# A Spatial and Temporal Analysis of Hate Crime in Ottawa: 2018 to 2023 By: David Cardenas Ochoa<sup>1</sup>, Christian Perez<sup>2</sup>, Daniel Huang<sup>1</sup>, and Evan Cleave<sup>2</sup>

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### INTRODUCTION

- This study considers the research question: are there spatial and temporal patterns of hate crimes in the City of Ottawa?
- a hate crime as a "...criminal offense committed against a person or property motivated in whole or part by hate, bias, or prejudice against an identifiable group" that can involve intimidation, harassment, physical force, or threat of physical force against a person, group, or property (Toronto Police Service, 2022).
- Hate crimes are often tied with the "Othering Theory" creating an "ongoing process of marginalization, disempowerment, and social exclusion" towards those who exist in and from different positionalities (Moreau, 2021).
- Hate crime is on the rise, particularly towards Asian groups (Gover et al, 2020); but numbers are often under-reported (Pezzella et al, 2019)

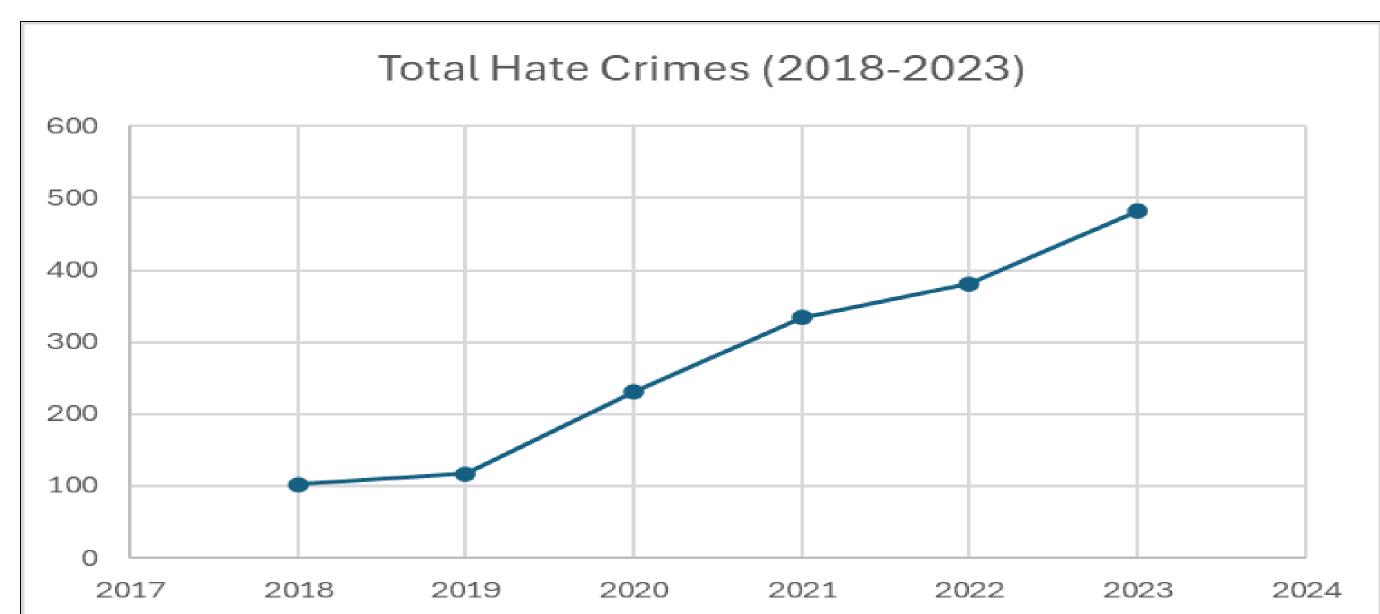


Figure 1: Annual Counts of Reported Hate Crimes (2018-2023)

Table 2: Summary of Hate Crimes and their Suspected Motivations in Ottawa (2018-2023)

