

Opportunity Mapping Technique Demonstration in Philadelphia

Background:

This project is a study and partial implementation of The Kirwan Institute's concept of Opportunity Mapping that begins to answer the question of where opportunity exists in Philadelphia County and how data can show us the relationship geography can play in opportunity access. This project is not meant to create a complete and comprehensive opportunity map, but instead to explore the concepts and process that the Kirwan Institute employed.

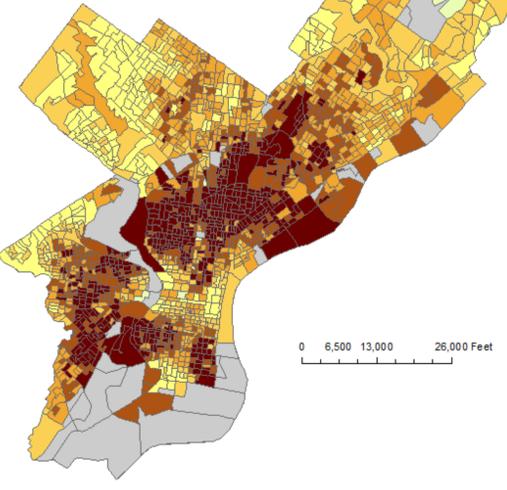
Limitations:

This project was limited by the lack of data accuracy down at the Census Block Group level especially using SF3 data. Census Tract data would have produced more accurate information. Also, the factors were not weighed which has a huge effect on the outcome of the opportunity map. Without community and expert involvement weighing factors is arbitrary. Further research into the significance of factors on actual achievement and opportunity creation is needed.

Final Opportunity

Final Aggregated Opportunity Ranking by Quantile

- Very Low
- Low
- Average
- High
- Very High



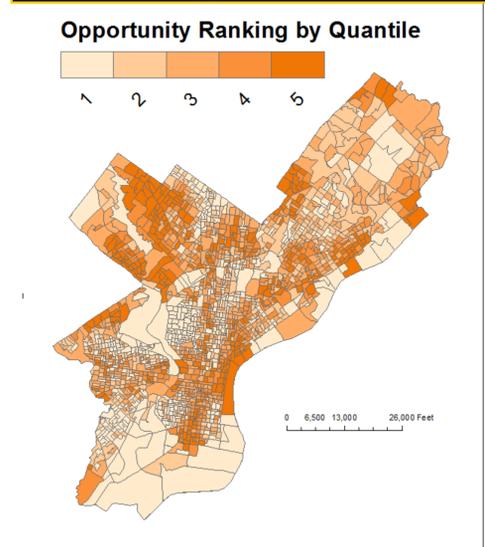
Methodology:

Beta Factor Indicators Formation: The raster data was aggregated up to the Census Block Group level through use of zonal statistics which assigns the re-classed rankings of the raster file to the block group level. All the indicators required joins, field calculator inquiries, and field adds to assign the vector sourced and the raster sourced data a ranking of 1-5 by Block Group.

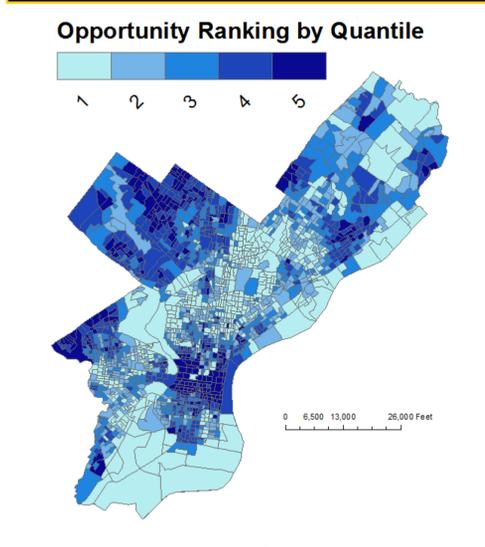
Alpha Indicator Map Creation: All of these beta factor maps were over-layed using the union tool to combine the features into one alpha indicator map. The individual rankings for each beta factor were added to formulate an overall score. These alpha rankings were then turned from raw numbers like "17" to a quintile ranking of 1-5 as well so that each indicator map would be weighed evenly regardless of the numbers of factors.

Final Opportunity Map Synthesis: The final opportunity map was done in the same process of aggregating the beta to alpha maps. This data was normalized to into a final ranking of 1-5 set as quintiles to show very low, low, average, high and high areas of opportunity.

