

# CHICAGO CRIMES

KAMIL KANDZIA

## DATA SET DESCRIPTION

- 'ID', 'Case Number', 'Date', 'Block', 'IUCR', 'Primary Type', 'Description', 'Location Description', 'Arrest', 'Domestic', 'Beat', 'District', 'Ward', 'Community Area', 'FBI Code', 'X Coordinate', 'Y Coordinate', 'Year', 'Updated On', 'Latitude', 'Longitude', 'Location', 'Historical Wards 2003-2015', 'Zip Codes', 'Community Areas', 'Census Tracts', 'Wards', 'Boundaries - ZIP Codes', 'Police Districts', 'Police Beats'

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## PLAN:

- Arrest, Domestic Crimes analysis
- Crime Location analysis
- 'Primary Type', 'Description', 'Location Description' text mining
- Location to the type of crime relation

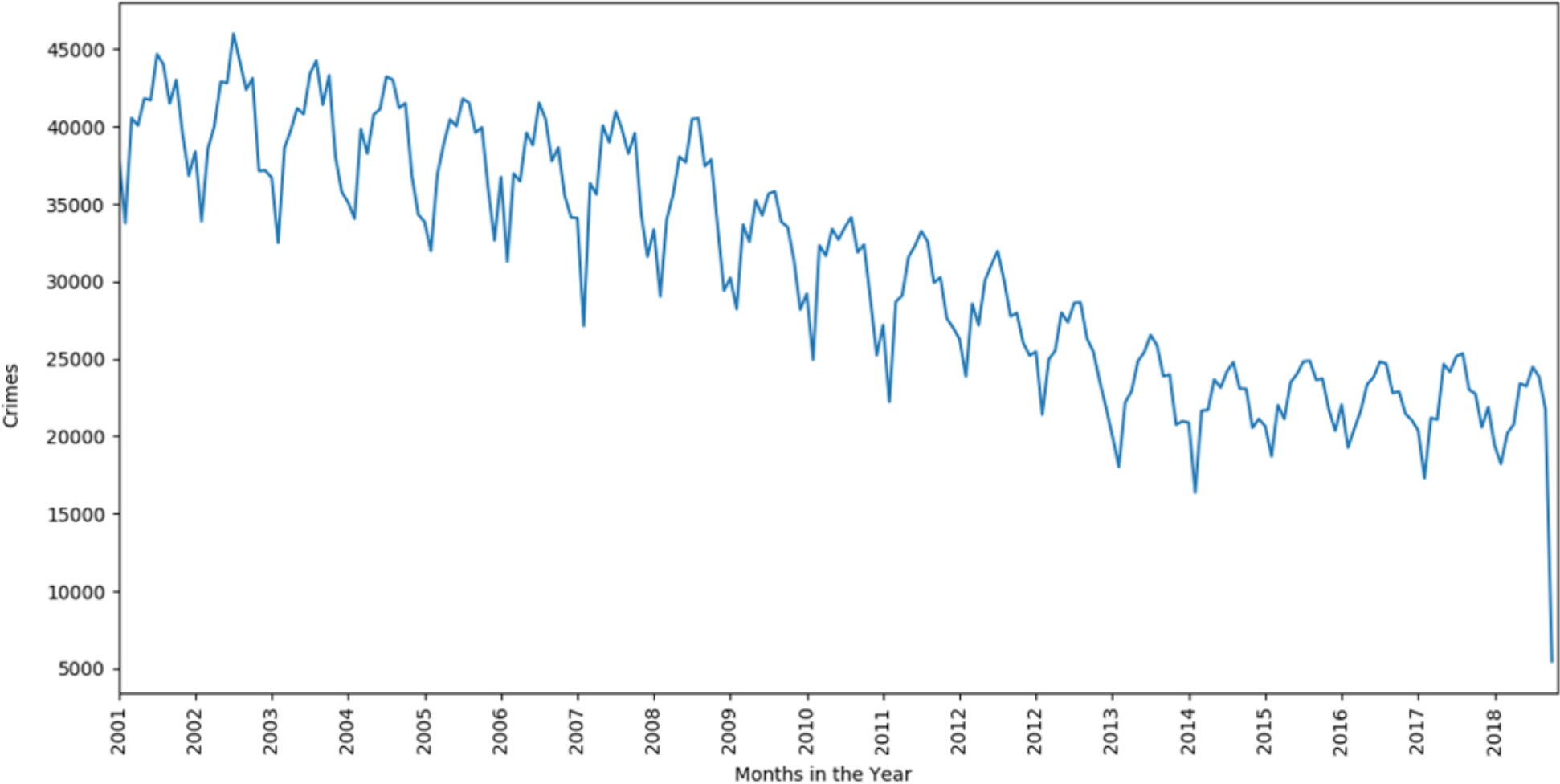


BASIC

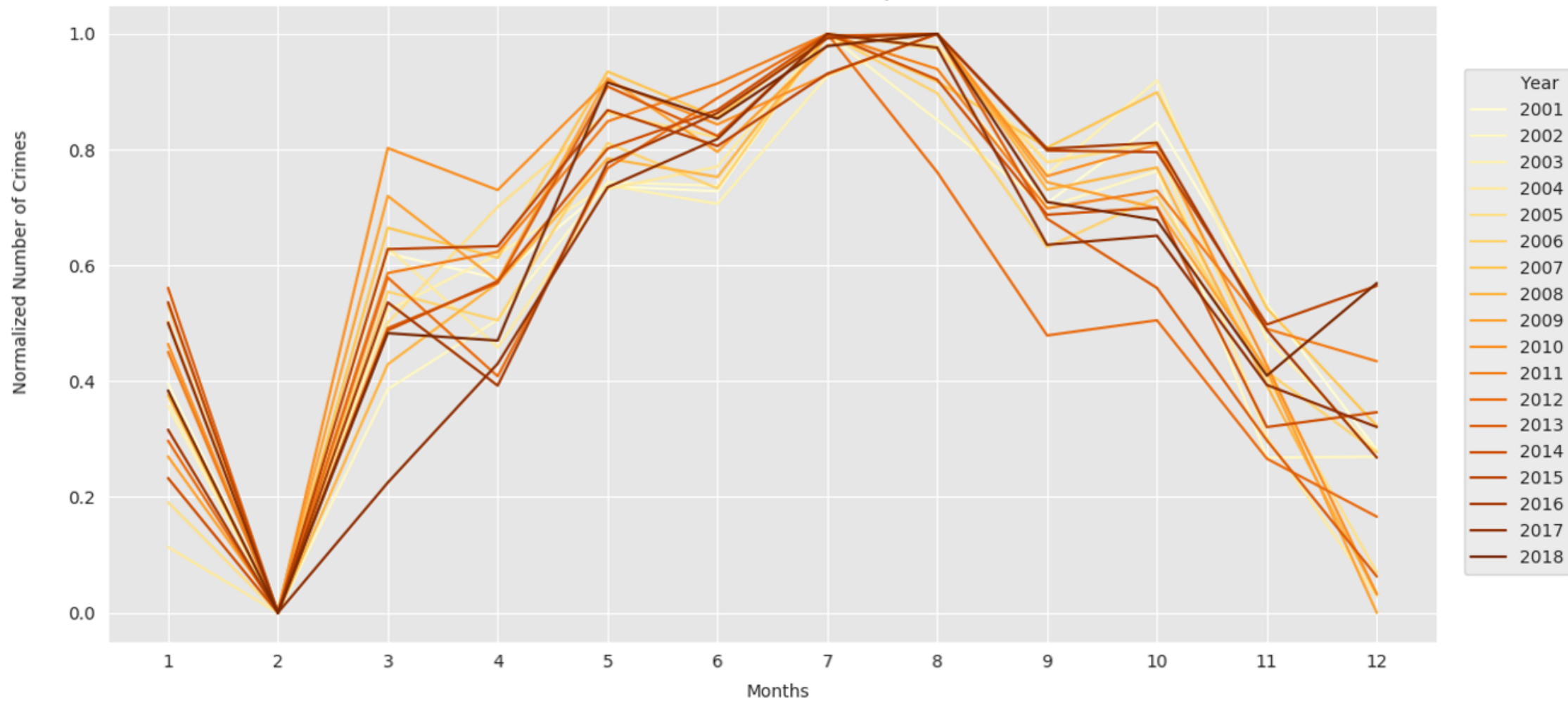
## DATASET DESCRIPTION

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Number of Crimes recorded during Month, on the span of Years 2001-2019



