

Playgrounds and Parks for Children in Philadelphia

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Collazo Playground (Trust for Public Land,
Jenna Stamm)

In the city of Philadelphia, where could K-12 students of the Philadelphia School District benefit most from repurposing vacant land into a public park, playground, or recreation center?



Introduction

Repurposing Philadelphia's vacant land would be the best use of available space, and easiest to build from.

- There are approximately 40,000 vacant lots in Philadelphia
- Vacant lots that are not regularly tended to can result in negative environmental and safety impacts on the community.
- Greening of vacant lots can result in reduced crime, reduced litter and illegal dumping, an increase in health benefits, and positive economic changes.



In Philadelphia, there are approximately 342,000 children under the age of 18 (American Community Survey, 2018). They represent 22% of Philadelphia's population.

- Philadelphia's child (ages 5-18) obesity rate is 20.6%, reaching up to 22% in households living below the poverty level.
 - 34.6% of children live in a household below the federal poverty level (American Community Survey, 2018)
- 25% of children in Philadelphia do not get sustained physical activity at least once a week (CDC, 2013)
- Besides existing policies to improve health of Philadelphians (soda tax, age for purchasing tobacco), parks and recreation centers improve the physical and mental health and safety of the community, and add value for city to invest more resources towards.



Smith Playground,
Philadelphia

Accessibility to Playgrounds

- In 2013, the School District of Philadelphia closed 30 schools
 - In areas around Philadelphia, up to 80% of children don't attend their neighborhood school
 - This results in students taking public transportation to and from school, limiting their time within their own community and resources available to them
- Two thirds of Philadelphia District Elementary Schools do not have playgrounds
- Most common areas for school playgrounds exist in Center City and gentrified neighborhoods
- Playgrounds are missing in neighborhoods with high rates of poverty, and the fewest tend to be seen in areas home to communities of color.
- Neighborhoods with less playgrounds are also seen to have higher rates of obesity.

“Our school grounds are parks that are hugely used, and they have not been invested in to a degree that reflects their user rate. Children don't vote directly, and their voices haven't been heard.”

Sharon Danks
Founder of Green Schoolyards
America

Green Schools

- Environmentally, these spaces can also benefit their community
 - Cool pavements can reduce UHI effects
 - Trees can improve air quality
 - Opportunity to manage stormwater on public land and prevent runoff
 - Stormwater Grants by PWD for Green School projects



Horatio B. Hackett School, proposed plan

How to Locate Potential Areas

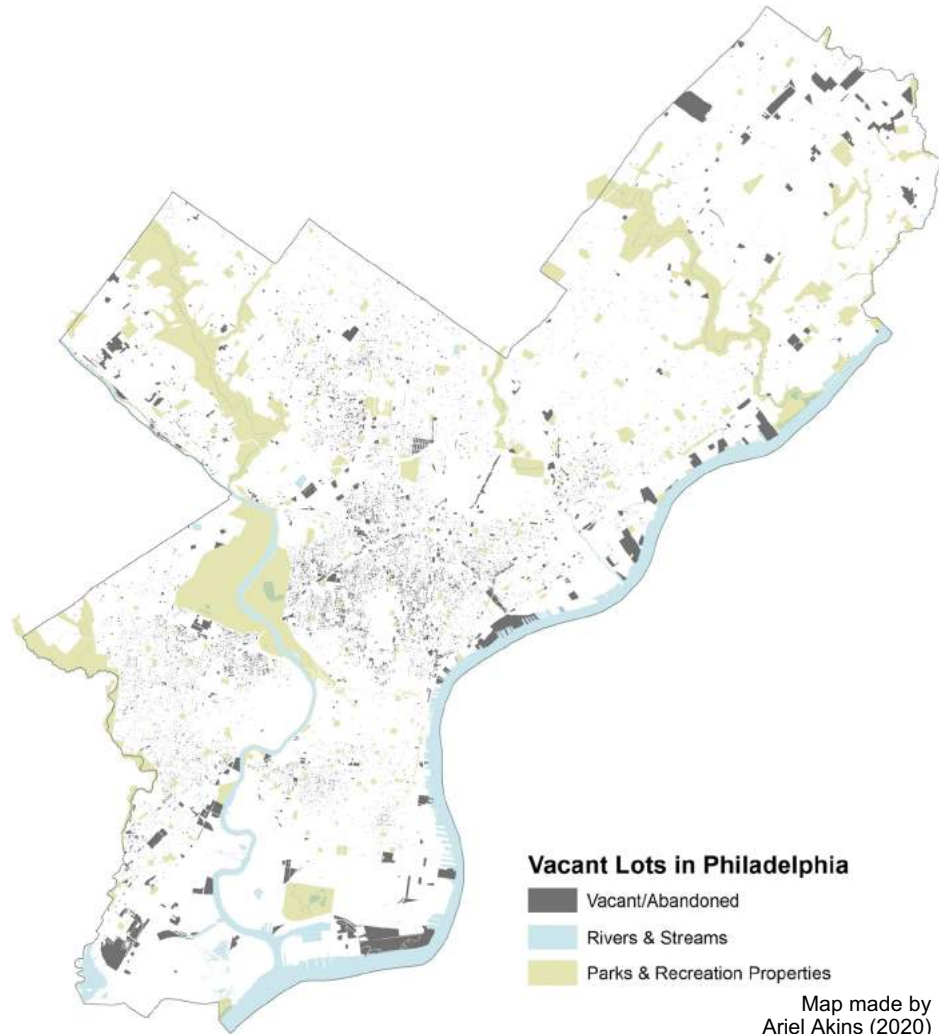
- Philadelphia Parks
 - Area should not be within an existing Philadelphia park
- Current vacant land within Philadelphia
 - Should be large enough for a park, playground, or recreation center
- Playgrounds and Schools
 - Areas should be close to existing schools
 - Exclude private and charter schools as they have private property and funding, and district school students could more greatly benefit from a neighborhood park.
 - Areas that are not already benefiting from an existing playground
- Median Household Income
 - Areas with a lower household income that would benefit from the resources that a park would bring to their neighborhood
 - Median household income for Philadelphia is approximately 45,000