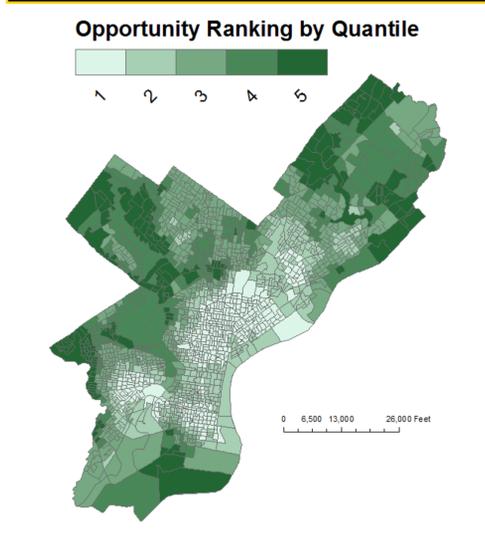
Aggregated Transportation Data Opportunity



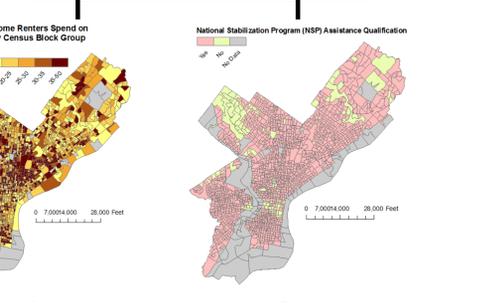
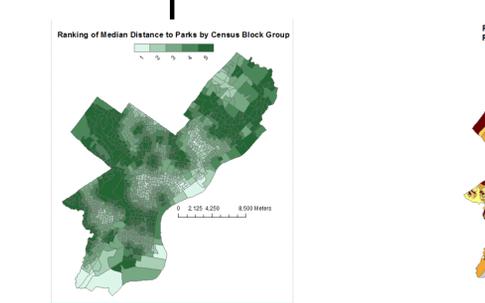
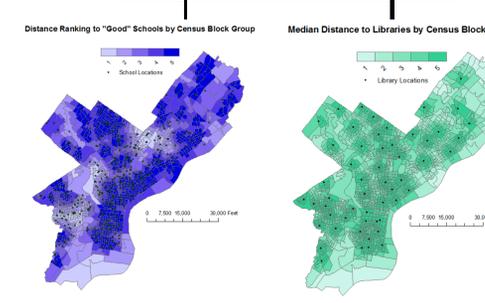
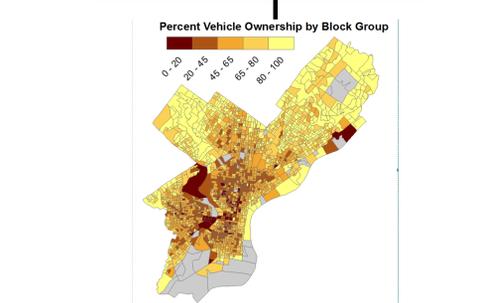
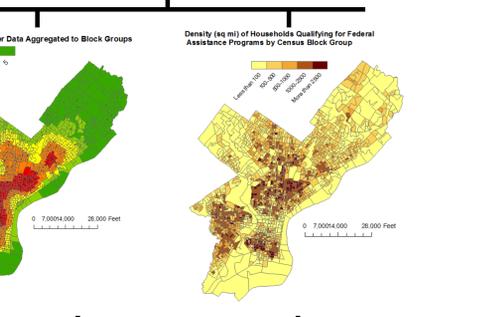
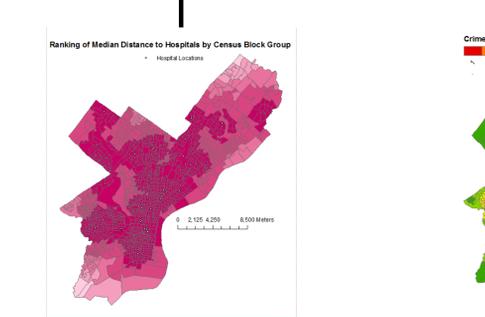
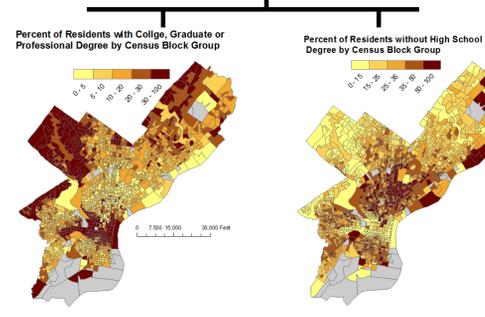
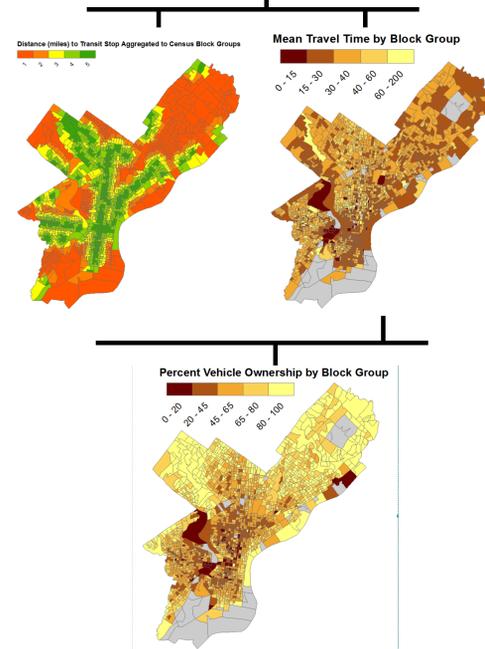
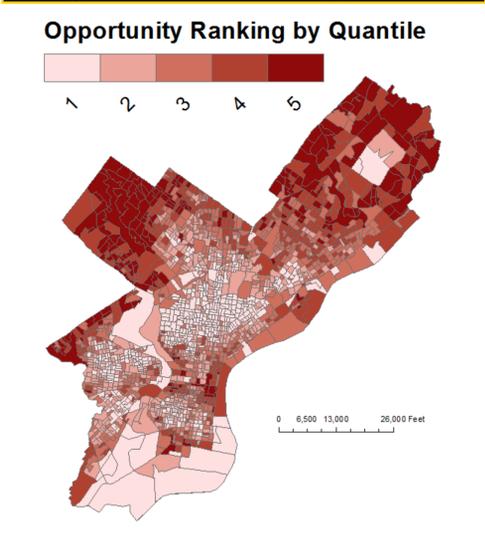
Aggregated Education Data Opportunity



