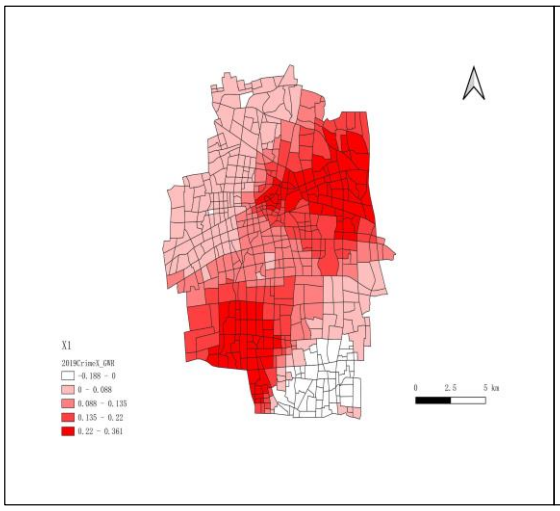
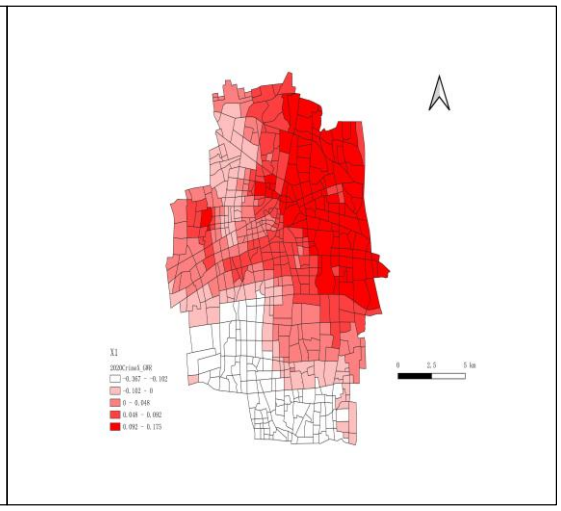
Supplementary Material

2019



The effect coefficient of dining and gourmet (X1) on crime rate was [−0.188, 0.361]. Most of the study areas were positively correlated, with larger correlation coefficients located in the northeast and southwest of the study area, and negative correlation areas were in the south.

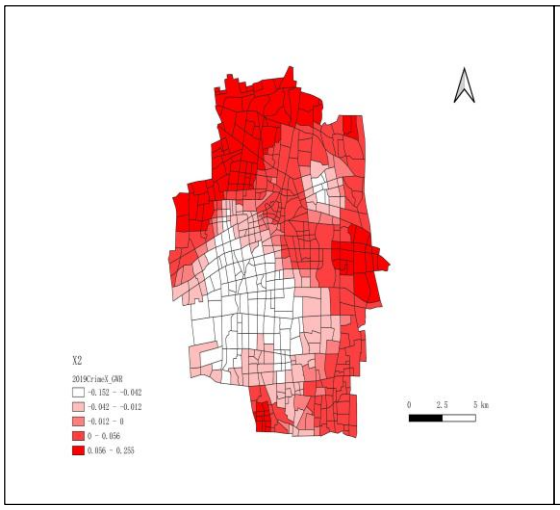
2020



The effect coefficient of dining and gourmet (X1) on crime rate was [−0.367, 0.175]. Positive correlations were located in the north, east and northeast, and negative correlations were mainly located in the south of the study areas.

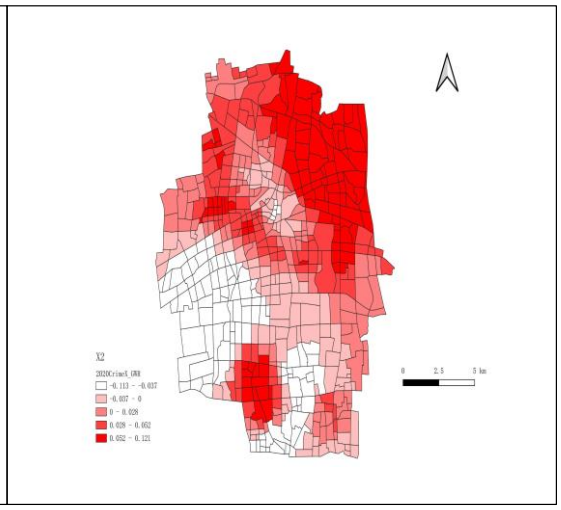
X1

2019



The effect coefficient of company and enterprise (X2) on crime rate was [−0.152, 0.255]. Negative correlation areas were located in the southwest direction, and the main areas in the north and the marginal contiguous areas in the east, west, and south directions had larger correlation coefficients.