Rendering: SALT Design Studio

Abandoned and Vacant Lots

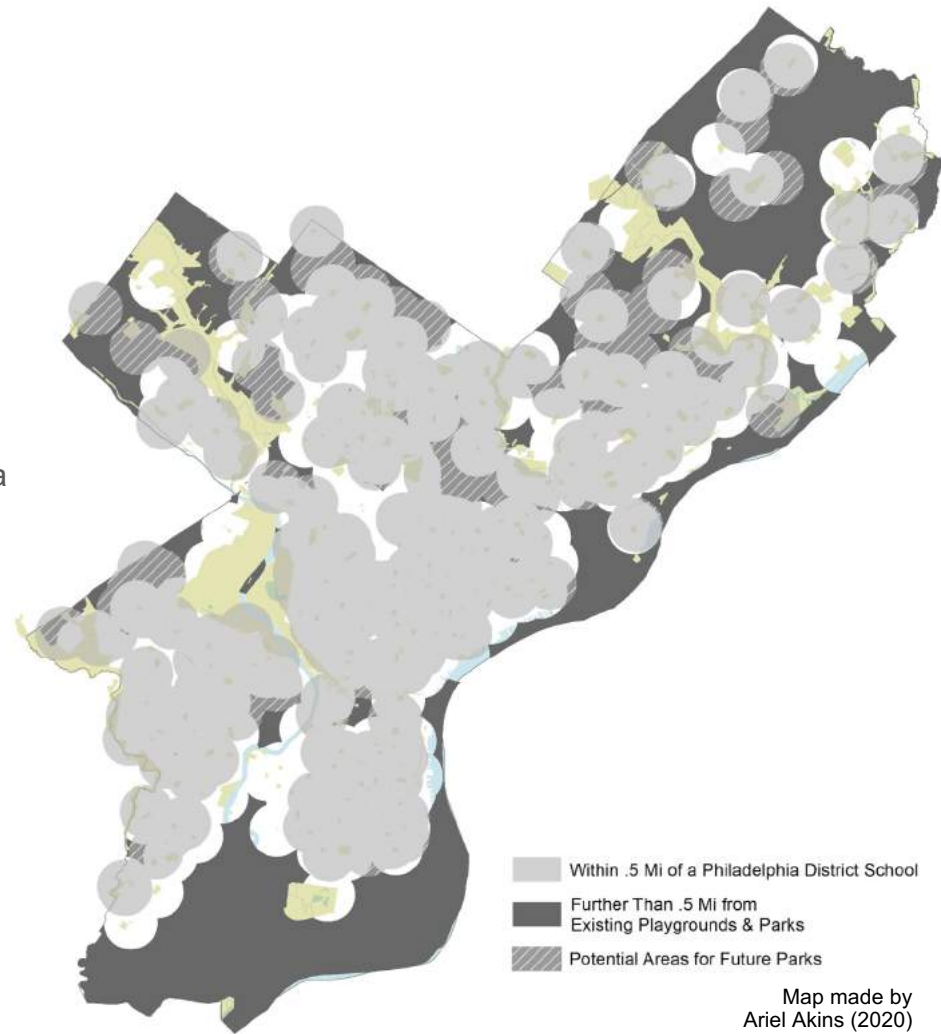
- Philadelphia Land Use (OpenDataPhilly)
 - Select by Attribute for Vacant Parcels
- Philadelphia Vacant Property Indicators (OpenDataPhilly)
- Merge two layers to get total vacant parcels in Philadelphia



