

Crime Analysis in Washington, DC (2023)

Group 1: Naiska Buyandalai, Halima Al Balushi, Vishal Balaji Fulsundar, Suraj Kapare

Objective

In this project we aim to expand our understanding of crime patterns in Washington, DC, by examining new factors such as the presence of nightlife establishments (e.g., nightclubs and bars) and area population. Additionally, we will investigate whether these environmental factors, combined with aspects like weather and time of day, influence crime rates across different neighborhoods.

In our first project, we found that both the time of day and seasonal changes impact crime occurrences, with different crime counts noted during warmer and colder months. These insights have led us to explore additional contextual factors that might contribute to crime.

SMART Questions:

1. How does the presence of nightclubs and bars correlate with crime rates in Washington, DC?
2. What role does the population density of an area play in influencing the crime rate?
3. If nightlife presence and population density are significant, how do temporal factors (time of day, weather) interact with these elements to affect crime rates?
4. Does the presence of surveillance cameras impact crime rates?

Dataset Source

Crime Incidents in 2023 (34,215 observations):

<https://opendata.dc.gov/datasets/DCGIS::crime-incidents-in-2023/explore?showTable=true>

DC Night Club Data: <https://opendata.dc.gov/datasets/DCGIS::night-club/explore?location=38.913843%2C-77.019535%2C11.78&showTable=true>

DC Ward Data: https://raw.githubusercontent.com/gwu-libraries/gwlibraries-workshops/master/r-for-data-analysis/data/ACS_Demographic_Characteristics_DC_Ward.csv

DC Surveillance Camera Data:

https://hub.arcgis.com/datasets/2bb8375e31a94067a17911ea70f917ef_11/explore?showTable=true

GitHub Repository: <https://github.com/Naiskab/crime-analysis-washington-dc-2023>