

Crime mapping



Crime mapping: Introduction: This paper discusses the clustering of occurring offences in three different police shifts. These shifts include shift 1 which is from 9 hours to 15 hours, shift two which is from 16 Hours to 24 Hours and shift three which is from 00 Hours to 8 Hours. From the analysis it is evident that shift 1 has less clustering of occurring offences and shift two has the highest clustering of occurring offences. This difference is discussed below with reference to the availability of security officers during the three shifts.

Shifts and clustering of occurring offences:

The following table summarizes the standard deviation, nearest neighbour index and p values for the three shifts:

Crime type

Std Dev Dist

Nearest Neighbour Index

P -value

Evidence of Clustering

(1-tailed)

Shift 1

3039

0. 5746

0. 0001

Yes

Shift 2

2887. 5

0. 4679

0. 0001

<https://assignbuster.com/crime-mapping/>

Yes

Shift 3

3104.7

0.4838

0.0001

yes

The above table summarizes information from three shifts. Clustering is indicated by the nearest neighbour index (NNI) and the NNI value from the table are 0.5746, 0.4679 and 0.4838 for shift 1, shift 2 and shift 3 respectively. An NNI value of 1 indicates random clustering and therefore the above NNI values are less than 1 and this indicates clustering of occurring offences. The P values for the three shifts is $p \text{ value} = 0.0001$ and because this value is less than 0.05 then the clustering of occurring offences are statistically significant.

From the table shift two has NNI value 0.4679 and a standard deviation distance value of 2887.5 and this is the lowest NNI value meaning that this shift is more clustered than all the other shifts, shift 1 has the highest NNI value of 0.5746 and a standard deviation distance value of 3039 meaning that this shift is less clustered. Shift three has a median NNI value of 0.4838 and a standard deviation distance value of 3104.7.

Shift two has the lowest NNI value and this is an indication that given that shift two time is from 16Hours to 24Hours there are less police officers and security agents available during this time of the day and therefore higher clustering of occurring offences.

Shift one has a NNI value of 0.5746 which is statistically significant at 0.05 level of tests and this is the highest NNI value meaning that there is less

clustering of occurring offences, this shift time is from 9 hours to 15 hours and during this time of the day more police officers and security agents are available and therefore less clustering of occurring offences.

Shift three has a median value of NNI and this means that this shift has less clustering of occurring offences than shift two but higher clustering of occurring offences than shift one. This means that during shift three we have higher clustering of occurring offences than shift one but less clustering of occurring offences than shift two.

Conclusion:

From the above discussion it is evident that during the first shift which is from 9 hours to 15 hours the clustering of occurring offences is low and this is because more police officers and security agents are presents. During the second shift which is from 16 Hours to 24 Hours the clustering of occurring offences is high and this is because less police officers and security agents are available during this time of the day.