

## Abstract

Parks and Recreation Master Plans help communities identify and prioritize recreational needs for diverse populations. This project contributed to redevelopment of the city of Pontiac's Parks Plan by recording geographic and pictorial information in twelve parks for use in **identifying barriers to accessibility** affecting residents with physical disabilities.

Multiple barriers were discovered, including uneven or non-unitary ground surfaces and a complete absence of accessible restrooms, parking, and pathways in 100% of parks assessed. These findings will be integrated into redevelopment of the Pontiac Parks Plan.

Proposed short-term solutions included improved grass maintenance, pathway clearing, and redesigning parking areas to improve access for those with disabilities. Long-term proposals included play areas with unitary ground surfaces, new pathways to connect existing park facilities, and restoring restroom facilities.

Integrating these solutions into Master Plans will encourage and enable Pontiac's disabled population to use the park system, leading to a higher number of physically active residents with improved health status.

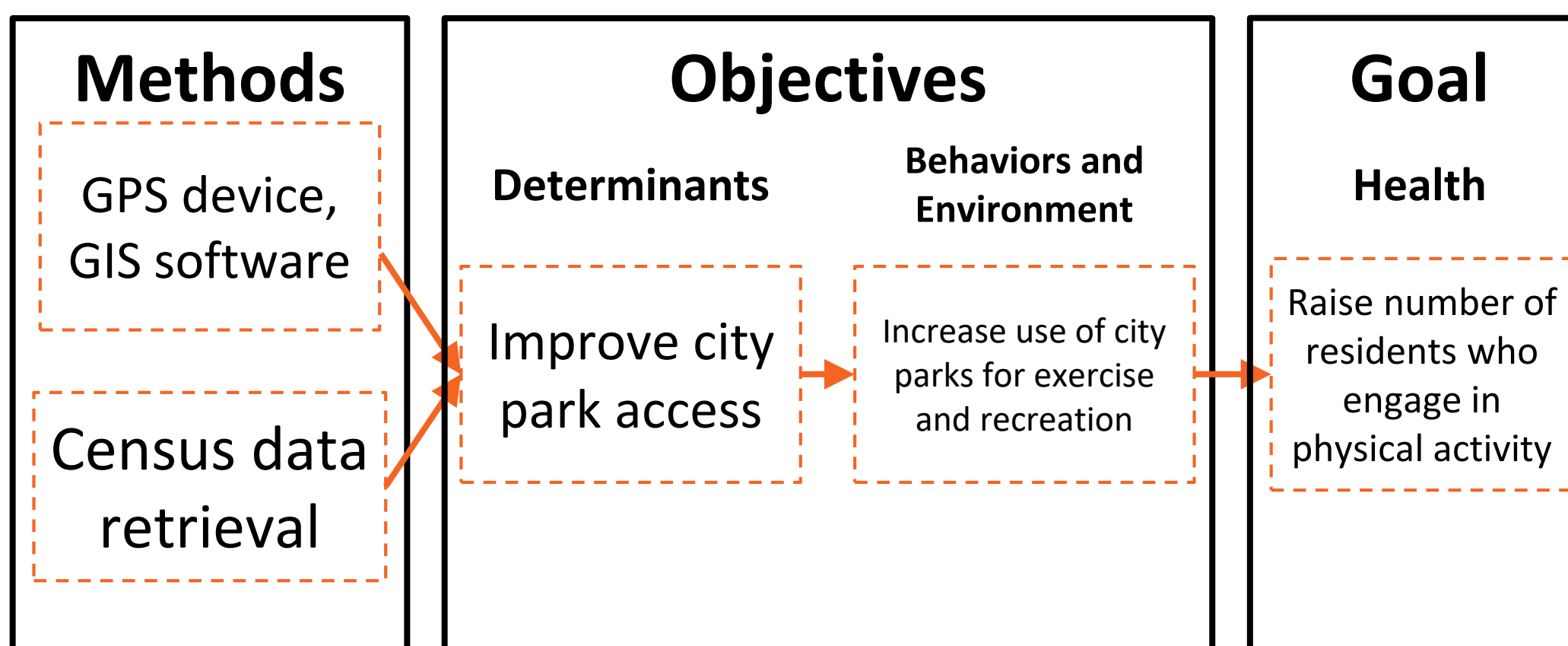
## Introduction

Park design and layout analysis has been performed by many cities in recent years, with public health professionals creating studies to determine the impact of successful planning on the activity level of a community. **A common tool used to evaluate park space in a city is a GIS, or geographic information system.**<sup>6</sup> In urban planning, this system is used to determine how a park's location, accessibility, and amenities affect those who live nearby.