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		Year						
	2018	2019	2020	2021	2022	2023	Total	
Gender	3	7	4	5	14	24	57	
Sexual Orientation	6	9	18	37	65	77	212	
Race/Ethnicity	40	39	142	177	196	163	757	
Immigrants/Newcomers	-	-	-	-	1	12	13	
Language	-	-	-	-	2	1	3	
Mental or Physical Disability	-	1	-	1	-	2	4	
Religion	53	61	65	112	94	152	537	
More than Two Motivations	-	-	-	-	-	33	33	
Other Similar Factor	-	_	2	1	4	4	11	
Unknown	-	-	-	1	5	13	19	
Not Applicable	-	-	-	-	-	1	1	
Total	102	117	231	334	381	482	1647	

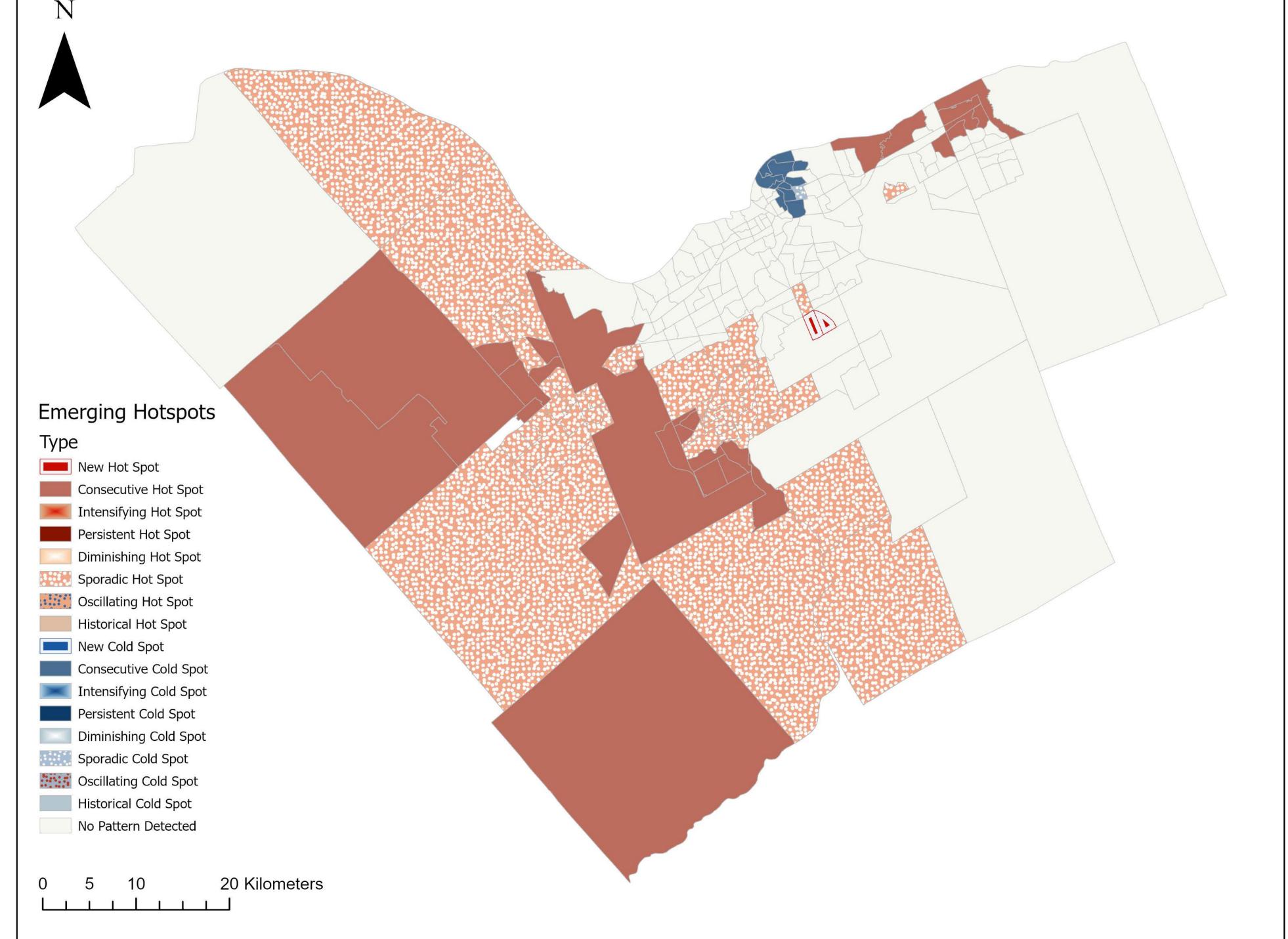
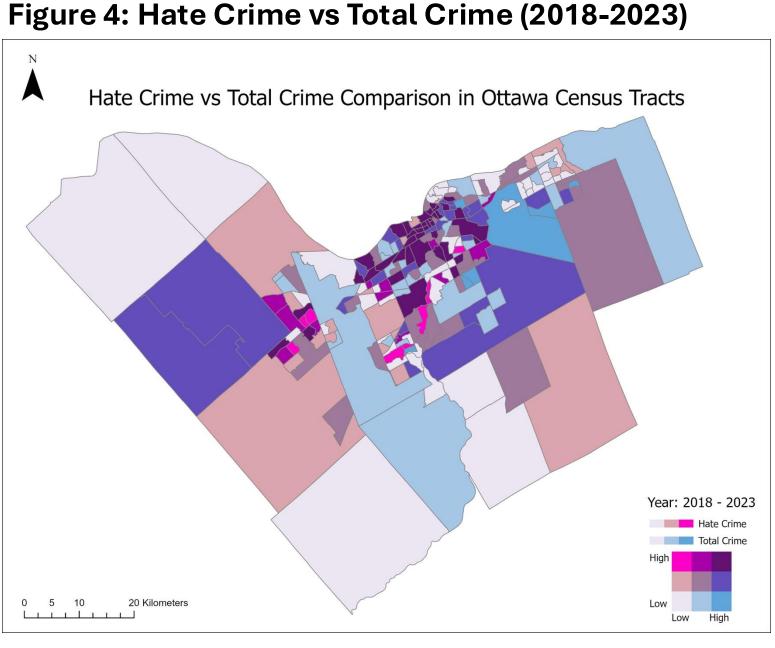
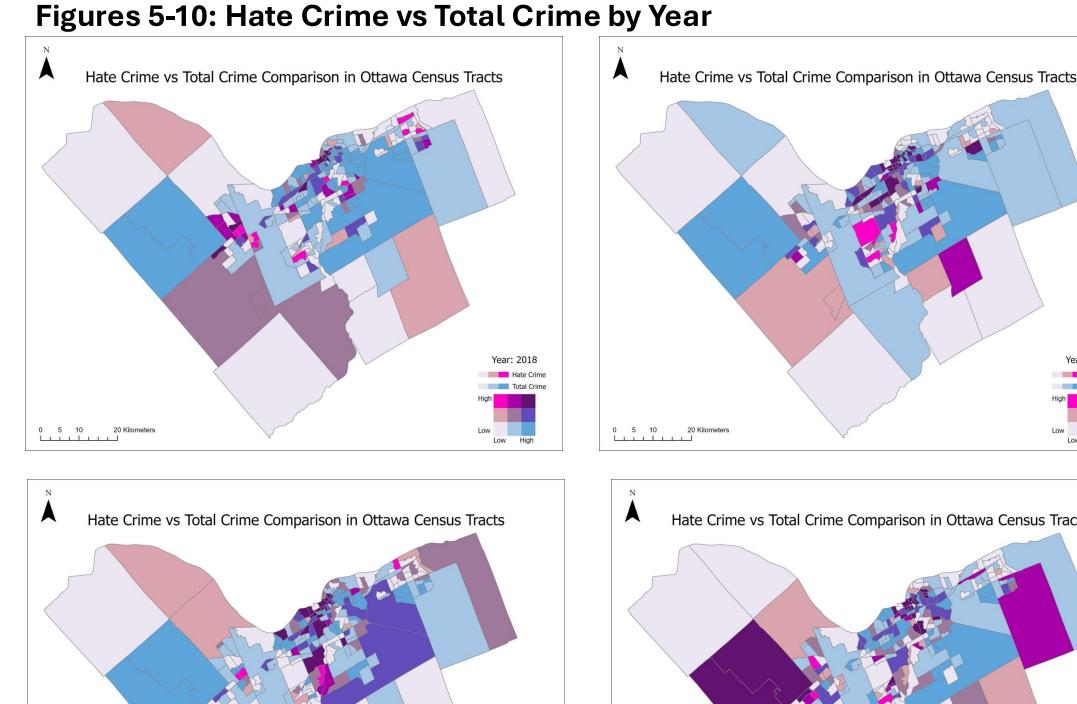
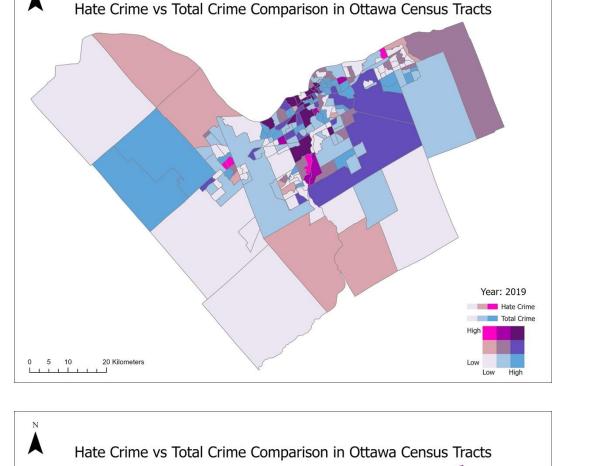
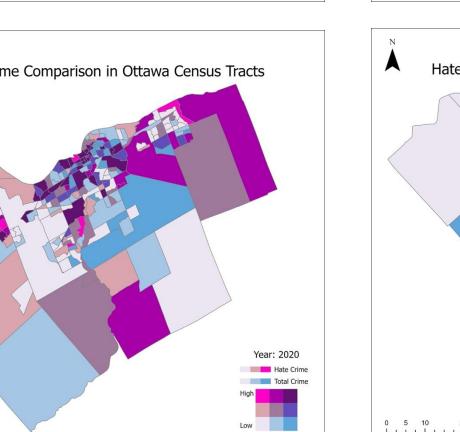


