How Child-Friendly is Toronto?

Capstone Project Report

Introduction / Business Problem

An interesting question for city management and families living in a city alike is about the quality of life for our youngest. Access to adequate care and education services, to leisure activities as well as proper and affordable housing are important aspects of a child-friendly city.

However, resources for addressing potential shortcomings in these areas are always limited in the budget of a city, and demands might differ in different parts of a city. It is hence of crucial importance to find out more about the living situation of children and their parents in the city in order to better inform decision making regarding, for example, new schools and child services, new playgrounds, subsidized housing, and more.

The core business question at hand can hence be summarized as "What is the living situation of children in different parts of the City of Toronto like?" Potential stakeholders interested in the answer are the city administration/management as well as the children & parents living in Toronto, current ones as well as future ones!

We will look at this question considering several categories of geographical and demographic data.

Data

We are going to use two data sources for this task:

1. Data about businesses and other forms of venues provided by the Foursquare API
2. Demographical data provided by the city of Toronto via their Open Data portal at https://open.toronto.ca/

The Foursquare API is going to be used to retrieve information about two important aspects regarding the life of children, i.e. access to education & care and leisure activities. The search functionality of the API enables us to search for different types of venues by category which allows us to easily search for daycare services, preschools, playgrounds, candy stores, etc. in the vicinity of a given coordinate. In connection with the demographical data, this enables us to provide detailed neighbourhood profiles describing how close the access to education and how much fun it is to live in a neighbourhood as a child!

The Open Data Portal of Toronto provides a huge variety of datasets that can be freely accessed and downloaded. We are going to leverage two of them:

1. Neighbourhoods is a dataset providing geographical information about the 140 neighbourhoods (as defined in the social planning department of the city) such as their boundaries and their (centre) locations.

2. Neighbourhood profiles is a dataset largely aggregating 2016 census data containing basic information about age structure, income and workforce structures, unemployment and benefits, ethnic structure, and many more at neighbourhood granularity.

Please note that the data regarding locations does not correspond exactly with what you might have seen in the Capstone Course so far (merged neighbourhoods by postal codes). Unfortunately, the data retrieved from the City of Toronto is incomplete such that neighbourhood locations have to be added manually – a completed dataset (with locations) completemented by geographic information from Bing will be available from the Github repo of this project.