Impact of Pandemic on Residential Real Estate in the GTA

—

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Objectives

Core Hypotheses

The more covid infections in a given area, the greater the negative impact on real estate volume and pricing post-COVID.

The fewer covid infections in a given area, the greater the positive impact on real estate volume and pricing post-COVID.

A negative impact could be defined as a decline or slowed growth in Housing Price Index or Benchmark Price.

A negative impact could be defined as an increase or accelerated growth in Housing Price Index or Benchmark Price.

Questions
- Covid infections rate by CMA in the GTA
- Real Estate HPI and Benchmark Price
- Price by location and Type of Data
- Covid Infections by location

What we want to show:
- Aggregate Real estate growth in pricing over time (last 60 months) by GTA CMA, and population and covid infections
- COVID infection volume (absolute volume)
- Population density to infection rate
- Population density to real estate pricing

Questions & Data

Questions (potential questions to ask of the data)
- Covid infections rate by CMA in the GTA
- Real Estate HPI and Benchmark Price
- Price by location and Type of Data
- Covid Infections by location

What we want to show:
- Aggregate Real estate growth in volume and pricing over time (last 60 months) by location, by population density and covid infection rate
- COVID infection rate and volume (absolute volume)
- Population density to infection rate
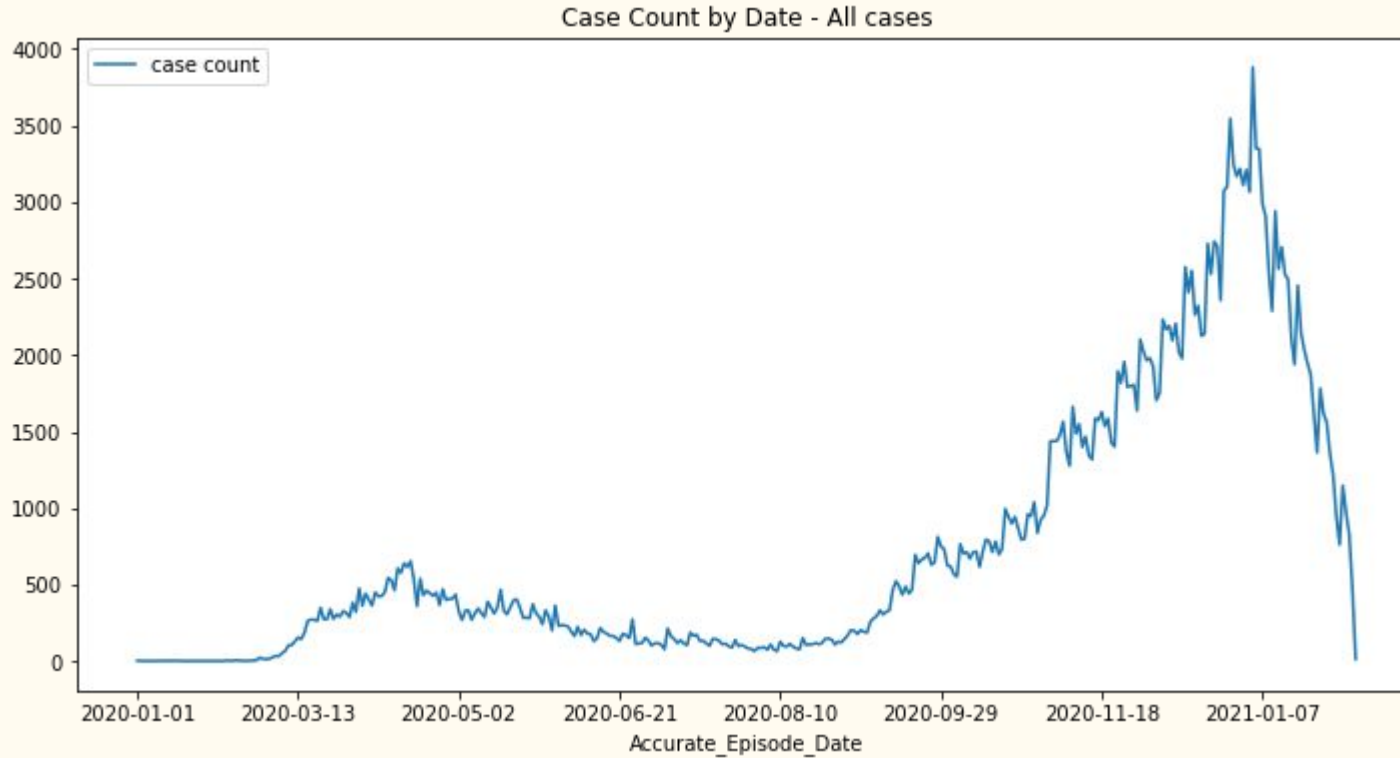- Population density to real estate pricing

