

# GIS TECHNOLOGY IN POLICING: EXPANDING USE FOR PETERBOROUGH POLICE



Geographic Information System (GIS) is an important policing tool that has become increasingly common over the last thirty years. This technology is critical in the development and practice of modern policing, as it allows for visual representation of data and informed policy decision making. Furthermore, this technology has the ability to aid predictive policing as criminological theory and data visualization come together to show where a crime might occur.

## INTRODUCTION

This project was conducted on behalf of the Peterborough Police Service in Peterborough, Ontario. The aim is to understand the usage of GIS in Ontario policing, in hopes of informing the usage of GIS policies and practices at the Peterborough Police Service, and implementing the technology using a critical lens.

## RESEARCH QUESTIONS

1. What does the research show about the use of GIS technology in policing?
2. What has the uptake of GIS technology been like amongst Ontario-based police services?
3. How do the crime statistics compare in communities with / without GIS technology?

## METHODOLOGY

This project is composed of three stages: a literature summary, an environmental scan, and comparative statistics. The literature summary was composed of twenty-five articles, beginning in the 1990's on GIS use. Articles included a variety of disciplines, including public health, sociology, and criminology. The environmental scan was conducted through an online search of police agency websites in Ontario, as well as any publicly available GIS maps. Through searching online, we aimed to determine the use of GIS by police in Ontario, as well as the level of use, and type of use. The comparative statistics phase is currently underway.

## FINDINGS

### Environmental Scan

Peterborough Police could begin with a smaller GIS platform like Community Crime Maps, evaluating its effectiveness, and then exploring further into a platform like ArcGIS. One central takeaway from this environmental scan is that Peterborough is the only Census Metropolitan Area without a robust GIS system and may want to evaluate the benefits and risks of implementing one with public access.

### Literature Review

Peterborough Police could begin with a macro view use of GIS, allowing for an overview of crime trends. Peterborough can then use a micro view, looking at individual cases. This would include focusing on individual areas, such as high accident intersections. When focusing on an area, discretion should be used, as over policing may fracture relationships with groups, such as people who use drugs, or racialized individuals.

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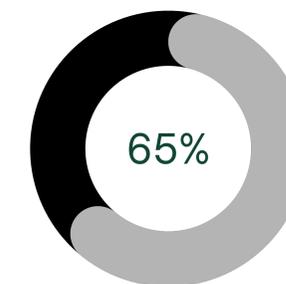
## ANALYSIS



GIS has two different use options for policing, micro and macro. GIS can be utilized to explore micro phenomenon such as individual crimes, or individuals within the community who may be a suspect. Many Ontario services use a micro use for mapping individual crimes.



Out of 52 services in Ontario, 34 have publicly available GIS maps. Most services are on shared platforms, with smaller services joining together on CrimePlot.



Of Ontario Police Services use GIS



The development of Peterborough's macro view GIS system is critical in visually understanding the city's crime data, hot spots, and can work to better serve the community.

Out of 15 metropolitan police services, Peterborough is the only service who does not use GIS broadly or make their GIS maps available to the public

## CONCLUSION

While the statistical analysis of the effectiveness of GIS usage on crime statistics has yet to be tested, there is strong evidence that GIS usage is vital to the practice of policing. Based on the literature review, there is significant benefits of police services having access to GIS to visualize data, allocate resources, and test proactive policing initiatives. Publicly available GIS maps allow the public the opportunity to see crime patterns in their city, the effectiveness of new policing initiatives and allow for greater insight into policing.

## FUTURE RESEARCH

Upon the implementation of GIS by the Peterborough Police, researchers could conduct a comparative analysis of data before and after to assess the efficacy of GIS and projects using GIS within the city.

## REFERENCES