Map made by
Ariel Akins (2020)

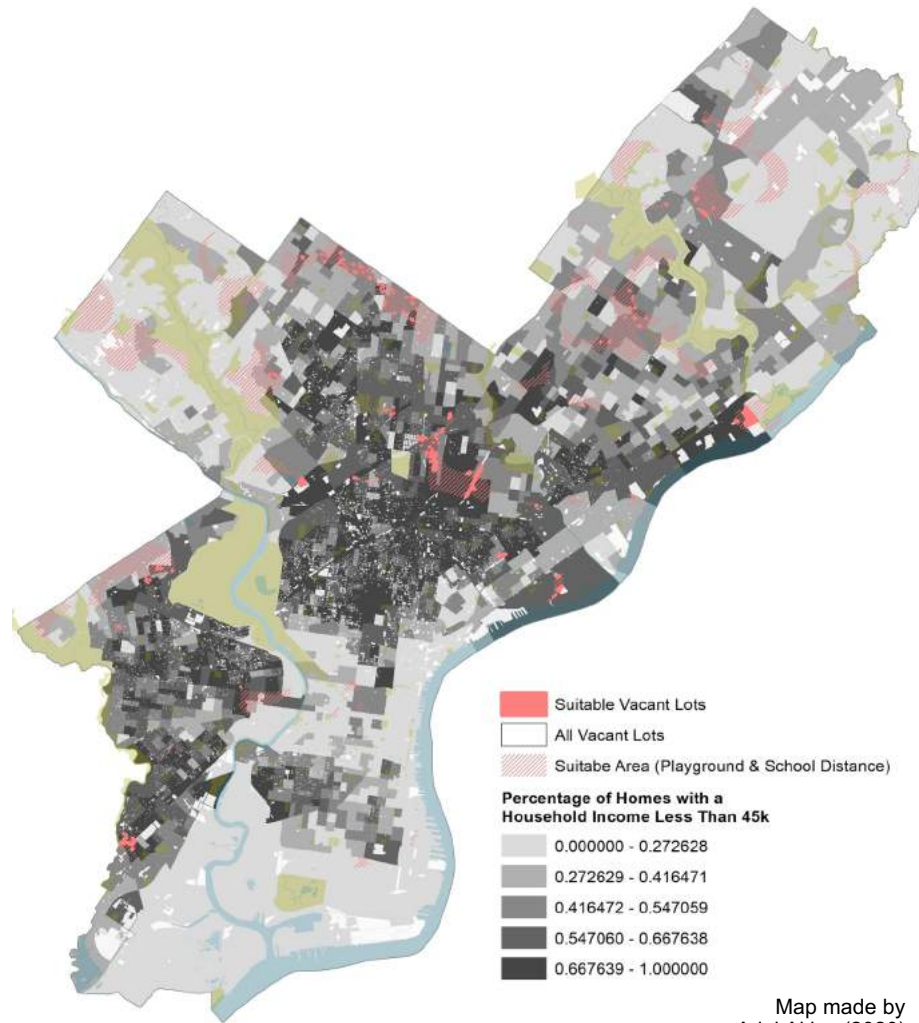
Schools and Playgrounds

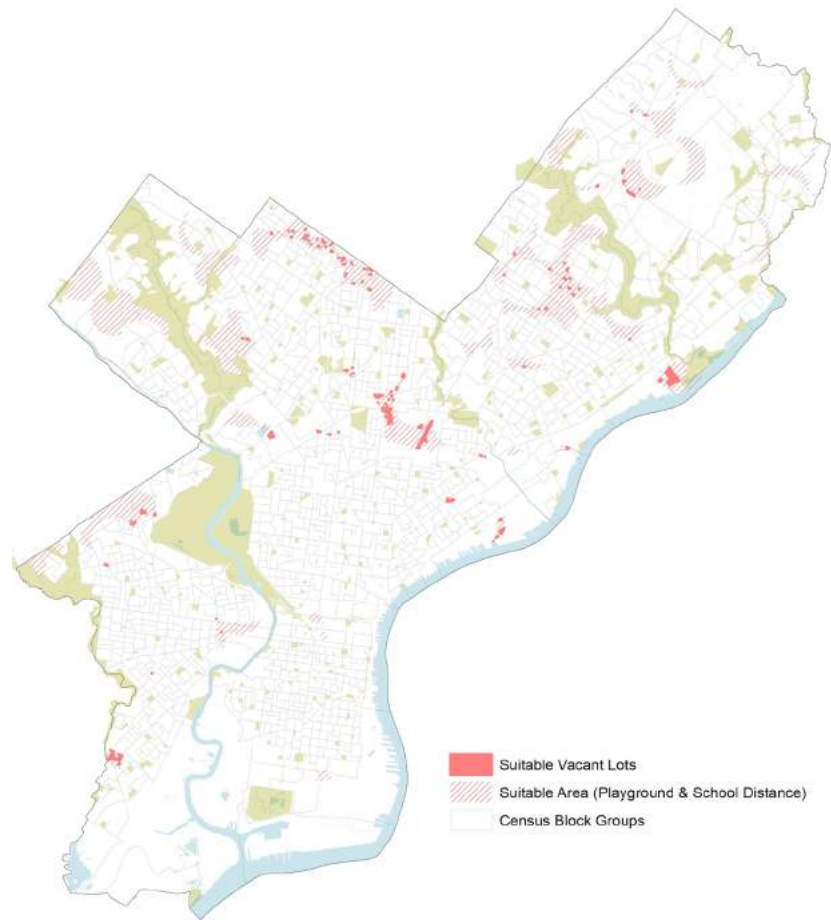
- Philadelphia Playgrounds (OpenDataPhilly)
 - Create buffer of .5 miles, suitable land would be **outside** of buffer
 - Erase buffer from total area of Philadelphia
 - Erase existing parks from remaining area
- Philadelphia Schools (OpenDataPhilly)
 - Select by Attribute to view only District Schools (222 out of 550)
 - Create buffer of .5 miles, suitable land would be **within** buffer
- Clip the resulting playground layer from the school buffer to find potential park area



