Austin Parks Accessibility Analysis

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Abstract:

Public parks offer a variety of community and ecosystem services in urbanized areas. Parks increase community mental health, provide a space for exercise, sequester atmospheric carbon, and provide wildlife habitat. Free, easy access to these green spaces is not always available, though. Millions of American children and lower-income families disproportionally lack access to a playground within a 10-minute walking distance. In growing cities, like Austin TX, community park projects are constantly needed to improve the quality of life for the residents. We conducted a spatial analysis to find gaps in park access within the 10 single-member council districts in Austin, TX. In ArcGIS, two distance buffers were generated from park boundaries to represent a 15-min walking and biking distance, and a series of clip operations highlighted Austin roads and communities with easy park access. Initially, six new park locations were found, but further research eliminated three of them. The neighborhoods with the highest park need were Wooten, St. John's, and Montopolis. All three neighborhood suggestions experience lower levels of household income. Building new parks in these locations would service 25,000 residents, over 7,000 children under the age of 18, and cost ~$2,500,000.