Locating Potential Venues for Homeless Shelters in the City of Toronto

by

Yael Valdez Navarro, MASc.

A capstone project presented to Coursera in the completion of the IBM Data Science Certificate

Introduction

Background

There has been a rising trend in Canada, a vulnerable group of people with diverse issues such as drug abuse, mental health and fleeing abusive situations face the problem of homelessness.

Multiple charity groups organize soup kitchens and shelters to alleviate the daily hazards faced by this community. The fact is most of these locations operate at almost 100% occupancy rate every day. To tackle this, a business problem is proposed.

Business Problem

By considering the challenges presented in the previous section, the problem statement is then, by analyzing multiple sources of data (i.e. socio-economic and geographic), find the best possible locations for establishing new homeless shelters on the city of Toronto.

There are multiple criteria that are given more importance to the establishment of the best location. These following factors can also be considered our assumptions for the problem definition:

- Accessibility: The ideal venue should be close to public transport, train stations or bus stops.
- **General income by neighborhood:** It has been shown that low income areas are hot-spots for homelessness, specially with increasingly prohibitive rent costs.
- Closeness to other shelters: To maximize area covered, the ideal venue should not be too close to other venues.

Data

The data compiled to solve the proposed problem is gathered from various sources. An outline is displayed according to the criteria chosen.

- Foursquare: Will help with the retrieval of public transportation stations.
- Stat-Can: Two main datasets are associated with this source, mainly
 - o Homeless shelter locations
 - o Socio-Economic Data

In the following week the problem will be developed in Python. This document will be updated with the final product accomplishments.