It’s Not Easy Finding Green: Using GIS Analysis to Increase Accessibility to Parks in Providence

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Research Question
Which vacant/underused lots should the city of Providence prioritize converting into parks, in order to increase access to public green space to the most people possible living in impoverished communities?

Significance
Access to public green space is an issue of equality, both for physical health and mental well-being, and many Providence residents still lack access. However, given limited funding, the Providence government must selectively choose which new park sites will be the most effective at increasing access.

Methods Overview
First, I used ArcGIS’s Network Analyst extension to determine which areas of the city were within a five minute walk of a public green space. Then, from the remaining areas of the city, I determined which vacant lots were in Census Block Groups with median incomes beneath the poverty level for a family of four. Then, I used population density, as well as the new service areas to estimate the number of new households that would be served by the new park.

Analysis

Conclusion
While much of Providence does have access to public green space, clearly more work still needs to be done. The area of Providence in which the creation of public green space should be most prioritized is northwestern Olneyville and southwestern Mount Pleasant. It should be noted that this study did not take into consideration the quality of existing parks, nor the tree cover of the neighborhood. Furthermore, median values across Census Block Groups may hide smaller variations. Further research could include a density analysis of public green space across the city as well as expanding the geographic scope of the analysis to the county or state level.

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