

## Moving to Montreal: Where to buy a house?



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## 1. Introduction

Moving to a new city is never easy. You find yourself in front of a very big decision. Where in this city I don't really know should I buy a house?

How could I know what makes each part of the city different or similar to each other? What can I expect to find in each borough of this new city?

It would be a lot easier if you only knew a bunch of things, like:

- How many parks, sport fields, schools, or any other kind of point of interest are there in a given borough.
- Is it easy to move around without a car? Public transit nearby? Bike paths? This benefits a lot big children and teenagers who can't drive.
- Is a certain borough more of a residential area or more of a commercial area?
- What's the price range for different types of housing for each borough?
- Which boroughs relates to each other, which ones really differ?

So many questions... So let's put Data Analysis to the rescue!

By clearly defining and characterizing each borough by answering all the questions above, anybody moving to Montreal will find in this analysis a great tool for making the big decision of choosing a specific neighborhood which satisfies its needs.

## 2. The Data

Fortunately, we can find a lot of the data needed on the City of Montreal “*Données ouvertes*” (Open Data) website: <https://donnees.montreal.ca/>

Here, we can find data about the boroughs names and limits, points of interest, green spaces, exterior installations (like sport fields, kids parks), bike paths, and Free Montreal City Wi-Fi. All this data is available as CSV databases and Geospatial data as GeoJson files.

We had to find some other important data from some other non-governmental websites, as the Public transport, acquired from the "Société de transport de Montréal" (metro and bus company) <https://www.stm.info/fr/a-propos/developpeurs> , and the Housing Prices for each borough, acquired from the Real estate company “Centris” Website <https://www.centris.ca/en/tools/real-estate-statistics/montreal-island?uc=2> .

Lastly, If we want to know what's the "*character*" of each borough, we will need to know what kind of venues we can find in each one of them. For this, we will be making use of the available FourSquare data.

## 2.1 Data description

Data from the Montreal Open Data website:

- **liste-arrrondissement.csv**: contains the names of the 19 boroughs under the Montreal City municipality.
- **limadmin.geojson**: Geographical polygons for the administrative limits of the 19 boroughs and 15 independent cities inside the Montreal Island.
- **lieux\_d\_interet.csv**: Names, Categories, Family, Coordinates, Zip codes and Boroughs of Municipal points of interest, such as Museums, Markets, Schools, Universities, Cultural and religious establishments, Community Centers, Libraries, Pools, Hotels, Lodging, Community usage equipment, etc.
- **lieux\_d\_interet.geojson**: Geographical polygons, Names, Categories, Boroughs for the Municipal points of interest.
- **espace\_vert.csv**: Names, Categories, Family, Types, Coordinates, Address, Zip codes and Boroughs of Municipal Green Spaces, such as Nature parks, Metropolitan parks, Urban parks, School parks, District parks, Neighborhoods parks, Institutional spaces, Cemetery, Road green islands.
- **espace\_vert.json**: Geographical polygons, Names, Categories, Types, Address, Zip codes and Boroughs of Municipal Green Spaces
- **terrain\_sport\_ext.csv**: Name, Borough and Type of exterior sports and games fields, such as Kiddie parks, Soccer, Basket, Volleyball, Baseball and Tennis fields, Exterior hockey rinks, Exterior pools, Kiddie pools, etc.
- **terrain\_sport\_ext.json**: Geographical polygons, Name, Borough and Type of exterior sports and games fields
- **mtlwifi\_bornes.csv**: Placement (address) and coordinates of Montreal City free Wi-Fi access points.
- **mtlwifi\_bornes.geojson**: Geographical coordinates points and placement of Montreal City free Wi-Fi access points.
- **reseau\_cyclable.geojson**: Geographical polygons, Bi-directional, 4 seasons availability, 4 seasons protection for the Bicycle Paths
- **reseau-express-velo.geojson**: Geographical polygons, Bi-directional, 4 seasons availability, 4 seasons protection for the Express Bicycle Paths

Data from other sources :

- **Centris.ca:** Website to be scrapped for Single-family, Condominium and Plex (2 to 5 units) pricing for the 2nd Quarter 2021 and the Last 4 Quarters. Exemple page: <https://www.centris.ca/en/tools/real-estate-statistics/montreal-island?uc=2>
- **Stm\_sig.zip:** Shapefile containing names, coordinates, route number and much more info about all the bus stops and Metro Stations for the Montreal Island.
- **Foursquare API:** We will obtain from the Foursquare database the top 100 venues (if existing) for each borough