Normalized number of Crimes on the span of the month



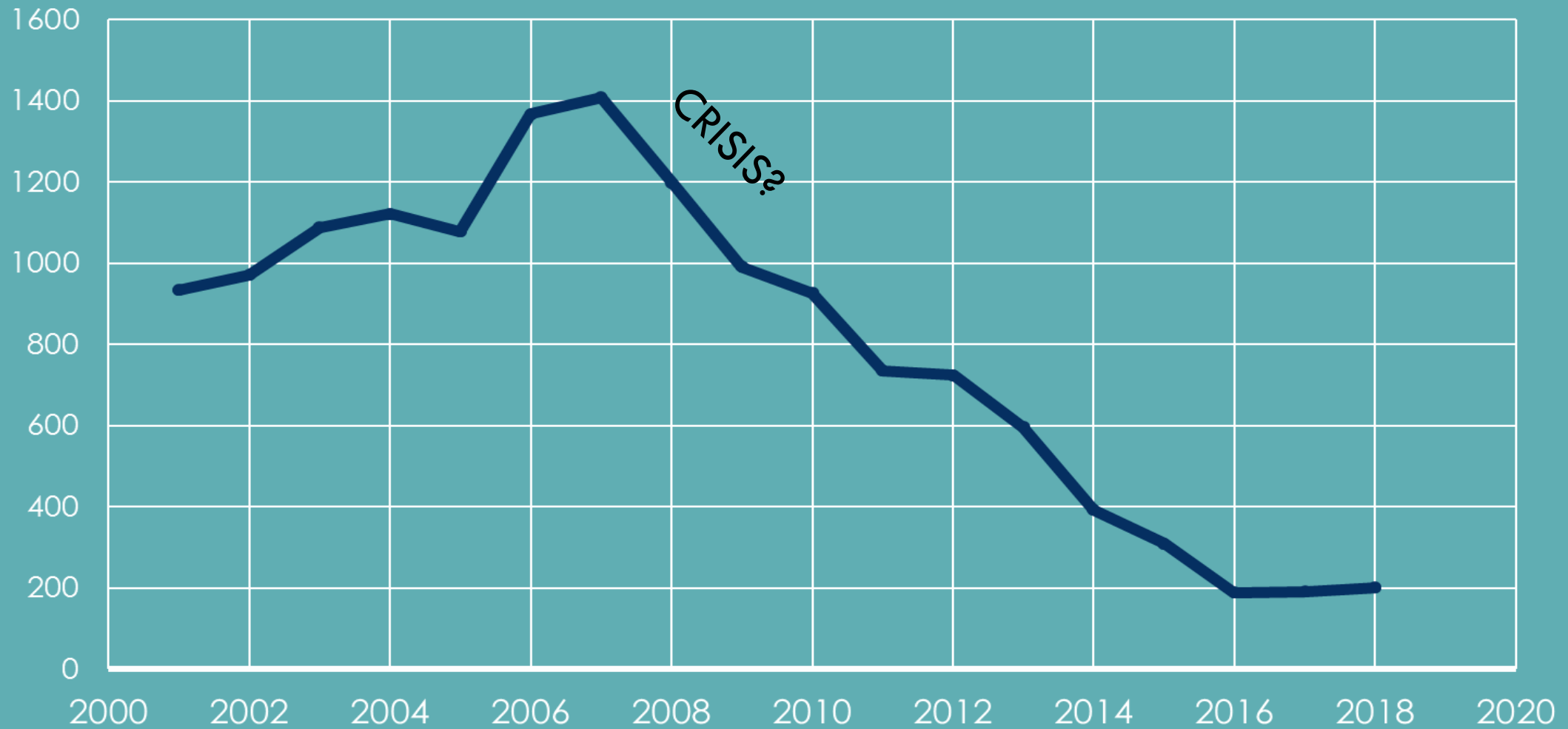
THEFT
BATTERY
CRIMINAL DAMAGE
NARCOTICS
OTHER OFFENSE
ASSAULT
MOTOR VEHICLE THEFT
BURGLARY
DECEPTIVE PRACTICE
ROBBERY
CRIMINAL TRESPASS
PROSTITUTION
WEAPONS VIOLATION
PUBLIC PEACE VIOLATION
OFFENSE INVOLVING CHILDREN

