

Neighbourhood Wars: School and Crime Cohabitation

(Week 1: Introduction)

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1. Introduction

1.1 Background

A group of investors intend to establish a new private middle school in Toronto Canada, and require data science insights to determine the optimal location. Opening a school for students between grade six and nine requires variables such as transport efficiency, safety and extramural activities to be taken into account. The investors are concerned that the school's success is heavily influenced by its location. The diversity of the target audience (students & their parents residing in different neighbourhoods across Toronto) requires convenient transportation and safety. In this project, school safety is determined by the number of neighbourhood crime incidents in the area in which the school is located. Examples include assault, robbery and homicide. These are student welfare metrics, where exposure to such activities before and after class, may diminish their school perception or welfare. Hence, our target audience requires a minimum crime threshold level in the school's neighbourhood. The students will be at a higher risk of crime exposure when leaving the premises to take public transport.

Many students are solely dependent on public transport such as bus lines for transport to and from school. This group of students will be more exposed to crime, thus by locating a school in a safe neighbourhood cluster, the chance of crime exposure is reduced. It is advantageous for a school to be conveniently located near to one of the public transport facilities as it will reduce commute time, transport fares and crime risk for a large portion of students who cannot rely on their parents to take them to school. If a student has an extended commute back home, a school located near a convenience store will allow for easy access to food before the long journey.

Analysing this data will allow the stakeholders and investors to make actionable insights to locate the new private school establishment.

1.2 Problem

Data that contributes to predicting the optimal location to establish a new private middle school, includes neighbourhood crime rates in Toronto and coordinate information on the most popular venues in each of Toronto's boroughs. This project aims to narrow down the numerous possible geographic locations within Toronto in which to open a new school based on the neighbourhood's proximity to favourable venues.

1.3 Interest

The business owners, investors and other stakeholders establishing a new private school of their own will be interested to gain a holistic picture of the locational factors that will influence such venture's success. Students and parents will also be interested as it will provide piece of mind with respect to their choice of school in comparison to others schools, based on the safety and venue data.