

Evaluating Vulnerable Areas of New York City: Data

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1 Data

The data in this NYC Open Data (<https://data.cityofnewyork.us>). Specifically, we used the NYPD Complaint Data found here <https://data.cityofnewyork.us/Public-Safety/NYPD-Complaint-Data-Historic/qgea-i56i> for the bulk of our data, and the geospatial data on New York's neighbourhoods found here <https://data.cityofnewyork.us/City-Government/Neighborhood-Names-GIS/99bc-9p23> for our spatial analysis.

We have used the most recent data available at the time of writing, August 2020, and confined ourselves to a one year period - that is, we have used data from 2019. Crime data changes significantly year by year, as police and other agencies act to suppress it and offenders concentrate around new methods, so earlier data is not likely to be as relevant, although certainly some kinds of crime, particularly domestic, are likely to remain in similar places with similar trends.

The crime data provided locations, dates, times and types of crimes. This data contained the following useful information:

1. CMPLNT_NUM: Randomly generated persistent ID for each complaint
2. CMPLNT_FR_DT: Exact date of occurrence for the reported event (or starting date of occurrence, if CMPLNT_TO_DT exists)
3. CMPLNT_TO_DT: Ending date of occurrence for the reported event
4. OFNS_DESC: Description of Offense
5. PD_DESC: More granular description of Offense
6. CRM_ATPT_CPTD_CD: Indicates whether the crime was successfully completed
7. LAW_CAT_CD: Level of offense: felony, misdemeanor or violation
8. LOC_OF_OCCUR_DESC: Where a crime occurred in relation to the premises - in front of, behind, etc

9. BORO_NM: The name of the borough in which the incident occurred
10. JURISDICTION_CODE: Jurisdiction responsible for incident. Either internal, like Police(0), Transit(1), and Housing(2); or external(3), like Correction, Port Authority, etc.
11. ADDR_PCT_CD: The precinct in which the incident occurred
12. PREM_TYP_DESC: Specific description of premises; grocery store, residence, street, etc.
13. VIC_AGE_GROUP: Victims Age Group
14. VIC_RACE: Victims Race Description
15. VIC_SEX: Victims Sex Description
16. Latitude of incident
17. Longitude of incident

We combined this with our location data to associate each incident with a neighbourhood, then evaluated crimes on a neighbourhood level. We also examine some trends across the city as a whole. Using Foursquare, we examined the kind of locations prominent in these neighbourhoods, to get an idea of the most at-risk types of premises, and whether the crimes reflected the general trend of locations present or disproportionately target something specific.

Using this data, we outline the most vulnerable to crime neighbourhoods in New York, and the types of crime which are prominent there. This data provides advice for anyone looking to handle these offences, whether government, law enforcement, or private businesses considering new locations.