Datasets
- Real Estate pricing and total market volume by year, month and location (US, CANADA or ALL NA)
  - https://www.crea.ca/housing-market-stats/mls-home-price-index/hpi-tool/
- COVID infection rate by Date an dlocation
  - hhttps://data.ontario.ca/dataset/f4112442-bdc8-45d2-be3c-12efae72fb27/resource/455fd63b-603d-4608-8216-7d8647f43350/download/conposcovidloc.csv
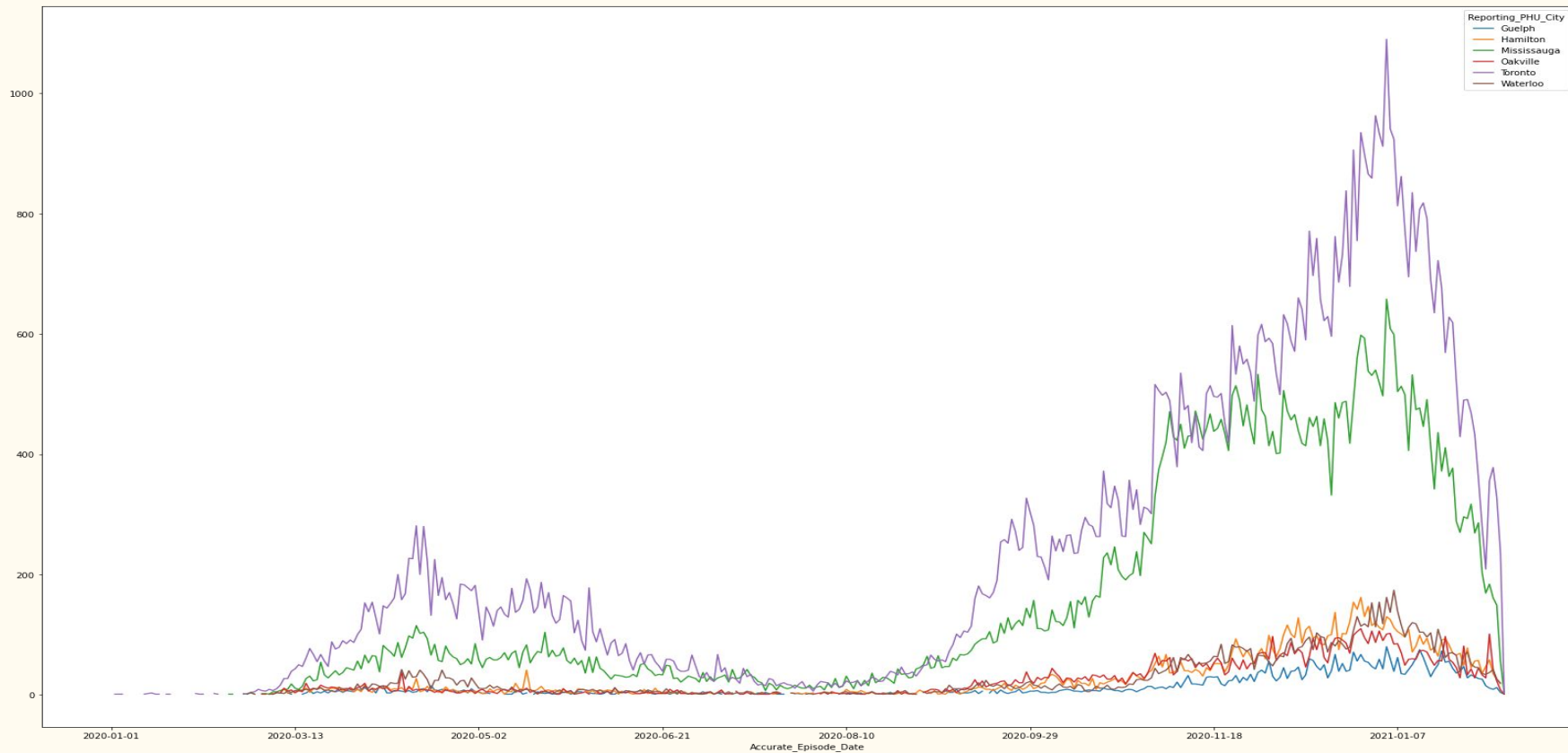- Map of Ontario with population data
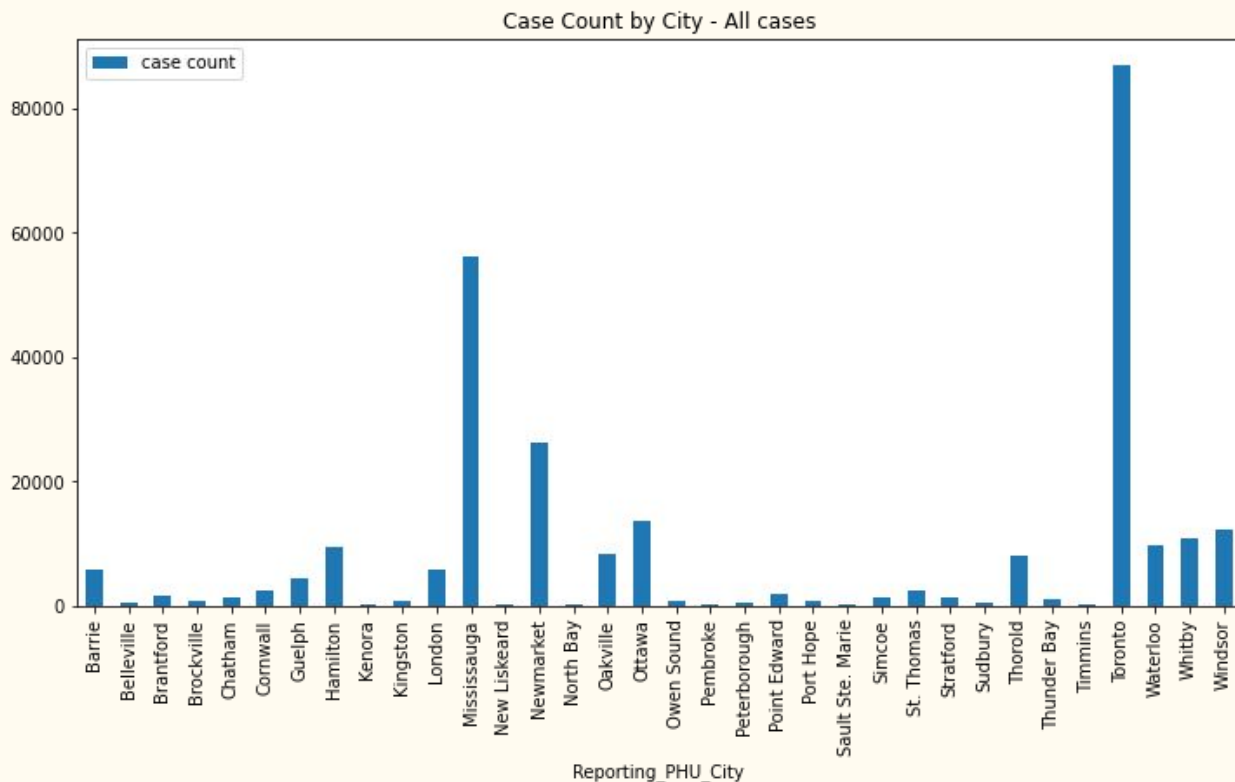
Data Cleanup & Exploration
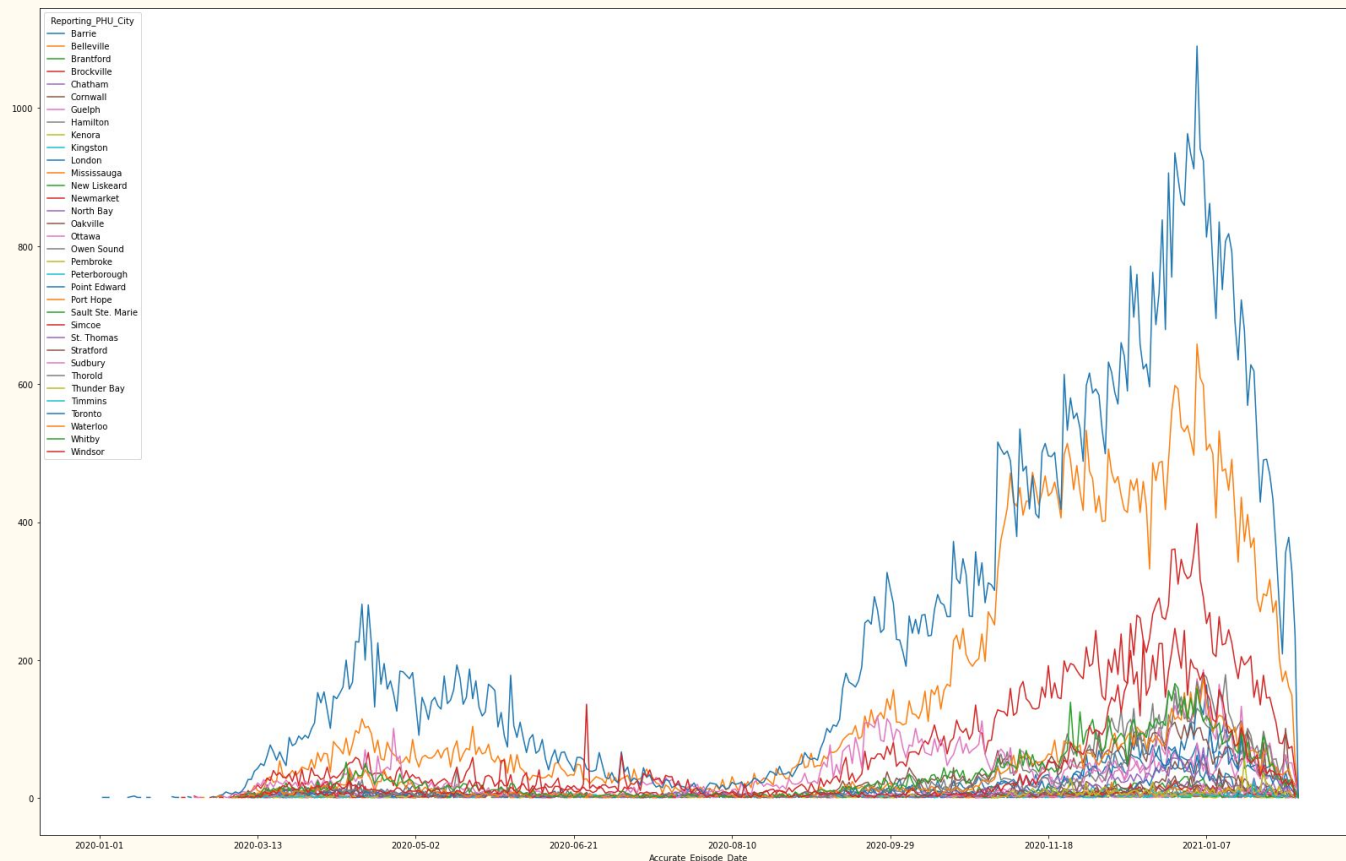
In Notebooks