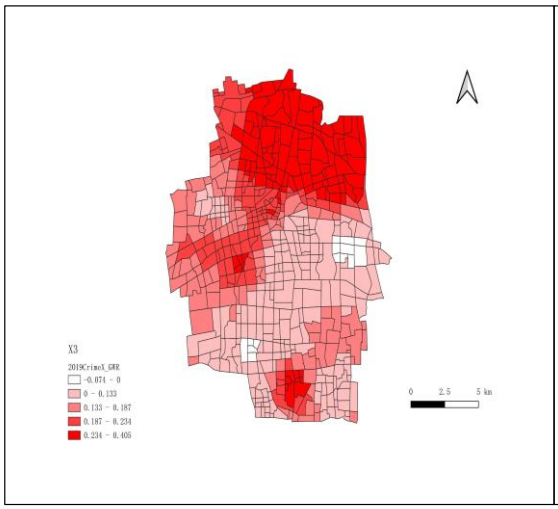
2020



The effect coefficient of company and enterprise (X2) on crime rate was [−0.113, 0.121]. Positive correlations were located in the north and negative correlations were located in the western and southern regions.

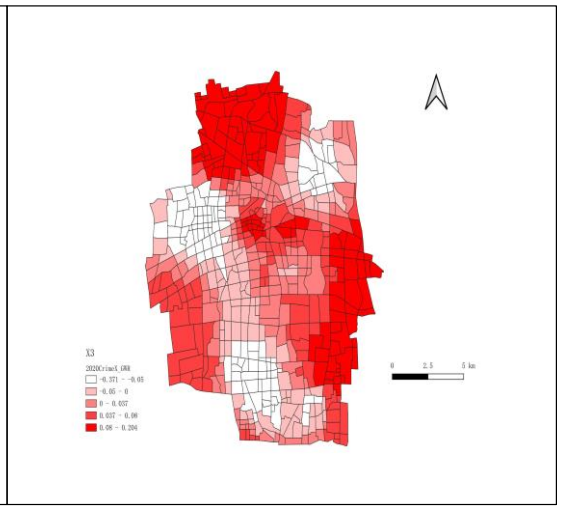
X2

2019



The effect coefficient of shopping and consumption (X3) on crime rate was [−0.074, 0.405]. The vast majority of the regions were positively correlated, with larger coefficients located in the north.

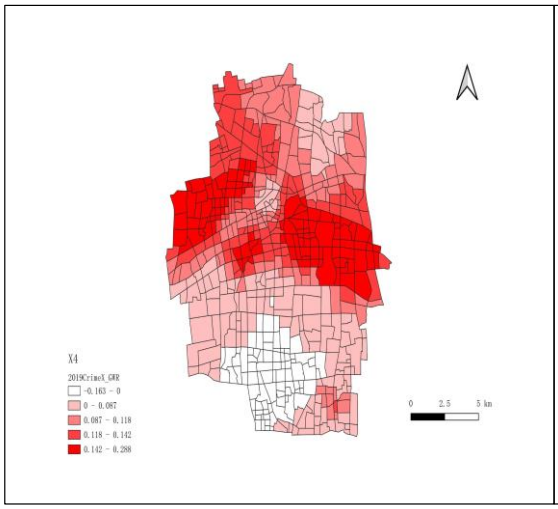
2020



The effect coefficient of shopping and consumption (X3) on crime rate was [−0.371, 0.204]. Most of the study areas were positively correlated, with negative correlations located in the northeast, west and parts of the south.

