

## **Abstract**

Research studies show that urban green spaces promote physical activity, health of urban residents, and psychological well-being. However, most public urban green space is not distributed equally and fairly. In addition, access to public green space is often stratified based on race and income level. The objective for this research is to assess the level of environmental justice in the city of Phoenix, Arizona, and to answer the following questions: 1) how accessible are public parks or green spaces within a walking distance of 0.5 miles for White, Black, Asian, Hispanic, and American Indian populations; and 2) which areas need more public green spaces or parks? The accessibility of public green space refers to the distance travelled from a residential area to the nearest public green space. This study utilizes network analysis to investigate how accessible public parks or green spaces are to residents of the City of Phoenix, categorize by race, and which areas need more public green space in the City of Phoenix. A geodatabase from the US Census Bureau with pre-defined shapefiles and demographic data, as well as city parcel shapefiles from the City of Phoenix Open Data Portal are combined using the intersect tool in ArcMap. Results show that the White population does not have a higher percentage that live nearby public green space. The Asian population has the lowest public green space accessibility and the Hispanic population has the highest public green space accessibility, but also the highest park pressure. According to the future possible green space locations analysis and park pressure analysis, the demand of public green spaces for Whites and Hispanic people are the highest as compared to other groups. Given these research findings, this study suggests that geospatial analysis should be utilized in future environmental justice scholarship.