

ABSTRACT

RESEARCH PAPER: Using GIS to Study and Improve the Food and Physical Activity Environment of Muncie, Indiana

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Individuals are responsible for their own diet and exercise choices, but factors that limit the ability to make healthy choices in the first place are something that can be addressed through careful study and improvement of neighborhood environments. This research seeks to use geographic information systems to study the food and physical activity environment of Muncie, Indiana, and suggest multiple ways to improve it. Muncie is in Delaware County, which is ranked a low 82nd of 92 Indiana counties for health outcomes, and has a third of the population obese. After running network analysis and density studies on different variables, it can be determined that infrastructure improvements are critical to increased multimodal transportation and accessibility to food and physical activity resources. Currently, only 13% of the population is within fifteen minutes or less of a walking distance to a major grocery location. Also, no large parks exist on the northern portion of the city. These are two major components in healthy lifestyle choices, and both can be corrected with additional infrastructure. This research will explore the analysis and various solutions and potential ways to improve the accessibility to health resources within the city.