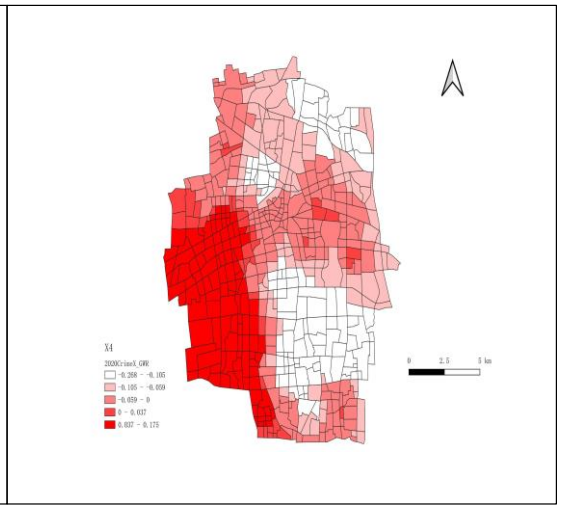
X3

2019



The effect coefficient of sports and leisure services (X4) on crime rates was [−0.163, 0.288]. Most areas in the study area were positively correlated, with larger correlation coefficients located in the northwest and northeast regions. Negative correlations were distributed in the southwest direction.

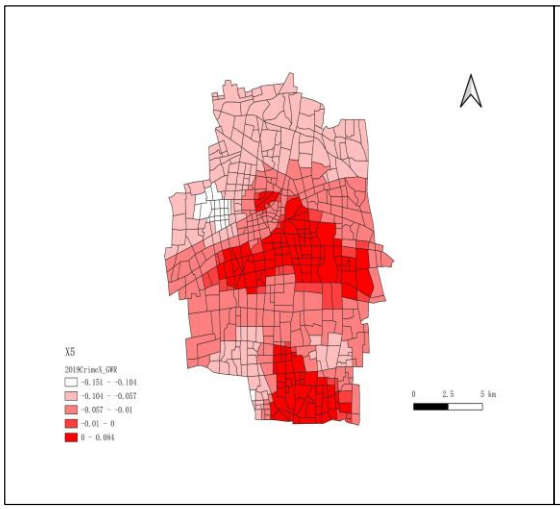
2020



The effect coefficient of sports and leisure services (X4) on crime rates was [−0.268, 0.175]. Most of the regions are negatively correlated, with positive correlations in the southwest.

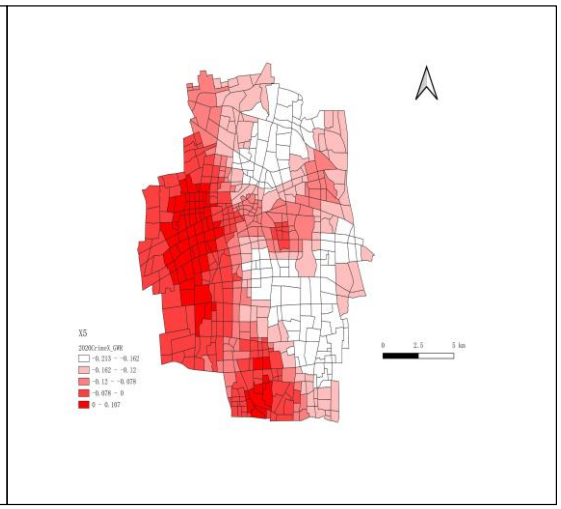
X4

2019



The effect coefficient of financial institutions (X5) on crime rate was [−0.151, 0.084]. Most of the regions were negatively correlated, with larger coefficients in the northern region. Positive correlations were found in the southern and central regions.

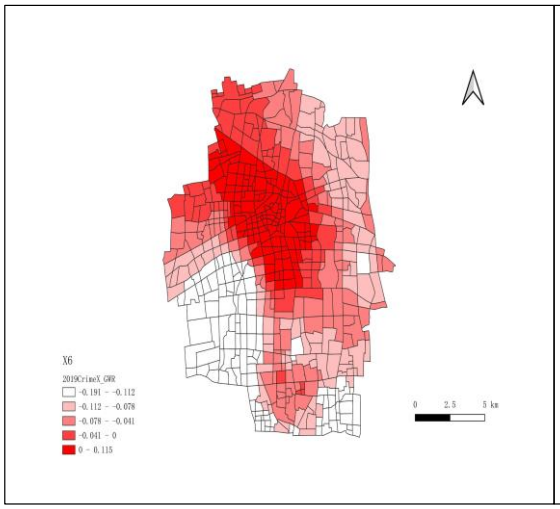
2020



The effect coefficient of financial institutions (X5) on crime rate was [−0.213, 0.107]. Most of the regions are negatively correlated, with negative correlations located in a few regions in the west and south.

