

## **Abstract**

The creation of Hot Streets can positively influence the crime reduction efforts by law enforcement agencies (LEAs) by decreasing patrolled Hot Spot areas and more directly focusing efforts at the street level. As there has been no easy way of determining Hot Streets, police officers patrol general areas that vary in size and difficulty of patrol. The purpose of this study is to create a model within a GIS, particularly ArcGIS Pro, for all users who wish to accurately and efficiently analyze crime patterns on a street level. The model shows all users, especially the LEA tactical analysis department, a simple but effective means of using a GIS to improve current spatial crime analysis methods by the addition of Hot Streets. This study demonstrates how to analyze and automate the creation of Hot Streets within the ModelBuilder pane for the city of Atlanta, Georgia. The research provides users with places for the acquisition of GIS data, methods and input parameters required for processing data prior to incorporation in the model as well as within the model, and the proper sequence of tool utilization for analysis within the model. This process resulted in Hot Street maps with several streets classified based on the crime cluster confidence levels of 90% and above for the city of Atlanta. The Hot Street provides results for seven confidence levels; which include high and low value crime clusters at 90%, 95%, and 99% respectively, and a final group of streets without a significant cluster. The developed model was found to be an excellent tool in analyzing crime patterns on a street level and creating the Hot Street maps at different scales. Both LEAs and civilians can utilize the developed Hot Street implementation, as it provides a way to reduce crimes through hot street policing and crime prevention through environmental design.