All Cases over Time

Case Count by Date - All cases

GTA cases by CMA

Cases by City

Case Count by City - All cases

All Cities

Presentation Requirements

The presentation requirements for Project 1 are as follows.

Your presentation must:

* [ ] Be at least 8 to 10 minutes long (check with the instructor for the official presentation time).

* [ ] Describe the core message or hypothesis for your project.

* [ ] Describe the questions you and your group found interesting and what motivated you to answer them.

* [ ] Summarize where and how you found the data you used to answer these questions.

* [ ] Describe the data exploration and cleanup process (accompanied by your Jupyter Notebook).

* [ ] Describe the analysis process (accompanied by your Jupyter Notebook).

* [ ] Summarize your conclusions. This should include a numerical summary (i.e., what data did your analysis yield), as well as visualizations of that summary (plots of the final analysis data).

* [ ] Discuss the implications of your findings. This is where you get to have an open-ended discussion about what your findings mean.

Presentation Guidelines

You are free to structure your presentations to your liking, but students tend to have success with the following format.

* Title Slide

  * Include the name of the project and group members.

* Motivation & Summary Slide

  * Define the core message or hypothesis of your project.
  * Describe the questions you asked, and _why_ you asked them.
  * Describe whether you were able to answer these questions to your satisfaction, and briefly summarize your findings.

* Questions & Data

  * Elaborate on the questions you asked, describing what kinds of data you needed to answer them and where you found it.

* Data Cleanup & Exploration

  * Describe the exploration and cleanup process