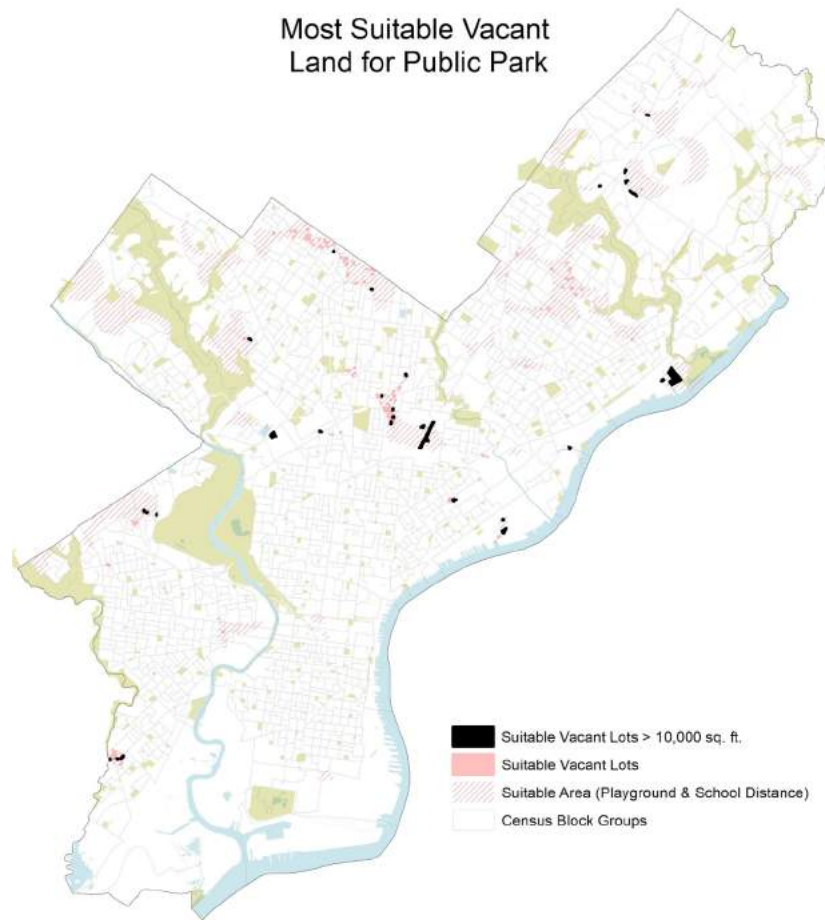
Household Income

- Household income by block group (Census)
 - Calculate field to find percentage of households in block group that make less than \$45,000
 - Join attribute table of Census data to the shapefile of Philadelphia Block Groups
 - Quantile map of percentages of households that make under \$45,000
- Spatial join to add features of household income shapefile to the vacant lots shapefile
 - Select vacant lots located within a block group that has a percentage higher than 41%
- Clip vacant lots by the potential park area found in the previous slide





