Judging Toronto's Liveability from a Criminal Perspective*

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Abstract

Life security has always been a concern for people, and it has also become a factor in whether a city can become a livable city. Factors that can affect the safety of life include natural disasters, etc., but it is easier to avoid a crime than to avoid a natural disaster. From this perspective, to investigate whether Toronto is a livable city, we obtained a dataset of crime reports from the Toronto police. In the process of analyzing this dataset, we will use Toronto cases as a basis to measure the safety of Toronto and how to choose a relatively safe place to live in Toronto.

1 Introduction

Liveable cities are a frequently discussed topic in this century, with many different rankings of liveable cities appearing every year. The most famous of these are the Mercer Quality of Living Survey and the Liveability Survey published by The Economist. These lists are ranked by many different factors, such as the environment, education, and transportation. Of course, it also includes the personal safety of residents, that is, information related to crime. In the 2019 Mercer Quality of Life Survey, Toronto was ranked 16th on the list. Being No. 16 on this list of world cities speaks volumes about how liveable Toronto is as a city. The side reflects that Toronto should not have too serious problems in terms of crime.

A detailed analysis of the crime-related factors in the liveability rankings, starting with The Economist's Liveability report 2021. Crime-related is included in the category of stability in this report. The stability accounts for 25% of the total liveability, which includes the prevalence of petty crime, violent crime, threat of terror, military conflict and civil conflict. Mercer's report included the criminal aspect in the political and social environment category, and they did not clearly disclose the proportion of this category. In addition, Mercer's most recent report on city livability is about 2019. Mercer believes that due to covid-19, the livability survey in these two years will be biased, so it does not publish rankings after 2019. Likewise, while The Economist is still publishing reports on liveability, they also state that covid-19 will affect their assessments. In this paper, the selected dataset from Police Annual Statistical Report - Reported Crimes contains crime data from 2014 to 2022. Therefore, we can compare the crime reports before and after the outbreak of Covid-19 to find out what impact the epidemic will have on crime in Toronto.

This report will be divided into three parts, the first part will first organize the data set of the Police Annual Statistical Report - Reported Crimes, then find connections between important variables and visualize them. The second part compares the linkages between variables with other existing reports. These existing reports include survey rankings on livability and articles on crime in Toronto. For example, Mathieu claims that crime is not evenly distributed across the city of Toronto, but concentrated in some neighborhoods in his article. The last part is Results and Discussion, the purpose of this paper is to find out where and why less crime occurs in the city of Toronto. And based on this, we can propose how to improve areas with high crime rates to make cities more livable.

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*Code and data are available at: LINK.

2 Data

```
## # A tibble: 1 x 11
##   title           id    topics civic_issues publisher excerpt dataset_category
##   <chr>           <chr> <chr>  <chr>         <chr>     <chr>   <chr>
## 1 Police Annual St~ poli~ Publi~ <NA>          Toronto ~ This d~ Table
## # ... with 4 more variables: num_resources <int>, formats <chr>,
## #   refresh_rate <chr>, last_refreshed <date>
```

```
## # A tibble: 2,369 x 8
##    Category  CountCleared Count_ GeoDivision ObjectId ReportedYear Subtype  X_id
##    <chr>            <int>  <int> <chr>          <int>        <int> <chr>   <int>
##  1 Controll~          195    201 D11                1         2014 Other       1
##  2 Crimes A~           42    119 D11                2         2014 Auto T~     2
##  3 Crimes A~           37     85 D11                3         2014 Break ~     3
##  4 Crimes A~           18     58 D11                4         2014 Break ~     4
##  5 Crimes A~           34     89 D11                5         2014 Break ~     5
##  6 Crimes A~            7     23 D11                6         2014 Break ~     6
##  7 Crimes A~           83    232 D11                7         2014 Fraud       7
##  8 Crimes A~          230    628 D11                8         2014 Other       8
##  9 Crimes A~           12     36 D11                9         2014 Theft ~     9
## 10 Crimes A~          790   1774 D11               10         2014 Theft ~    10
## # ... with 2,359 more rows
```

3 Model

4 Results

5 Discussion

5.1 First discussion point

5.2 Second discussion point

5.3 Third discussion point

5.4 Weaknesses and next steps

Appendix

A   Additional details

B   References