As Western societies are growing increasingly more diverse, concerns of neighborhood erosion and conflict occupy scholars, policy makers and pundits alike. Previous research has largely focused on ethno-racial heterogeneity and polarization within pre-defined spatial units (e.g. census tracts) as the culprits of social tensions and withdrawals from public neighborhood life. In this article, we propose "contested boundaries" defined as edges between ethnically homogeneous areas that are not well defined as a refined contextual explanation of neighborhood conflict. To evaluate our argument, we apply edge detection algorithms from computer vision and image processing to census block and tract data, which allows us to identify boundaries between ethnically homogeneous areas. Using data from 7.7 million time and geo-coded 311 service requests from New York City, we track neighborhood conflict as indicated by complaint calls about neighbors across time and space.

Our analyses show an inverse u-shaped relation between edge intensity and neighborhood conflict—a finding that is reaffirmed with panel data. This pattern confirms our argument that conflict is most likely to occur at fuzzy boundaries rather than crisp, polarized borders. Aside from the importance of our results for the literature on intergroup relations, our research introduces contested boundaries as a theoretical concept to the neighborhood literature and proposes edge detection algorithms as a corresponding measurement tool.

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