Most Suitable Vacant Land for Public Park

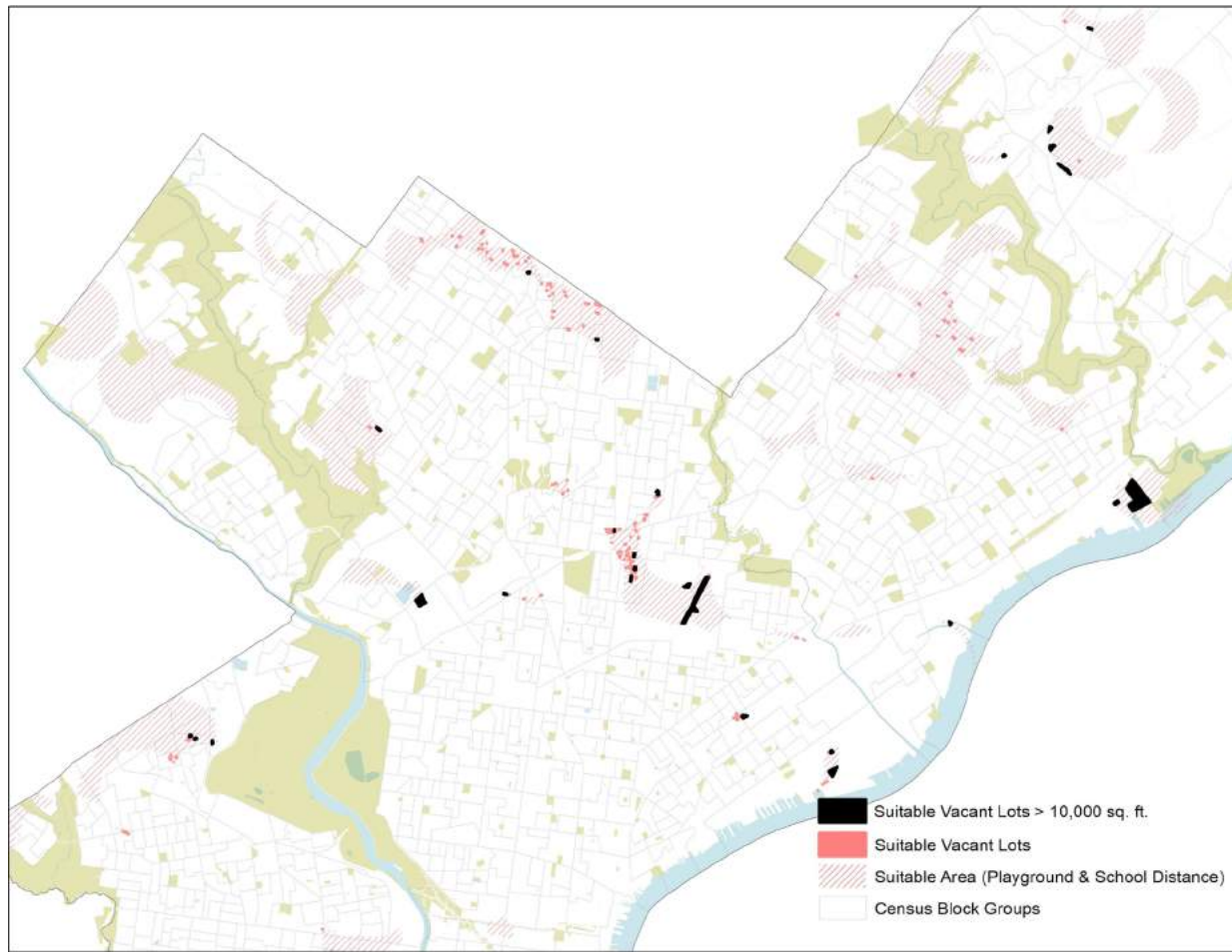


Results

Of the vacant lots that meet the criteria of distance to schools and existing parks, there were 288 located within block groups with a lower than average household income. Many