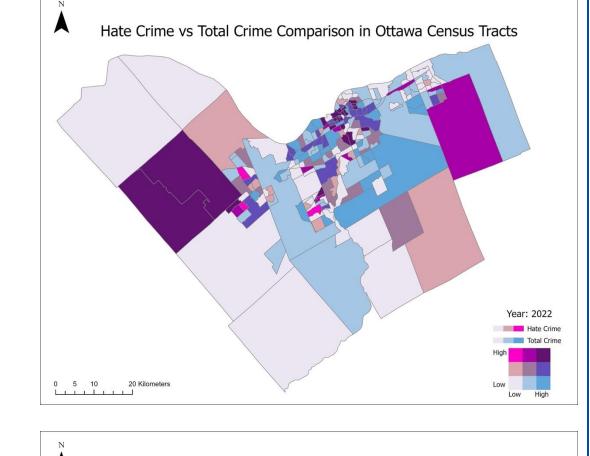
Figure 3: Emerging Hotspot Analysis

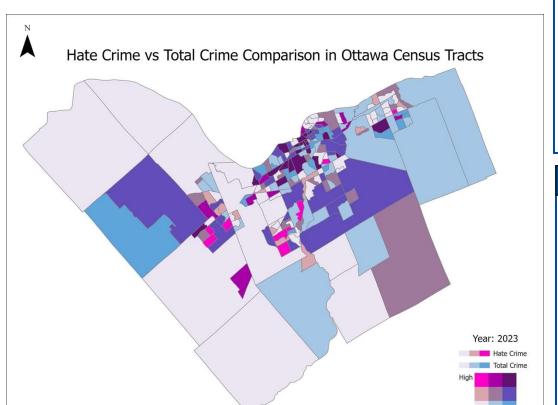












### **RESULTS AND ANALYSIS**

- Of the 1647 recorded hate crimes, 46% (n = 757) were racially or ethnicity motivated, while 33% (n = 537) were religion-focused crimes.
- Variation was observed both spatially (see Figure 4) and temporally (see Figure 1).
- When comparing hate crime to total crime counts (Figures 3), areas near the city centre had high levels of both; while areas to the east and west had high hate crime counts, with number of other crimes.
- Figures 4-10 show that crime was not spatially consistent; there were year-to-year changes in areas where hate crimes were concentrated. Though there does appear to be consistent spatial autocorrelation.
- The emerging hotspot analysis identified several spatial and temporal patterns:
- Consecutive hotspots (n=26): to the east of the downtown core, where there are large immigrant and visible minority populations.
- Consecutive (n=2) and Sporadic (n=45) hotspots: in the southwest sections of Ottawa where it is more suburban and ex-urban
- Consecutive (n=10 and Sporadic (n=2) coldspots: in the eastern edge of the downtown core, where there were all crime is prevalent.
- No patterns were detected in eastern Ottawa.

### DISCUSSION AND CONCLUSION

- "...visible minorities generally report feeling less safe than the rest of the population and certain groups are much more likely to report experiencing discrimination. Hate crimes target the integral and visible parts of a person's identity and may affect not only the individual but also the wider community." (Moreau, 2021, p. 4)
- As this behaviour affects individuals, their communities and society generally, hate crimes need to be a focus of social concern in Canada and other countries.
- This analysis demonstrates that *there are spatial and temporal patterns of hate crimes in Ottawa*, identifying that there are large sections of the city that experience persistently higher levels of hate crime.
- Social interventions (i.e., greater social spending and services) and community building efforts could be targeted to these areas.
- Future research can explore the local characteristics of these areas that experience hate crime to future explore drivers, motivations and impacts.

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## REFERENCES Gover, A. R., Harper, S. B., & Langton, L. (2020). Anti-Asian hate crime during the COVID-19 pandemic: Exploring the reproduction of inequality. American Journal of Criminal Justice, 45(4), 647-667. Moreau, G. (2021). Police-reported hate crime in Canada, 2019. Juristat, 4–38. Pezzella, F. S., Fetzer, M. D., & Keller, T. (2019). The dark figure of hate crime underreporting. The American Behavioral Scientist (Beverly Hills), 276421882384. Toronto Police Service 2021 annual hate crime statistical report. (2022). Betrieved from

## HATE CRIME IN OTTAWA

- 1647 hate crimes recorded across 218 census tracts in Ottawa.
- Represents 0.7% of reported crime.
- Year-over-year increases in hate crime, rising from 102 to 482 over the study period (see Figure 1); with the largest increases occurring in 2020 and 2021 (see Table 1).
- Uneven spatial distribution of hate crimes in Ottawa (see Figure 3).

### DATA AND METHODS Data Data **Analysis** Collection **Preparation** Crime Data: Ottawa Police Open Aggregation **Emerging Hotspot Analysis** Calculation of Crime Database and Hate Crime Hate and Total (Space Time Pattern Mining) Hate Crime to Database (2018 to 2023) **Crime Counts Total Crime** to Census Spatial Data: Statistics Canada Tracts 2021 Census Tracts Figure 3: Study Methodology Mann-Kendal **Getis-Ord Gi\*** Notes: bivariate maps were used to descriptively compare crime and hate crime counts; the emerging hotspot analysis used contiguous

neighbours and a one-month time step.