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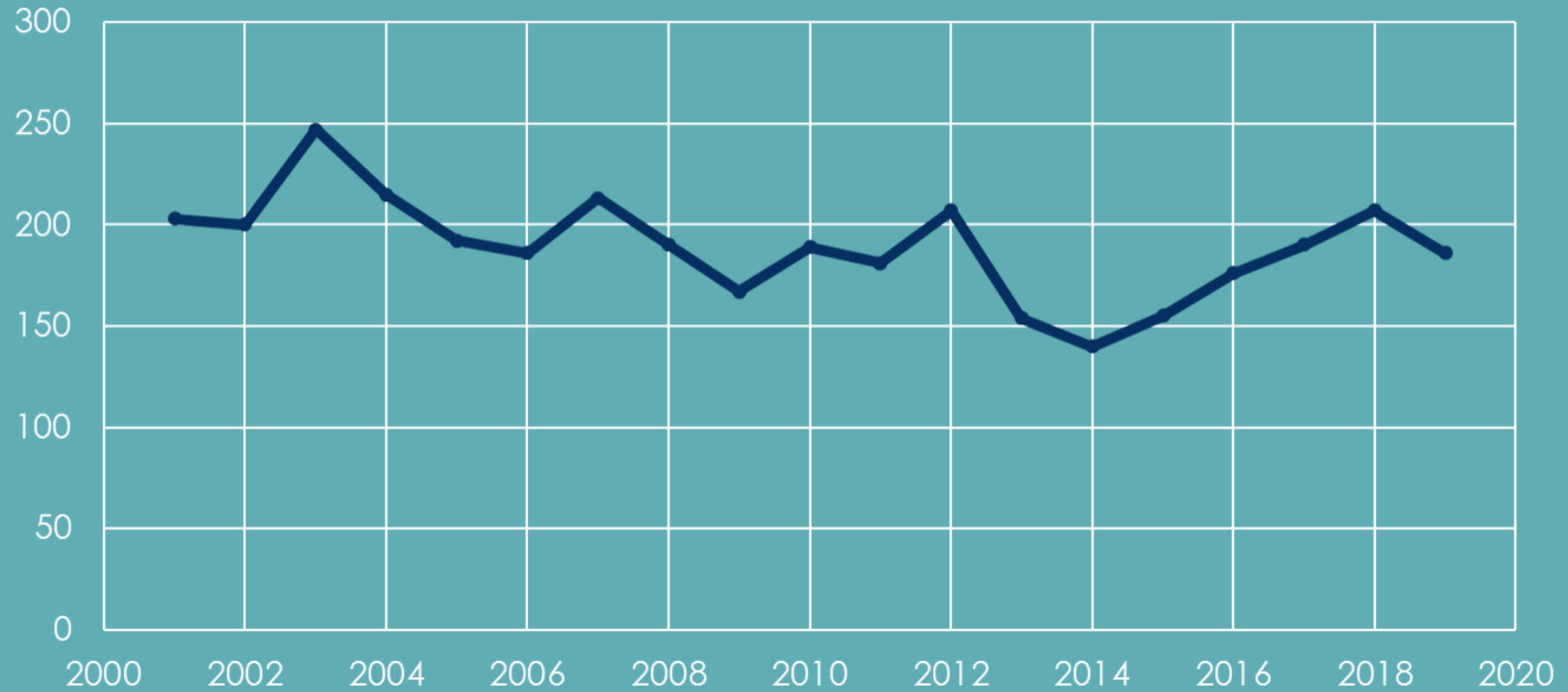
## PRIMARY TYPE ANALYSIS