Using this tool, ample park space has been shown to be closely related to higher physical activity levels in an immediate area.<sup>1</sup> A systematic review of twenty-one similar urban park studies has been published in the academic journal *Health & Place*, drawing the conclusion that "physical attributes of parks... may influence physical activity patterns."<sup>4</sup>

Encouraging exercise among disabled individuals is particularly important, as a sedentary lifestyle is nearly twice as prevalent among disabled adults compared to adults without physical disabilities.<sup>2</sup>

## Project Goal: A Theory of Change

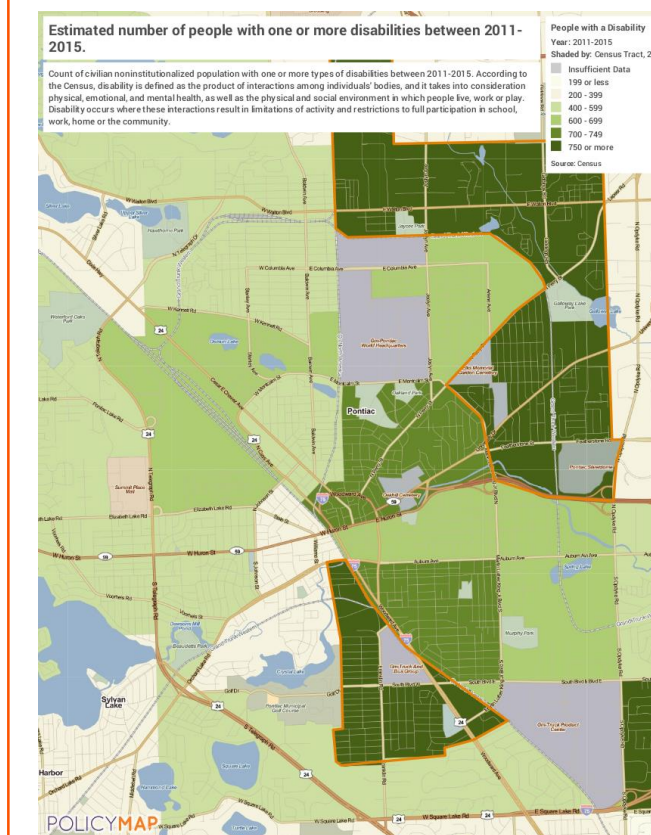


## Materials and Methods

Population data was collected using PolicyMap, an online service which provides demographic and quality of life information using tracts from the 2010 U.S. Census.<sup>7</sup> PolicyMap disability data was composited with the boundaries of the seven city council districts of Pontiac.<sup>3</sup> The resulting map was used to select parks that served a large number of nearby disabled residents, while ensuring that every council district was represented by at least one park.

**Before visiting each park:** Initial metadata was recorded including the name of the park, the date the park was visited, the council district in which the park was located, and the type of park: community, neighborhood, or mini. **During each park visit:** An inventory of facilities was conducted which reported the presence of fishing piers and observation docks, picnic tables, cooking surfaces, children's play areas, sports areas, permanent restrooms, clearly marked parking spaces, and signage. **After a park visit:** Specific observations related to certain facilities were recorded, including play area access ramps and wheelchair transfer stations, ground surfaces, and sports area seating and entranceways.

Park accessibility guidelines have been compiled by the Michigan Department of Natural Resources detailing proper facility design including park boundaries, recreation equipment, barrier-free design strategies, and the expected status of essential facilities such as restrooms and parking.<sup>5</sup>

