availability varied. When the evenness of the distribution of a minority group in a city is concerned, statistical analyses based on the dissimilarity index found Black segregation is the strongest.



Between cities with IH programs and without, no significant difference was found in their Black or Asian segregation, but Hispanic segregation was worse in cities with IH programs. In terms of change, Black and Asian segregation remained the same, but Hispanic segregation improved in both city groups though the presence of IH programs was found to have no impact on this change.



Photo By PublicCo From Pixabay



When segregation is measured by interracial exposure, i.e. the potential contact with members in other racial groups, statistical analyses based on isolation index suggests that Whites interact least with other racial groups. Having IH programs or not did not impact Blacks' interracial exposure nor its change. In contrast, Hispanics in cities without IH programs are found to interact less with other racial groups and the situation worsened from 2014 to 2019. Asians in cities with IH programs interact less with other racial groups, but Asians' interracial interaction increased in both city groups. Thus, having IH programs is relevant to Asian interracial exposure, but it may or may not be relevant to the exposure change. Finally, Whites interact least with other racial groups, especially in cities with IH programs. However, the situation has improved in both city groups. Having IH programs is found to be relevant to Whites' interaction with other racial groups, but it may or may not be relevant to the improvement in Whites' exposure seen in both city groups.

CONCLUSION

The findings of Dr.Liu's working paper show that IH policy is significantly associated with a city's vulnerability to COVID-19. On average, cities with IH policy are significantly less vulnerable to COVID-19 than cities without IH policy. In contrast, the association between having IH programs and racial segregation change is less clear, as it differs by racial groups. The choice of segregation index also impacts the findings. Having IH programs in a city is found to be associated with the city's multi-racial segregation but not its change.



Black segregation remains intense and did not change, validating the finding by other research that Black segregation seems impenetrable to socioeconomic interventions. In comparison, segregation of other racial groups is found to be associated with IH programs one way or another. Overall, having IH programs does not seem to impact the uneven distribution of minorities in a city, but it holds the potential to change interracial contact or exposure.



Photo By Geralt From Pixabay