

Safest Ottawa Neighborhoods

Capstone Project - The Battle of Neighborhoods

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Business Problem

- An apartment rental search website would like to drive more traffic to their website by starting a blog.
- One post lists of the safest neighborhoods in Ottawa.
- The target audience are people looking to rent an apartment in the safest part of the city.
- There has been an increase in crime, so people are worried.

Data

- City of Ottawa crime data and Foursquare police station location data will be used to find the safest neighborhoods in the city.
- Crime data was imported from a csv file provided by the City of Ottawa. Latitude and longitudes locations were inputted using '*Nominatim*' from '*geopy.geocoders*' aswell as manually when the geolocator provided inaccurate location data.
- The latitude and longitude data were then combined with the crime data into a single data frame.
- Foursquare location data was used to find a data frame of the latitudes and longitudes of police stations in Ottawa.

Methodology

- The data was normalized into a common scale called the *neighborhood safety scale*.

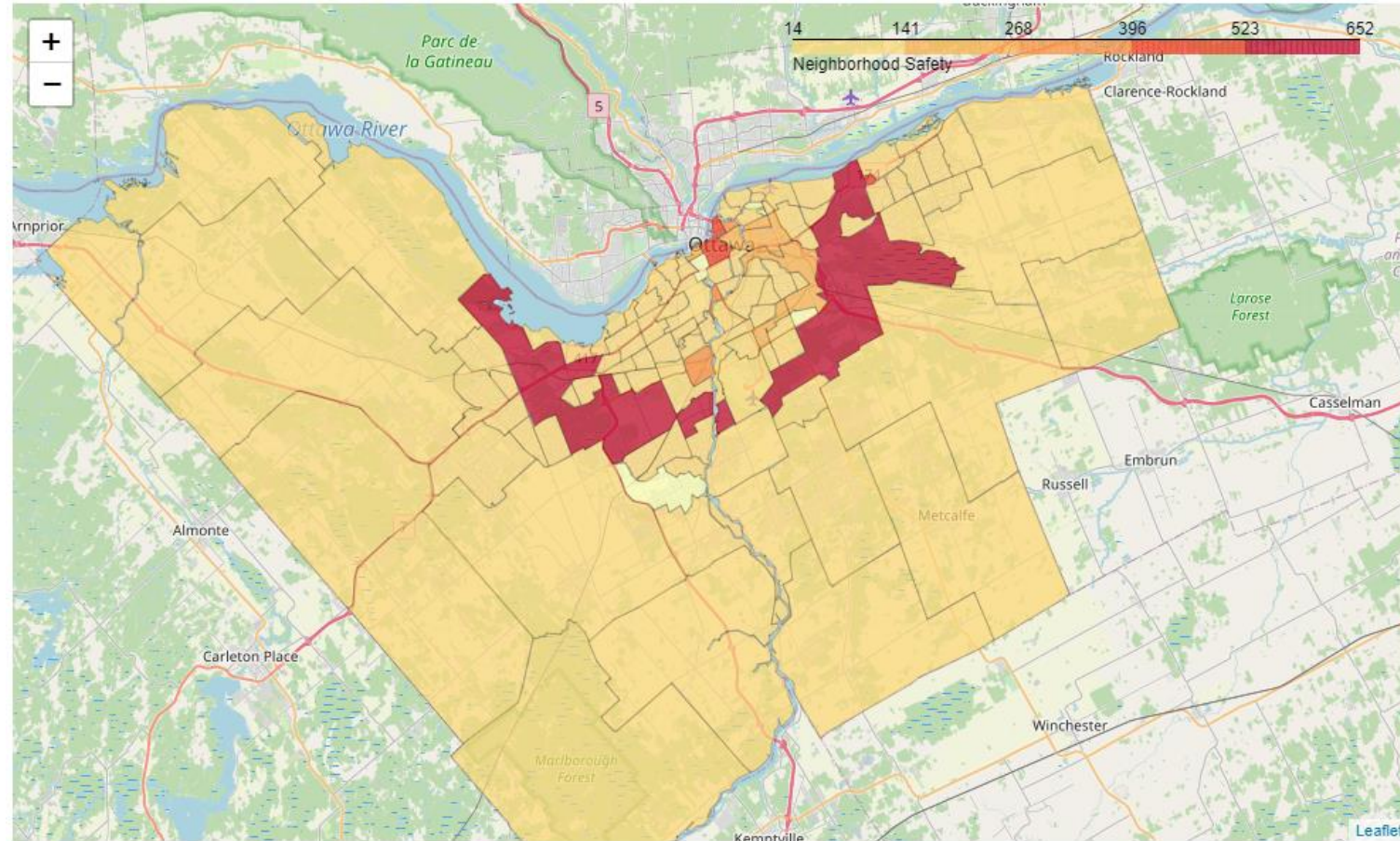
$$\text{Neighborhood Safety Scale} = \frac{C_{people} + C_{property} + C_{other} + D_{police}}{\text{Neighborhood Population}}$$

- The distance between each neighborhood and its closest police station was calculated by iterating through each neighborhood and each police station.

Results

	Neighbourhood	Population	Crimes Against People	Crimes Against Property	Other Crimes	Latitude	Longitude	Distance	Neighborhood Safety Scale
34	Dunrobin	6559	7000	86000	3000	45.3573	-75.8661	0.224007	14
10	Bridlewood - Emerald Meadows	25404	65000	316000	48000	45.2727	-75.8501	1.47945	16
31	Corkery	3901	13000	50000	12000	45.2833	-75.3139	0.224007	19
74	Old Barrhaven West	20397	53000	322000	39000	45.2795	-75.763	0.224007	20
69	Metcalfe	6417	15000	106000	9000	45.3226	-75.7286	0.224007	20
70	Munster - Ashton	4966	14000	56000	33000	45.1751	-75.976	0.224007	20
23	Chapel Hill North	10249	28000	160000	27000	45.4163	-75.6943	0.224007	20
2	Beaverbrook	6953	22000	114000	15000	45.4416	-75.5989	7.2133	21
33	Cumberland	4324	12000	78000	3000	45.3573	-75.8661	0.224007	21
41	Fitzroy	4289	6000	86000	0	45.2037	-75.3842	0.224007	21

Results



Discussion

- Based on the results I recommend looking further into other indicators that may be affecting the safeness of a neighborhood besides proximity to the downtown core.
- For instance, household income, unemployment rate, city program funding and other indicators that are known to correlate with crime rate.

Conclusion

- The safest neighborhoods in Ottawa were found to be the neighborhoods furthest from the city center.
- City crime rates were analyzed for each neighborhood.
- The safest neighborhood was found to be Dunrobin the neighborhood on the north-west corner of the city.