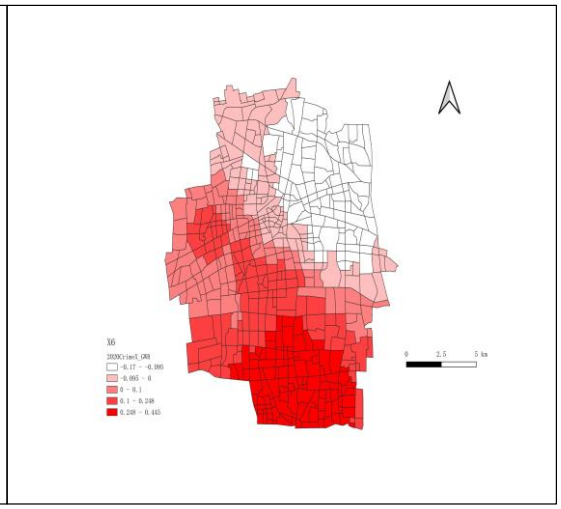
X5

2019



The effect coefficient of hotel accommodation (X6) on crime rate was [−0.191, 0.115]. Most of the regions were negatively correlated, with larger coefficients in the southwest and south regions. Positive correlations were distributed in the central and northwest regions.

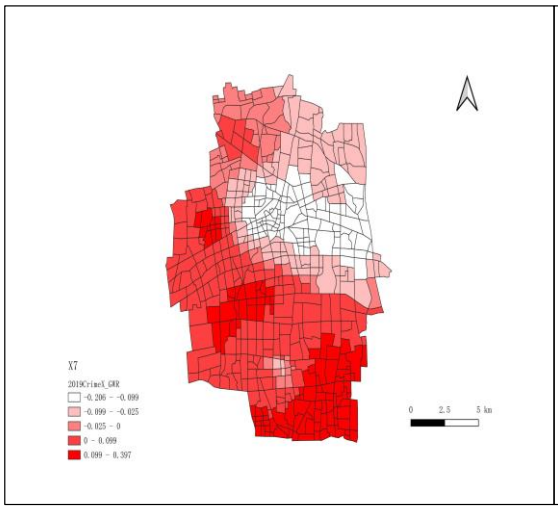
2020



The effect coefficient of hotel accommodation (X6) on crime rate was [−0.17, 0.445]. Negative correlations were in the northern region and positive correlations were in the southern region. The correlation coefficient was gradually increasing from north to south.

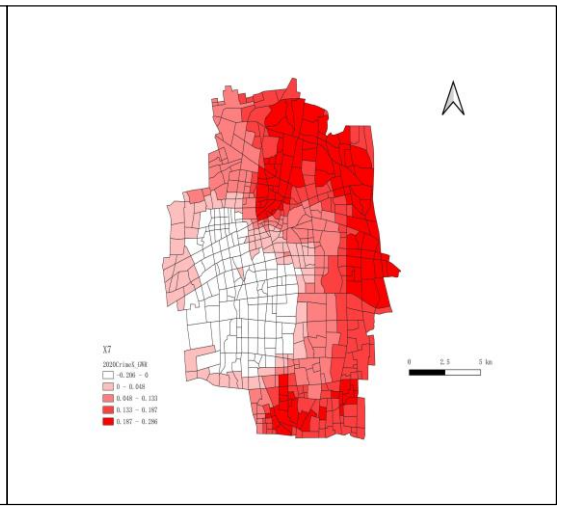
X6

2019



The effect coefficient of science, education, and culture (X7) on crime rate was [−0.206, 0.397]. With the approximate east-west direction as the dividing line, the southern half was positively correlated and the northern half was negatively correlated.