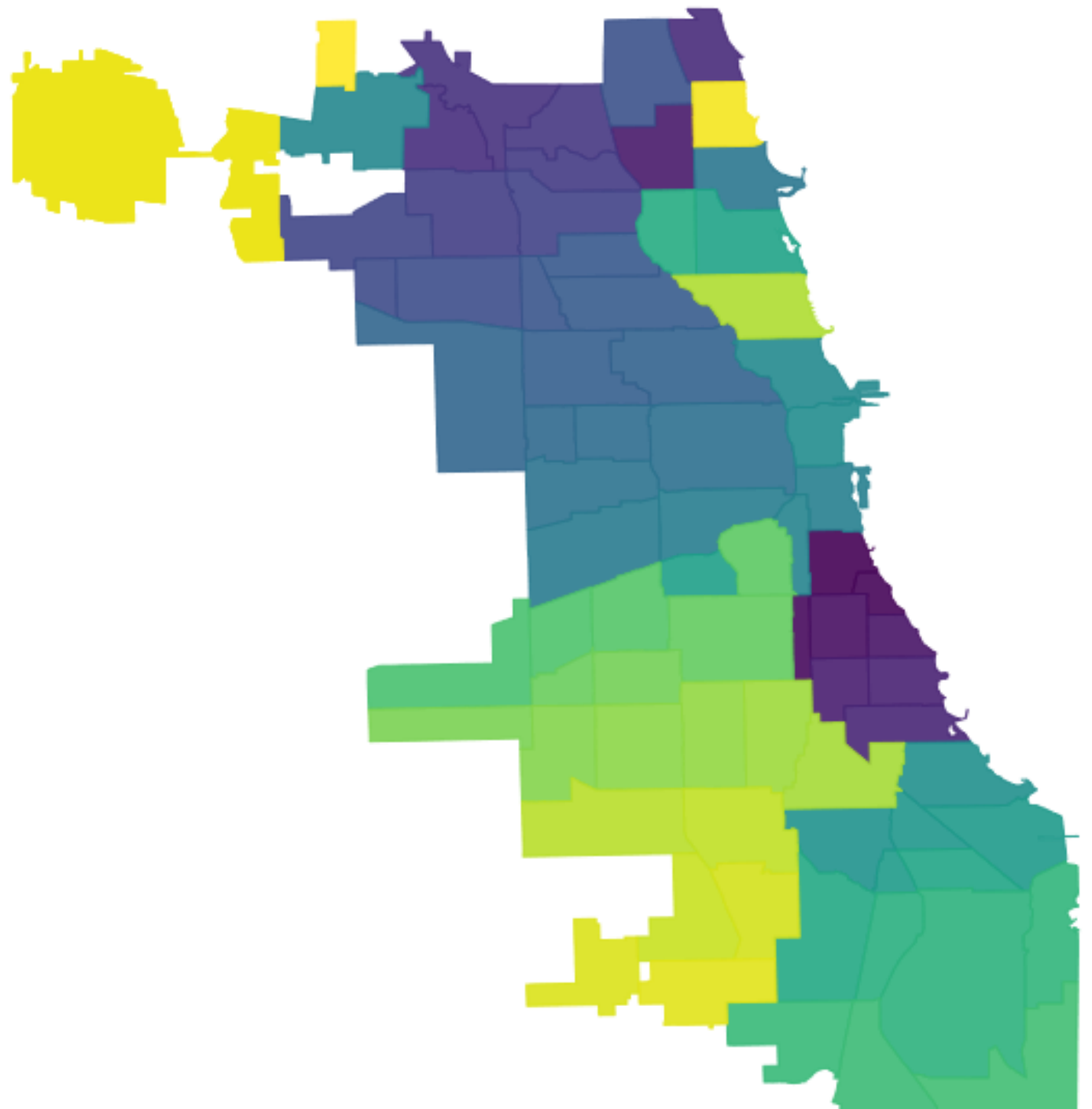
## Crimes amount (GAMBLING) in year function

