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 weighted 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.

**Data Resources:**
- The Ohio State University, The Kirwan Institute: http://kirwaninstitute.org
- Pennsylvania Spatial Data Access: http://www.pasda.psu.edu/, 2004-2010
- HUD’s USPS Vacancy: http://www.huduser.org/portal/datasets/usps.html, 2010

**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 overlaid 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 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.

**Projection:** NAD_1983_StatePlane_Pennsylvania_South_FIPS_3702_Feet

**Cartographer:** Emily Starck

**Context:** December, 2010. Tufts UEP232: Intro to GIS