MS-GIST Projects Summer 2023

Monday, July 24

***\* There will be 5 minute breaks between each back-to-back presentation to facilitate transitions in Zoom.  
\*\* Zoom links are available on request. Please contact Andrew Grogan - atgrogan@arizona.edu***

|  |  |  |
| --- | --- | --- |
| **Date/Time** | **Presentation Title** | **Student Name** |
| 07/24/23 05:00 - 05:25 PM | [PHOENIX HIGH CRIMES: EXLORING THE SPATIAL RELATIONSHIP BETWEEN CRIME LOCATION AND DISPENSARY LOCATIONS](#Miller) | Steven Miller |

**PHOENIX HIGH CRIMES: EXLORING THE SPATIAL RELATIONSHIP BETWEEN CRIME LOCATION AND DISPENSARY LOCATIONS**

Steven Miller  
millers5@arizona.edu

07/24/23, 05:00 - 05:25 PM

**Abstract:**

Wherever societies have formed; there always been crime. Unfortunately, Phoenix Arizona is no exception. High crime rates have been a mark on the city since the late 60’s and continue to be a significant issue to this day. This project investigates the spatial relationship between crime and the location of marijuana dispensaries throughout the city. The dispensary locations are compared to results from community swimming pools, public sports complexes, police stations, hospitals, convenience stores, specifically Circle K and QuikTrip (QT) locations in the city limits of Phoenix Arizona. The crime data for this project has been collected from November 2018 to April 2023 by the Phoenix Police Department and the shapefile is set up in a grid system based largely on Phoenix city blocks. The crimes used in the data include homicides, rapes, robberies, aggravated assaults, burglaries, thefts, motor vehicle thefts, arsons, and drug offenses. This project uses the Ordinary Least Squares regression techniques to determine the relationship between crime, dispensaries, and the other variables. Dispensaries were found to have a positive relationship with crime, although the model did not perform strongly and contained bias. No one variable was able to produce a strong performance, but perhaps future studies will be able to combine more socioeconomic and other demographic variables to find stronger Adjusted R-Squared values.

**Keywords:** Phoenix, Crime, Marijuana Dispensaries, Police Grid, OLS Regression