of these vacant lots are seen in north and northeast Philadelphia.

Out of these 288 lots, there were 34 lots that were 10,000 sq. ft. or larger.

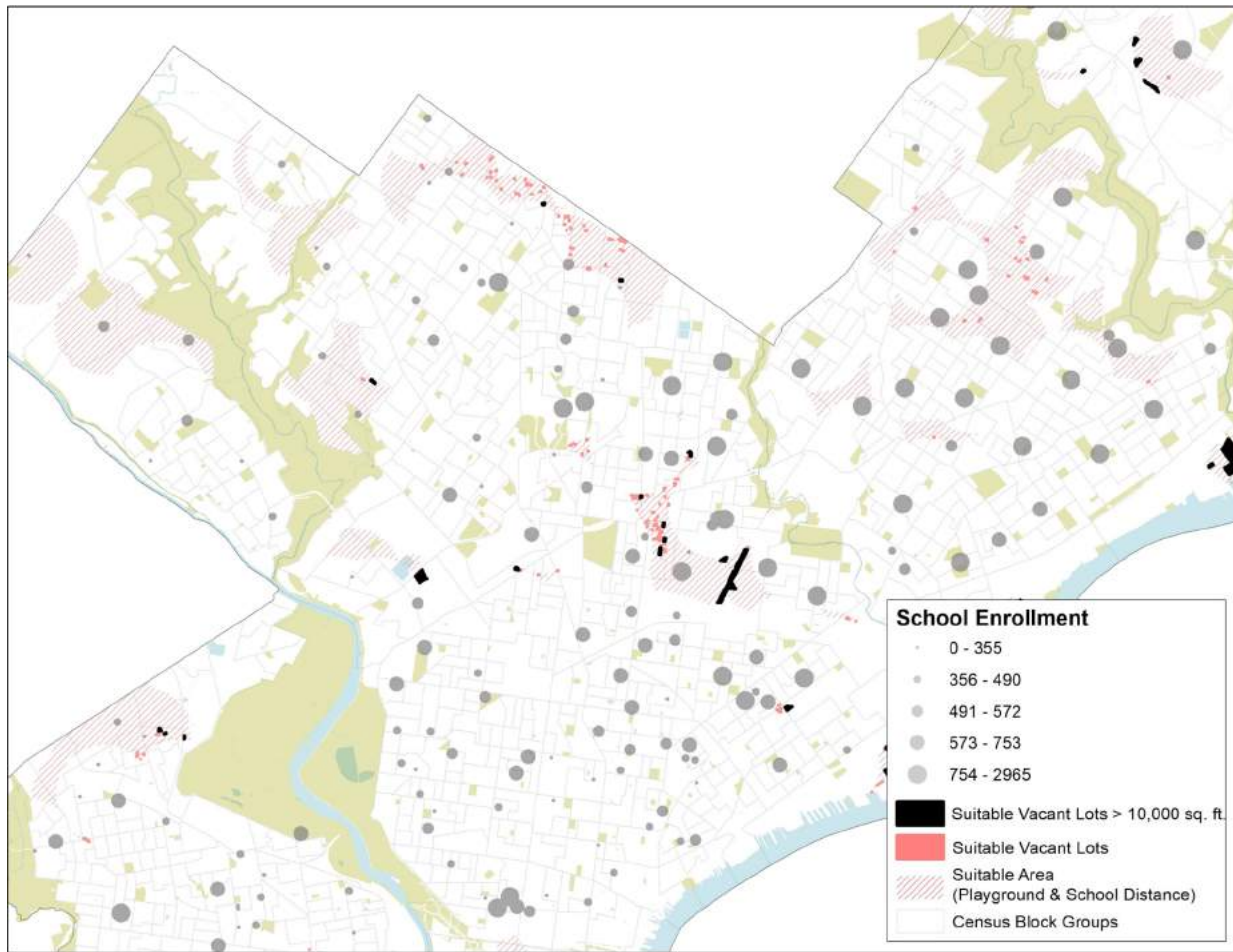
The most available vacant land is located in North Philadelphia, near Feltonville.