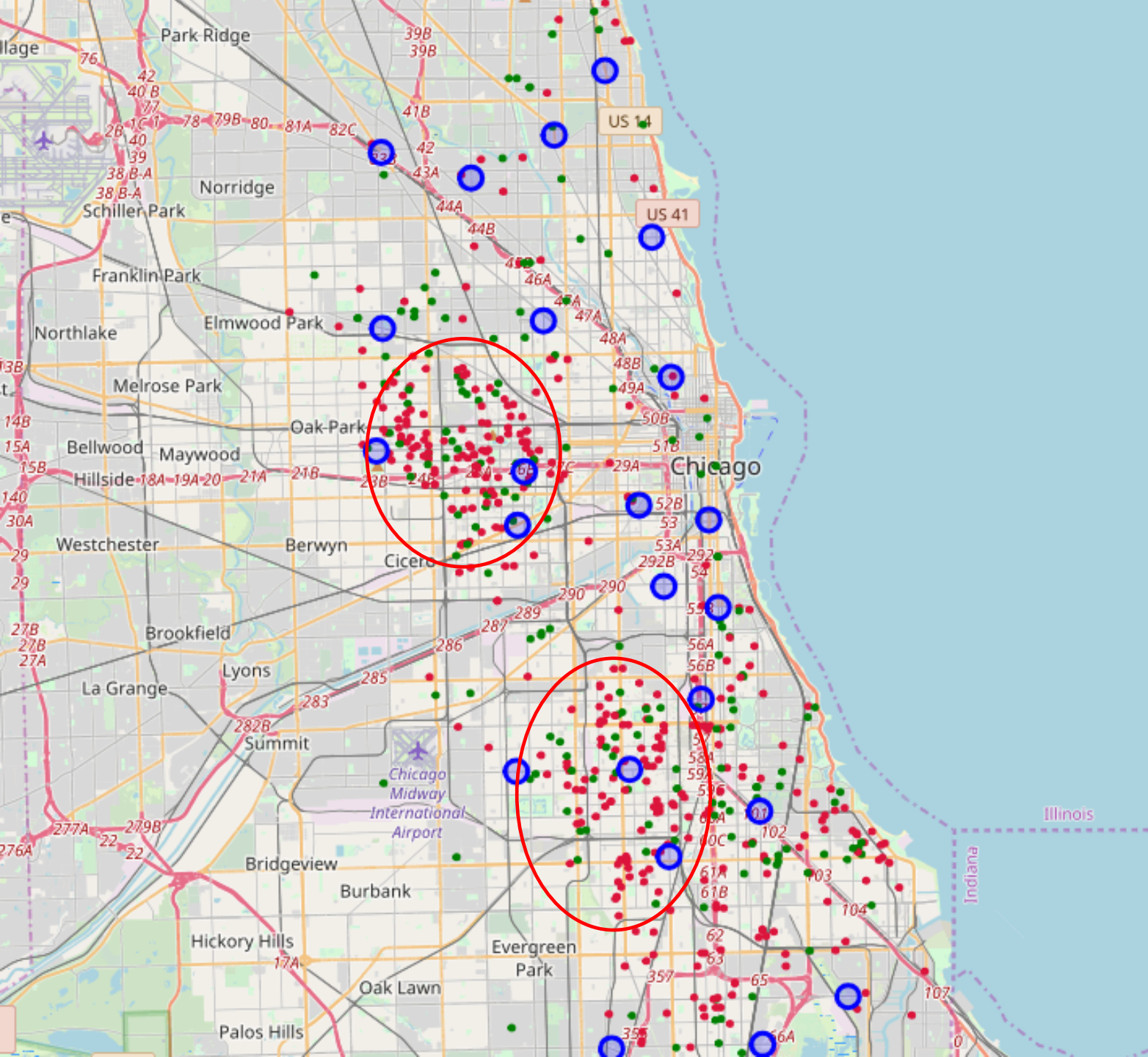


## Crimes amount (STALKING)



# CHICAGO MAPS





# HOMICIDE CRIMES 2018

- Great for small amount of data









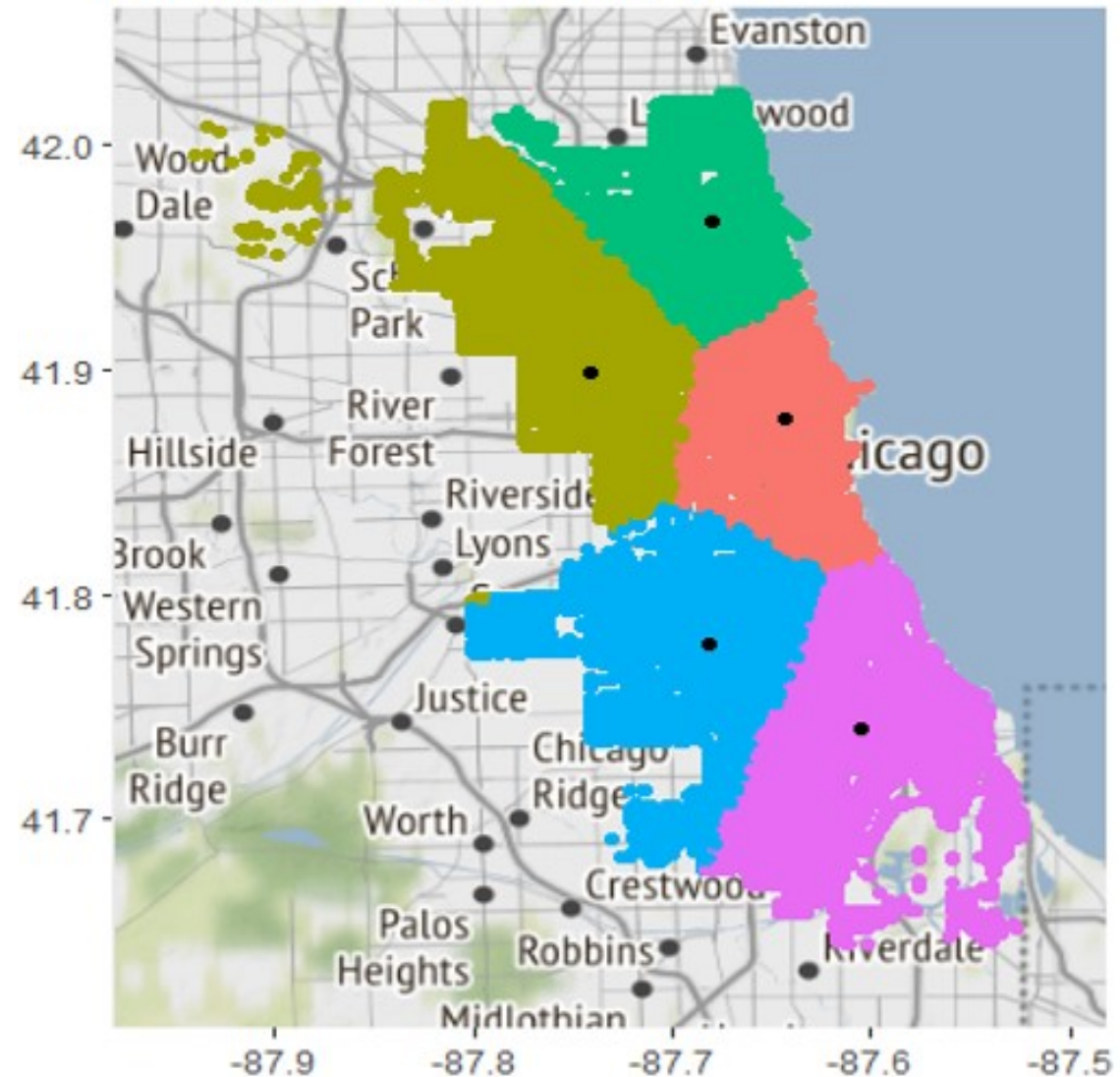
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# RELOCATIONS OF POLICE STATIONS

5 MAIN POLICE  
STATION BASED ON  
ALL CRIMINAL  
REPORTS

BLACK DOT INSIDE  
AREAS: POLICE  
STATION BY KMEANS

Chicago using KMean, k=5



Year	Primary Type	Crimes Amount	Arrest	Domestic	Ratio [%]
2019	THEFT	51894	5011	1946	9.66
2019	BATTERY	42053	8622	20172	20.50
2019	CRIMINAL DAMAGE	22723	1410	2701	6.21
2019	ASSAULT	17608	3156	4482	17.92
2019	DECEPTIVE PRACTICE	14516	655	116	4.51
2019	OTHER OFFENSE	14133	3125	4471	22.11
2019	NARCOTICS	11758	11750	5	99.93
2019	BURGLARY	7996	410	142	5.13
2019	MOTOR VEHICLE THEFT	7506	406	120	5.41
2019	ROBBERY	6603	530	146	8.03
2019	CRIMINAL TRESPASS	5782	3215	292	55.60
2019	WEAPONS VIOLATION	5372	3598	13	66.98



- “WINDOWS” – MAIN POLICE STATIONS
- BLUE DIAMONS – CURRENT POLICE STATIONS
- BLACK DOT – CENTROID BY KMEAN (QUICK RESPONSE POLICE STATION)