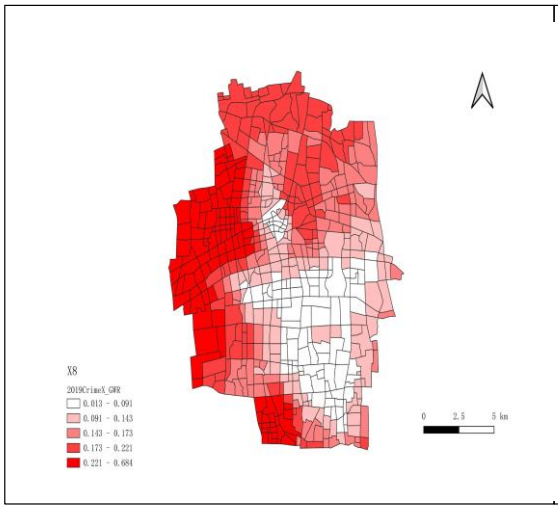
2020



The effect coefficient of science, education, and culture (X7) on crime rate was [−0.206, 0.286]. Most of the regions were positively correlated, with negative correlations in the northwest region.

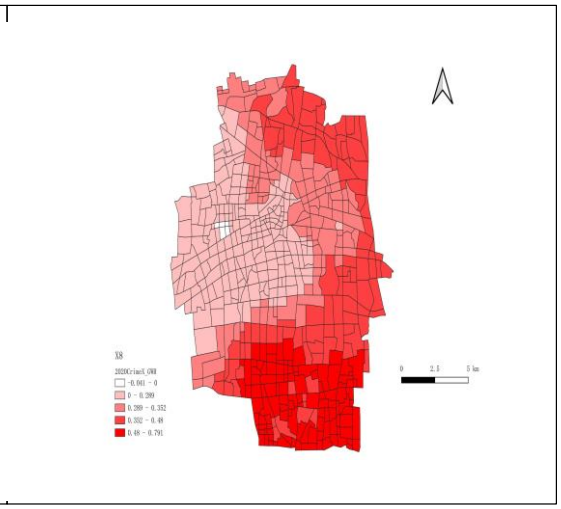
X7

2019



The effect coefficient of tourist attractions (X8) on crime rate was [0.013, 0.684]. All regions were positively correlated, with larger coefficients located in the north, west, and south. Smaller correlation coefficients were found in the south-centered region.

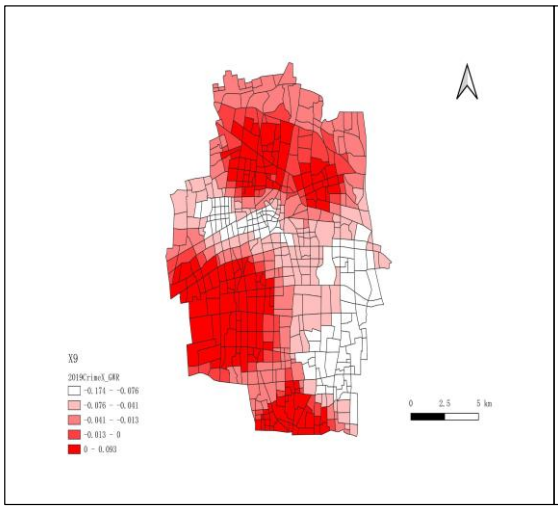
2020



The effect coefficient of tourist attractions (X8) on crime rate was [−0.041, 0.791]. The vast majority of the regions were positively correlated, with larger correlation coefficients in the north and south ends.

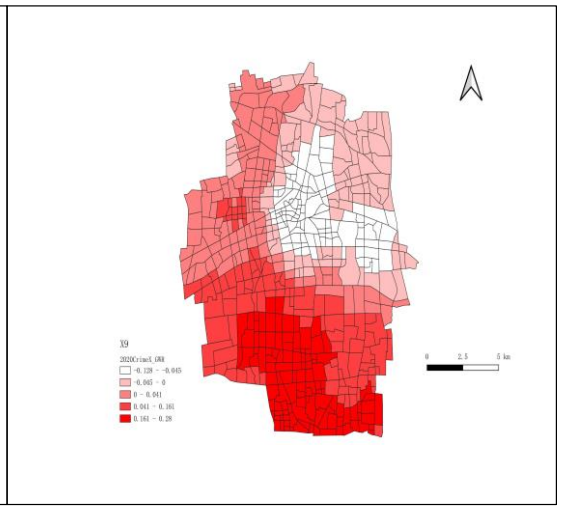
X8

2019



The effect coefficient of automotive related (X9) on crime rate was [−0.174, 0.093]. Most of the regions were negatively correlated, with larger coefficients located in the east toward the south, and positive correlations were found in the south, southwest, and north of the center.

