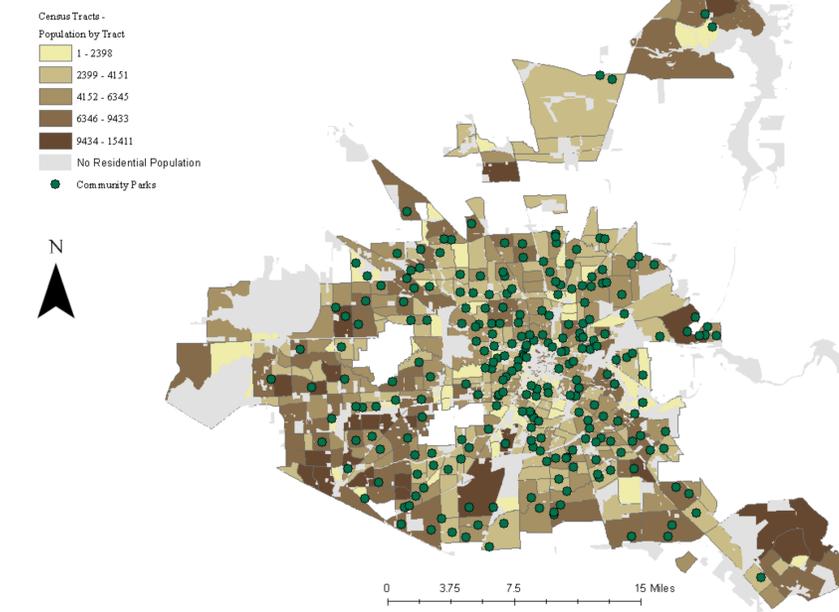


City of Houston, Community Parks and Population by Census Tract



Is There Equitable Access To Community Parks in Houston, TX?

METHODOLOGY

Three spatial analysis tools were utilized to measure accessibility.

First method employed was the “containment method,” one cited in the literature but not particularly heralded for its level of accuracy. To measure accessibility in this way, a community/neighborhood park total acreage to total population ratio was calculated for each census tract, and then these were correlated against tract demographic statistics (median age, % minority, etc) to better understand if there were in fact any trends.

The second method utilized a Euclidean buffer created around park locations with an “as the crow flies” radius of ¼ mile. Total population within walking distance to a park was calculated by totaling populations of all blocks within the service area. Demographic characteristics of blocks within the service area were compared to those outside of it. Data was measured at the block level were used in order to get the most nuanced results.

The third method, similar to the second, creates service area buffers around park locations, but this time a tool to calculate the walkable distance along road networks was employed.

RESULTS

Statistical analysis was performed to understand the relationship between populations with access to community parks and those without. Two methods (network analysis and Euclidean buffer) reveal that renters and minority populations in the City of Houston appear to have greater spatial access to community and neighborhood parks, but the results regarding children’s access are inconclusive. The containment method provides little information, offering only weak correlations between the variables and park square footage within each census tract.

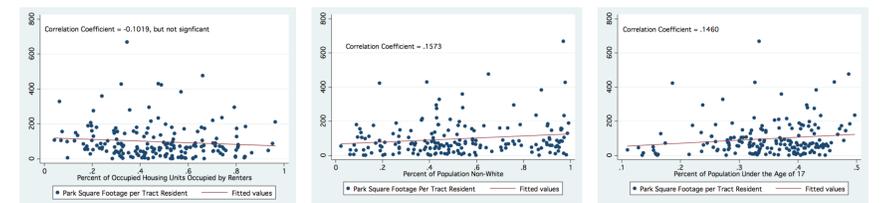
Variable Tested	Method	Mean Inside Service Area	Mean Outside of Service Area
% population under 17 years of age	Euclidean Buffer	25.26%	25.25%
	Network Analysis	25.16%	25.28%
% of occupied housing units with renters	Euclidean Buffer	34.17%	29.68%
	Network Analysis	34.46%	30.03%
% of total block population non-white	Euclidean Buffer	54.06%	46.61%
	Network Analysis	53.81%	47.45%

OVERVIEW AND OBJECTIVE

Urban neighborhood and community parks can serve as important community resources for city residents, providing opportunities for physical activity and for congregation in public spaces. Thus, these small parks can offer important public health benefits and help to build community capacity by increasing opportunities for social capital. It is important to then understand who has access to these resources, and who does not, in order to make certain that the needs of otherwise underserved are being met. This study focuses on community and neighborhood park accessibility in Houston, TX.

The objective of this study was twofold. Research questions included:

- How accessible are community and neighborhood parks to residents of the City of Houston, and particularly to children, minorities, and renters?
- Which spatial analysis methods are best suited to measure accessibility?



LIMITATIONS OF STUDY

As this study uses 2000 US Census data, results will not necessarily mirror current trends in park accessibility. Each method for measuring population within a service area is an approximation. For more information, see accompanying paper.

Data sources:

- US 2000 Census Data, accessed through Geography Network
- City of Houston Planning and Development
- City of Houston Parks and Recreation
- Texas Department of Transportation

Map Coordinate System: NAD 1983 State Plane Texas South Central FIPS 4204 Feet
Cartographer: Maggie Husak, UEP 232: Introduction to GIS