Results & Discussion

Looking at the vacant lots compared to the nearby school enrollment, the areas in North Philadelphia and Northeast Philadelphia have a larger number of students compared to the areas near Stenton (north) and Roxborough (west).

This shows that not only do these areas represent communities without access to green spaces, but that there are a large number of students that could benefit from parks and playgrounds being built in their neighborhood.



Results & Discussion

For smaller vacant parcels in the north and northeast, what are some possible projects that could also environmentally or educationally benefit children of those surrounding communities?

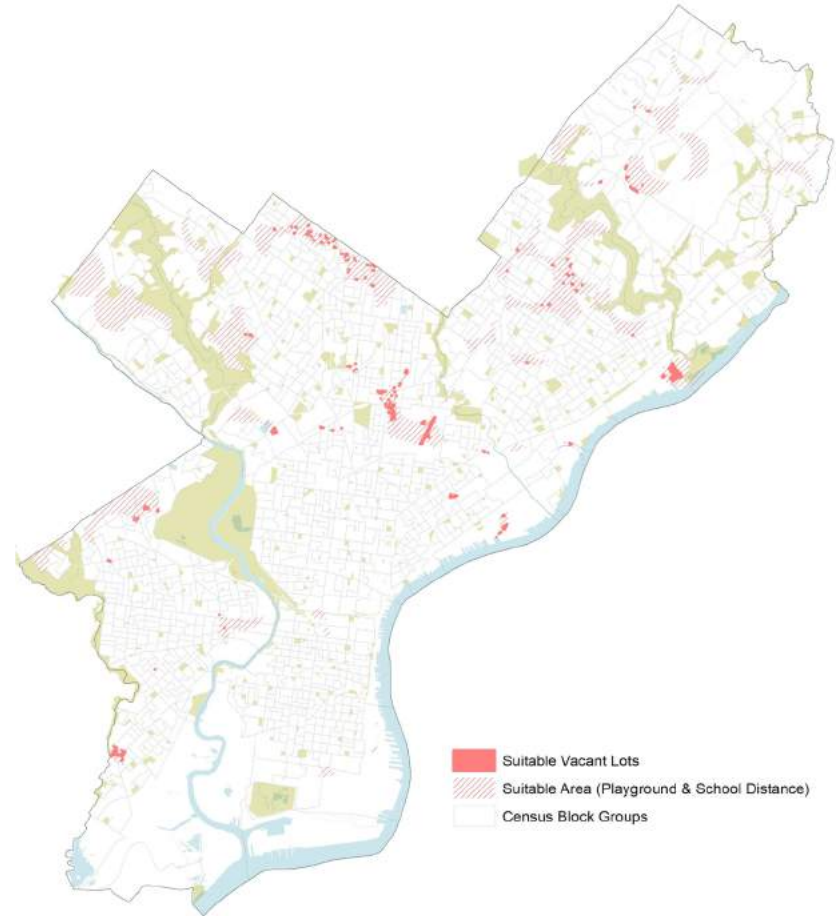
Would it be more beneficial to demolish areas in between the parcels to create a larger park?

Does this look similar to other environmental or vulnerability patterns seen in Philadelphia that would make these sites more (or less) appealing for parks?



Conclusion

When it comes to community access to safe and healthy environments, there is clear inequity throughout the city. In a city that has high rates of child health issues, it is important to invest in the health and wellbeing of students and encourage growth within their own communities. As playground design evolves, it should be treated with similar importance as other public parks, as they reflect similar user rates and environmental impacts.



References

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