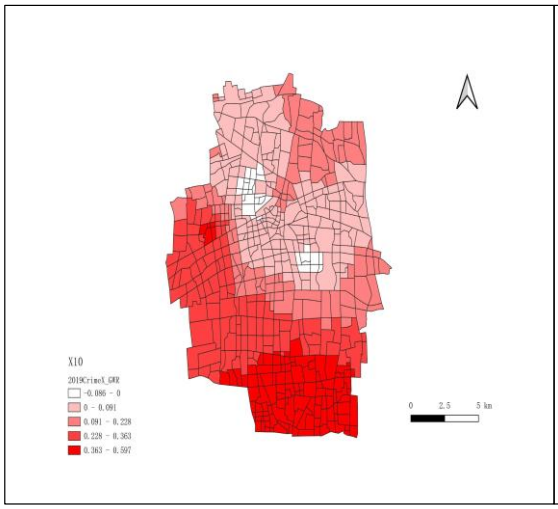
2020



The effect coefficient of automotive related (X9) on crime rate was [−0.128, 0.28]. Negative correlations were in the east, north and northeast; positive correlation were large in the south.

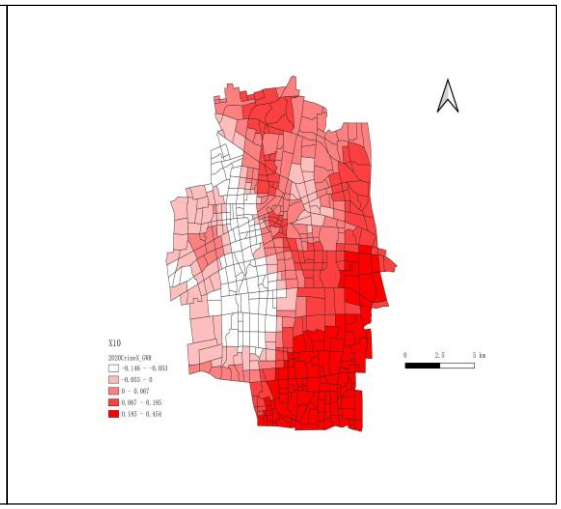
X9

2019



The effect coefficient of business and residence (X10) on crime rate was [−0.086, 0.597]. The vast majority of the regions were positively correlated, with larger coefficients located in the southern, western, and southwestern regions, and smaller coefficients in the northern region.

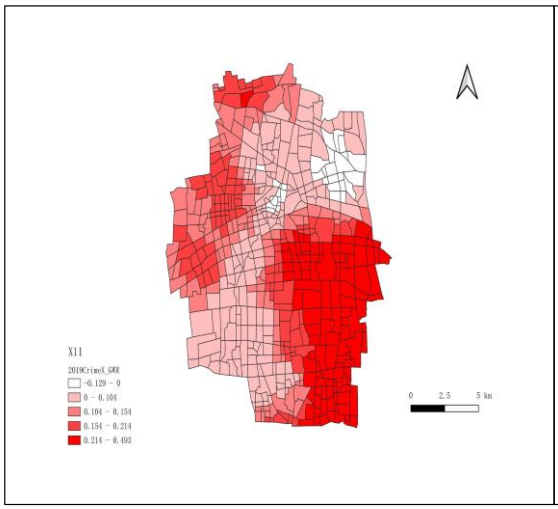
2020



The effect coefficient of business and residence (X10) on crime rate was [−0.146, 0.454]. Negative correlations were located in the west and mainly positive in the east, with correlation coefficients gradually increasing from west to east.