Aggregated Health and

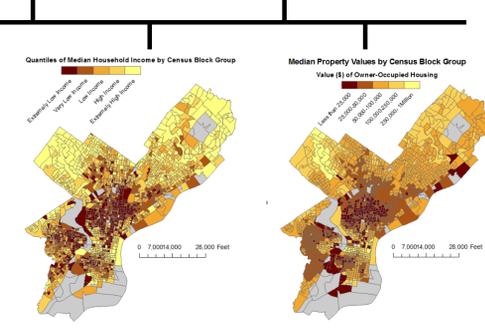
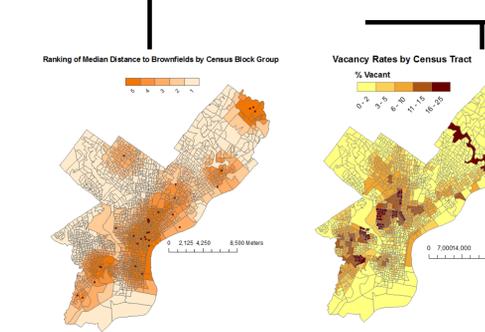
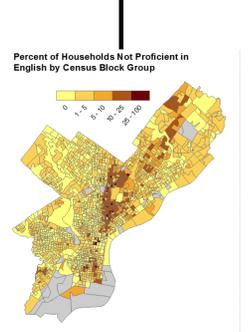


Aggregated Economic and Neighborhood Data Opportunity



Data Resources:

- The Ohio State University, The Kirwan Institute: <http://kirwaninstitute.org>
- Census 2000 SF1 and SF3: <http://factfinder.census.gov/home/saff/main.html>, 2000
- Pennsylvania Spatial Data Access: <http://www.pasda.psu.edu/>, 2004-2010
- Geocoded Crime Data from Philadelphia Police Department through PASDC: <http://citymaps.phila.gov/CrimeMap/StepByStep.aspx>, November 1- November 30, 2010
- HUD's USPS Vacancy: <http://www.huduser.org/portal/datasets/usps.html>, 2010
- HUD National Stabilization Program: http://www.huduser.org/portal/datasets/nsp_target.html, 2008
- Open PA Gov: <http://www.openpagov.org/school-performance/sdefault.asp>, 2010



Projection: NAD_1983_StatePlane_Pennsylvania_South_FIPS_3702_Feet
Cartographer: Emily Starck
Context: December, 2010. Tufts UEP232: Intro to GIS