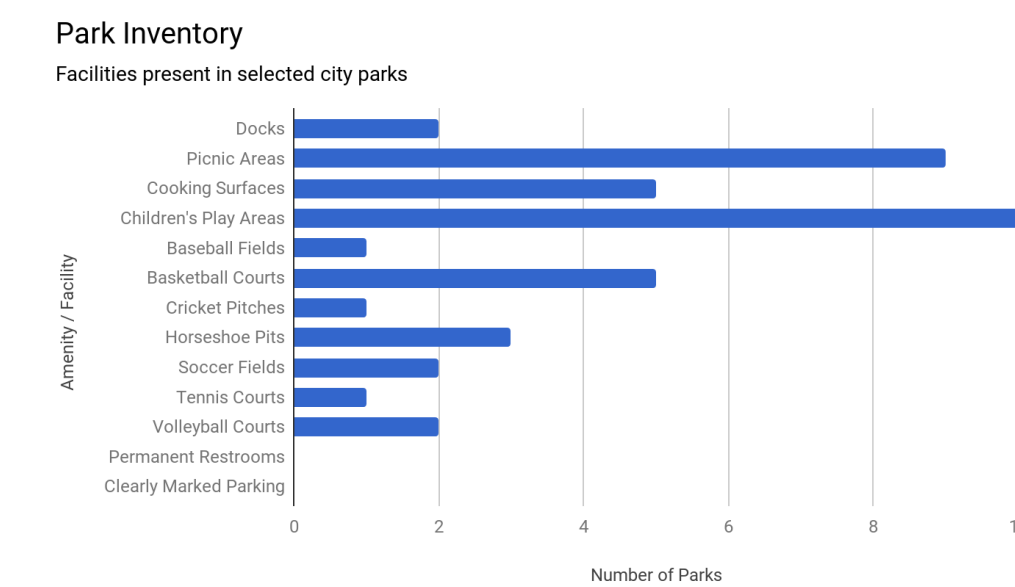


Map and Project Data  
<https://accessibleparksproject.org>

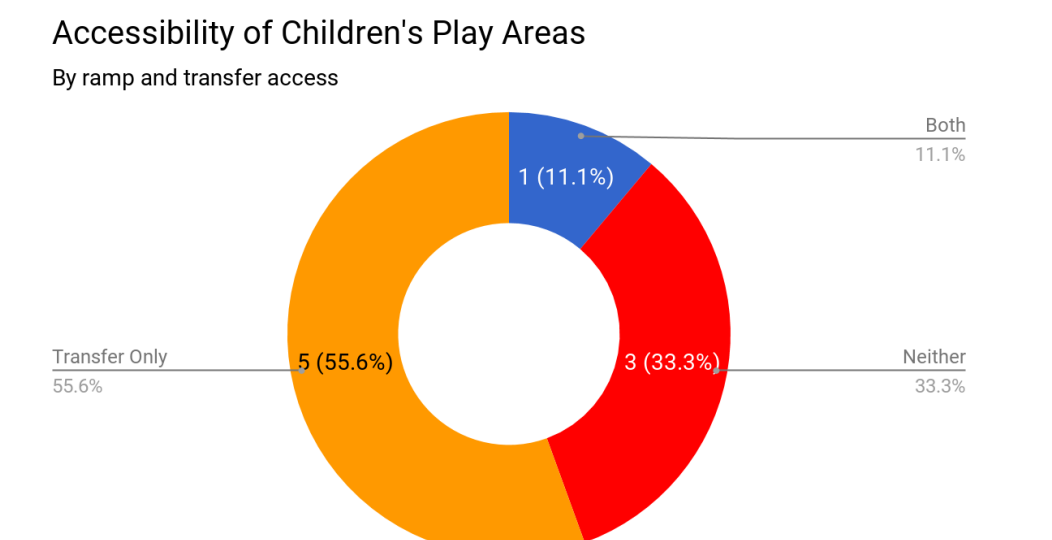
## Results



More than 200 photos were taken within city parks, collecting information on numerous barriers to accessibility while highlighting a few notable steps in the right direction.



An inventory of facilities was taken in each of the twelve parks visited.



Three of the ten play areas visited featured neither a ramp nor a wheelchair transfer point, rendering them inaccessible.

## Discussion and Conclusions

This research will be presented to the city of Pontiac in 2018 in coordination with the revised Master Plan. Kristen Wiltfang and the Master Plan Steering Committee will assist in sharing these resources with the City Council and City Leadership. The waypoint and image data collected during this project has been packaged and made publicly available; it will be updated as necessary as development of this project continues.

Improving children's play areas would be one of the most effective short-term changes. Switching to unitary play surfaces would likely be cost-prohibitive, but better grass maintenance would be a small step in the right direction while also improving the appearance of these areas. This could encourage more people to visit and care about these parks. Another short-term goal would be repairing or weeding existing pathways, as many are entirely inaccessible even to people who are not physically disabled.

A long-term goal would be the development of new pathways to connect facilities such as picnic tables and sports areas that are currently only reachable by grass or dirt. Larger parks would also benefit from designated accessible parking spaces and the restoration of previously used restroom facilities. This would show the community that the city is considering the needs of those with disabilities, encouraging park use. If the parks clearly show that they are making an effort to cater to the disabled, more of these residents may use the city parks to exercise in the future.

## Limitations

Disability information as provided by the census is an aggregate; physical, emotional, and mental disabilities are not separated. As a result, large populations of disabled individuals were assumed to contain proportionally large populations of those with physical disabilities. To avoid this issue, researchers would need to design a study to collect this data rather than rely on census information.

It is possible that certain facilities exist at some parks and were missed during inventory, leading to them being incorrectly reported as not present. Additionally, some areas were only partially evaluated during GIS data collection as to avoid disturbing members of the community using park facilities, most notably sports areas where a game was in progress. These issues would be best resolved by replication of the study.

## Contact

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## References

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