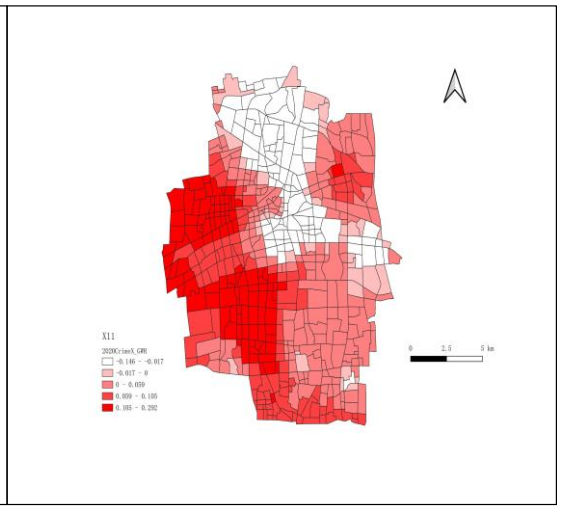
X10

2019



The effect coefficient of life services (X11) on crime rate was [−0.129, 0.493]. The vast majority of the regions were positively correlated, with larger coefficients in the southern, eastern, and southeastern regions, and negative correlations were found in the northeast regions.

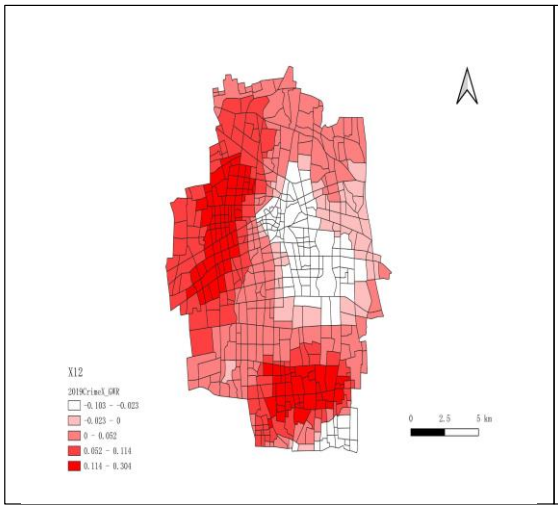
2020



The effect coefficient of life services (X11) on crime rate was [−0.146, 0.292]. Positive correlations were in the south and west and southwest, and negative correlations were in the north and east.

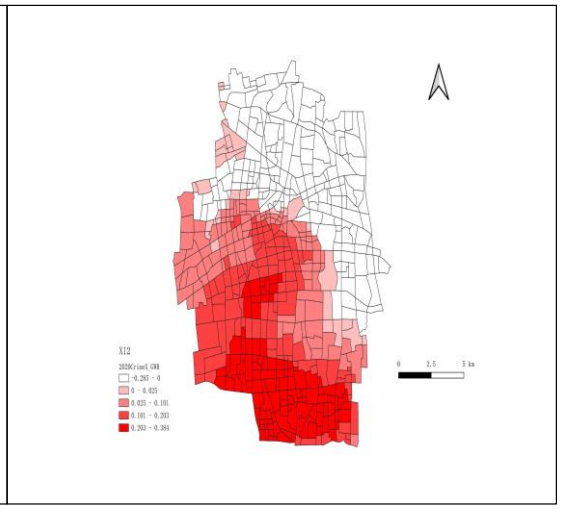
X11

2019



The effect coefficient of healthcare (X12) on crime rate was [−0.103, 0.304]. Positive correlations were mainly located in the south and northwest, and negative correlations were located in a few areas in the east, north, and south of the center.

