

Capstone Project Final Report – Save the Children, Save the City

Public Schools and Crime Data Analysis of Chicago

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A. Introduction

The city of Chicago's overall crime rate is significantly higher than the US average. In 2016, Chicago was responsible for nearly half the year's increase in homicides in the US. In 2010, more than 40% of females, and nearly 50% of males admitted to Cook County jail did not complete high school at the time of admission. Recent research have suggested that policies aimed to increase educational attainment and improve school quality can significantly reduce crime rates.

In this project, we will try to find an optimal location to place a new nonprofit community center, HERO (Helping Everyone Receive Opportunities), in Chicago. Specifically, this analysis will be intended for stakeholders interested in opening a non-profit educational community center to combat the high crime rates, provide aid to impoverished communities, and keep the youth of the perilous areas of Chicago off the streets.

B. Data

In order to select the optimal location for the HERO center, the following data was gathered and analyzed:

- The name and location of Chicago public schools was gathered via Foursquare API.
- Via the Chicago Data Portal, we will use the Chicago Public Schools dataset, which present all school level performance data used to create CPS School Report Cards for the 2011 academic school year. The .csv file provides scores from the 5Essentials Survey which asked students about their experiences and feelings (such as how safe they felt at school and if they got support from their teachers). The dataset also contains each school's rate of misconducts per 100 students, graduation rate, and college eligibility rate.
- Chicago crime data was also gathered from the Chicago Data Portal that reported incidents of crime (with the exception of murders) that occurred in the City of Chicago in 2019. We will clean this .json file to make a choropleth map to examine the crime heavy community areas.
- Chicago socioeconomic data was also gathered from the Chicago Data Portal that contains a selection of six socioeconomic indicators of public health significance. We will clean this .json file to make a choropleth map to examine the community areas with the lowest per capita income.