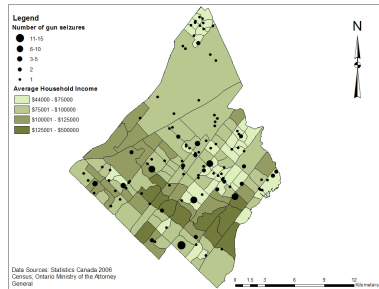


Crime Mapping and Crime Prevention in Peel Region

Bill Peng & Sina Tehranchi



Map 1A: Number of Gun Seizures in relation to Average Household Income in Mississauga

Result A:

Results revealed a co-occurrence of locations of gun seizures with local indicators of social disadvantage throughout particular neighbourhoods in Mississauga. As an example, as Map 1A (gun-income) shows, the gun-related crime incidents are lower in high-income areas, such as along south Mississauga Road and in the Lorne Park neighbourhoods. It could be that affluence affords greater security amenities such as surveillance cameras and security fences to prevent and discourage gun-related crimes.

However, as Map 1A shows areas with lower income such as Malton, and neighbourhoods along Hurontario Street have higher incidents of gun-related criminal activities. A large contributing factor could be population density. Studies have shown that in areas with higher population density, people have more contact with each other; thus, it is more likely for criminal activities to transpire (Andresen, 2006). Moreover, in areas with high population density, perpetrators are able to maintain a level of anonymity allowing them to move through high density neighbourhoods with less risk of being identified or apprehended. Another reason for high crime rates in low-income areas is due to a lack of financial and social resources and opportunities for both offenders as well as community members. Offenders have few opportunities for legitimate and meaningful employment, and community members lack resources to adequately protect themselves from criminal acts.

On the other hand, the spatial patterning of gun seizures in Brampton neighbourhoods does not appear to follow a clear social gradient. For example, Map 1B shows that affluent neighborhoods in Brampton, by and large, have no guns seized except for a small census tract in the downtown core area of Brampton where two guns were seized. In contrast, the number of guns being seized in disadvantaged areas appears relatively high compared to Mississauga (Map 1A). The main reason could be that Brampton neighbourhoods generally have a lower levels of income compared to Mississauga.



Map 2A: Number of Gun Seizures in relation to Average Household Income in Brampton

Introduction:

Crime has always been a dominant issue in our society. The occurrence of a criminal offence can affect the life of the victim(s), the offender(s), their local social networks, and the overall order of society. Injury, death, or incarceration of a family member due to criminal acts can have numerous adverse social, economic and health-related impacts on family members and members in close social networks. Crime can also wreak havoc in society by creating a sense of insecurity in neighbourhoods when criminal acts instill fear and distrust in communities. Studies have shown that socio-economic factors such as income and educational attainment are contributing factors in predicting patterns of crime. The purpose of this study was to examine how criminal offences, such as firearm seizures, are related to socio-economic and demographic variables in the cities of Mississauga and Brampton. Another purpose of this study was to compare how connections between these variables and crime patterns differ in Mississauga and Brampton within the Region of Peel.



Major Roads and Highways in Mississauga



Major Roads and Highways in Brampton

Methodology and Data:

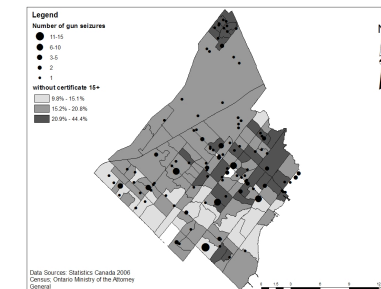
Socio-economic, demographic, and criminal data were acquired from Statistics Canada, the Crown Attorney for the Region of Peel, and Safe City Mississauga, a charitable organization in Mississauga mandated to prevent crime. The data were processed by deleting irrelevant data files and revising the street addresses in Mississauga and Brampton so they would be compatible for mapping purposes. Next, these data were imported into a geographic information system (GIS) that was used to analyze socio-spatial patterns of crime using Arcview and ArcGIS. Also, quantile normalization technique with three classes was used to classify data. Subsequently, street addresses data were geo-coded using Arcview to pin-point the exact gun seizures locations on a map. Then, these geo-coded points were imported into ArcGIS for more detailed study and creating layouts.

Conclusion:

In conclusion, we found that Mississauga is a more affluent city than Brampton, which may explain why there are fewer number of guns being seized in Mississauga than in Brampton. Socio-economic status may thus play a large role in influencing the patterns of crime, like gun-related activities. Our findings suggest that Mississauga enjoys a greater level of affluence than Brampton as well as lower levels of gun-related criminal activity. Further research directions include assessing other crime data acquired in this project, including violent offences and property crimes, as well as other local social resources, like crime prevention initiatives. Detailed neighbourhood assessments will be conducted in Brampton and Mississauga where both higher and lower rates of crime exist to develop an understanding of how crime rates may be minimized at the local neighborhood level.

Acknowledgement:

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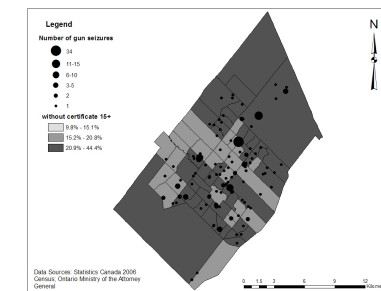
Map 1B: Number of Gun Seizures in relation to Proportion of Population without Certificate above 15 years old in Mississauga

Result B:

With regard to education, Mississauga has a high average level of educational attainment. Map 1B shows that fewer guns were seized in areas where educational level is high. Research by Buonanno (2007:18) explains this co-occurrence of low-levels of crime with high educational attainment, "education raises individuals' skills and ability, thus increases the return to legitimate work, raising the opportunity costs of illegal behavior".

In contrast, poor areas may have a lower level of education, because they have lower access to local opportunities for secondary or post-secondary education, which may prevent them from getting necessary skills and abilities to obtain meaningful and legitimate work. This in turn, could increase their chances of criminal involvement (Natsuaki et al., 2006).

In comparison, Brampton neighbourhoods have overall lower average levels of educational attainment than those in Mississauga. Map 2B shows that in areas where there are lower levels of education, there are also more gun-related crimes. One reason suggested to partially explain this pattern is that less educated individuals, like youth, may lack the full awareness of the consequences associated with committing crimes involving guns, which as Buonanno (2007:18) notes, "makes criminal decisions less costly in psychological terms". This may help explain why less educated individuals, like disadvantaged youth, may become involved with more crime. Finally, it should be noted that overall Brampton has a higher levels of gun-related crime occurring, or being apprehended by Peel Regional Police, in comparison with Mississauga.



Map 2B: Number of Gun Seizures in relation to Proportion of Population without Certificate above 15 years old in Brampton