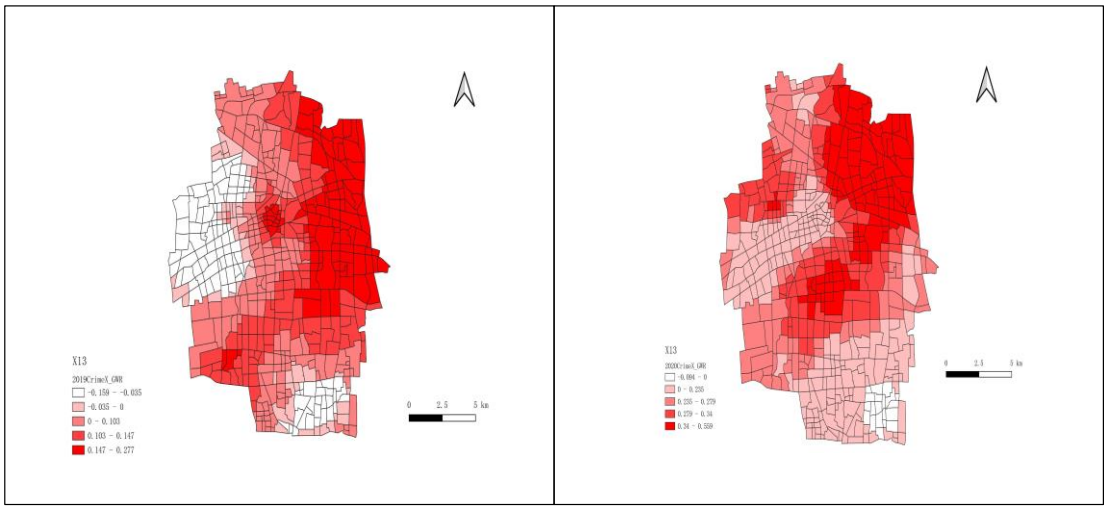
2020



The effect coefficient of healthcare (X12) on crime rate was [−0.285, 0.384]. Negative correlations were in the north and positive correlations were in the south, with correlation coefficients increasing from north to south.

X12

2019 2020

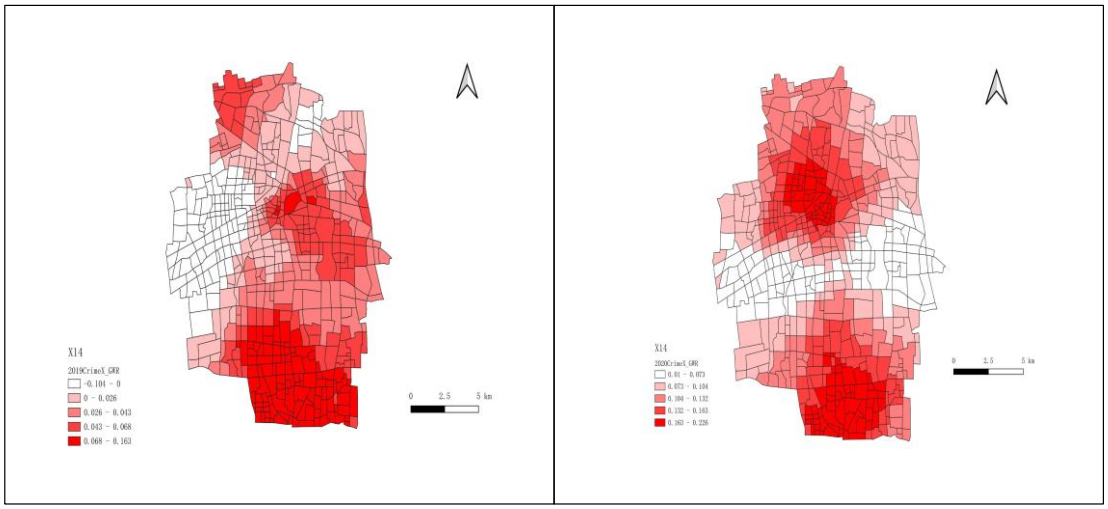


The effect coefficient of transportation facilities (X13) on crime rate was [−0.159, 0.277]. Positive correlations were located in the east, northeast, and southwest, and negative correlations were located in the northwest and a few areas in the south.

The effect coefficient of transportation facilities (X13) on crime rate was [−0.094, 0.559]. Most of the correlations were positive, very few areas in the south were negative, and the coefficients were larger in the central and northeastern directions.

X13

2019 2020



The effect coefficient of resident population density (X14) on crime rate was [−0.104, 0.163]. Most of the regions were positively correlated, with larger coefficients in the south, northeast of the center, and northwest corner. Negative correlations were mainly distributed in the western region.

The effect coefficient of resident population density (X14) on crime rate was [0.01, 0.226]. All areas were positively correlated, with smaller coefficients in the east-west direction and larger coefficients in the south and north-central regions.

X14

Figure S1. Spatial distribution of regression coefficients for all case impact factors in the

study area of the GWR model in 2019(pre-COVID-19) and 2020(during COVID-19).