Selecting a new Gym location in North York, On

By Natalie Braginsky

Researching Area for a new business location

- Investing in a new business is usually a high risk venture which requires a lot of research

- One of the important research aspects is new business location selection.

  - Stakeholders need to ensure that the market is not saturated in the area

  - Stakeholders need to verify that demographic and other relevant conditions are favourable for the proposed new business or venue

Data acquisition and cleaning

▶ Toronto boroughs boundaries geojson definition:
https://open.toronto.ca/dataset/neighbourhoods/.

▶ Number of Gym / Fitness clubs location: via foursquare APIs:
https://developer.foursquare.com.

  ▶ In total 106 venues were found in the North York

  ▶ Average number of gyms in North York Neigbourhoods: 0.417

▶ Coordinate of North York center will be obtained using **Python geocoding.**

▶ Addresses of the found candidate locations will be obtained using **Python reverse geocoding.**

Gym locations in the North York
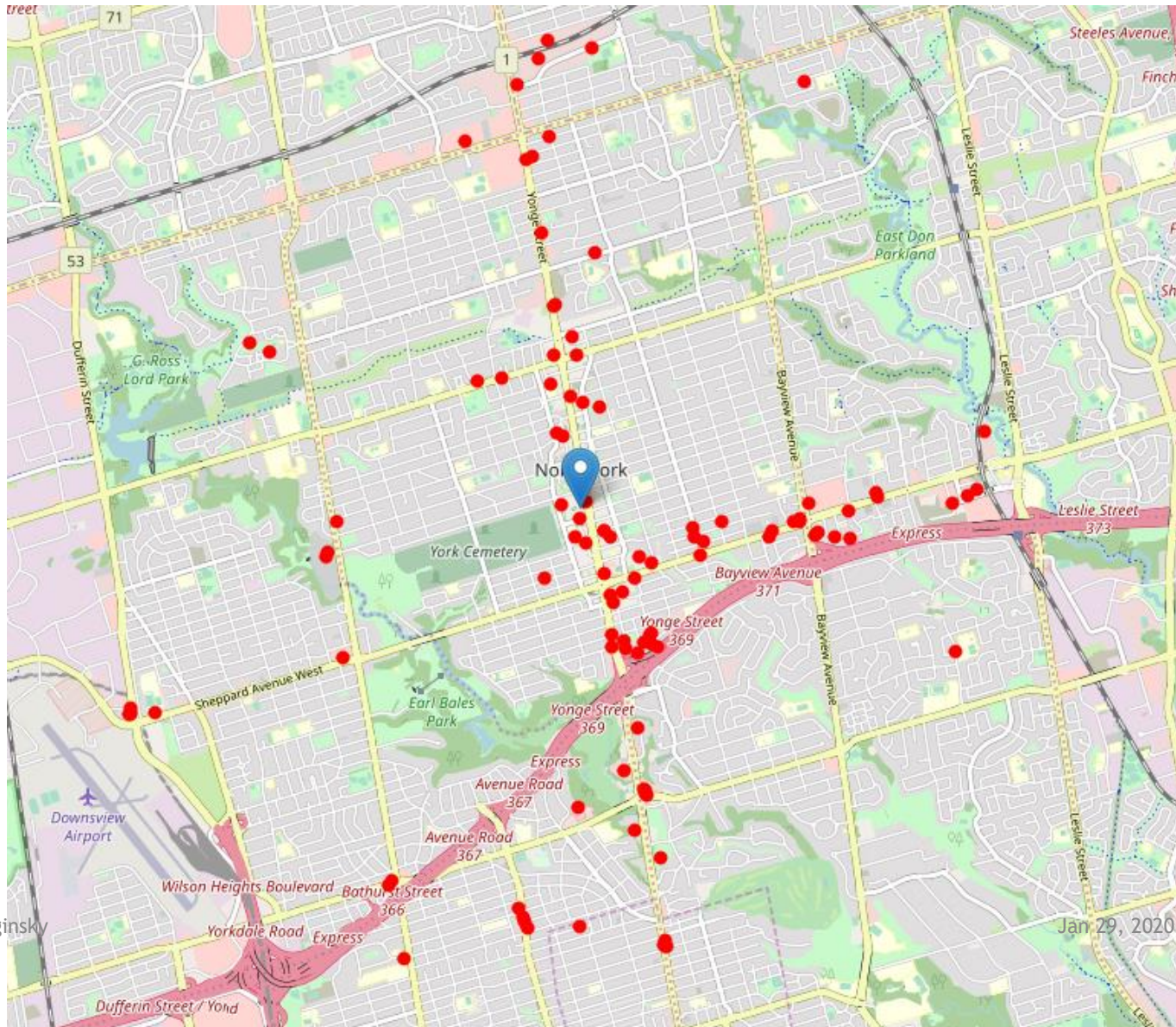
Each red dot is an existing gym location

Fitness venues density in North York – Heat Map
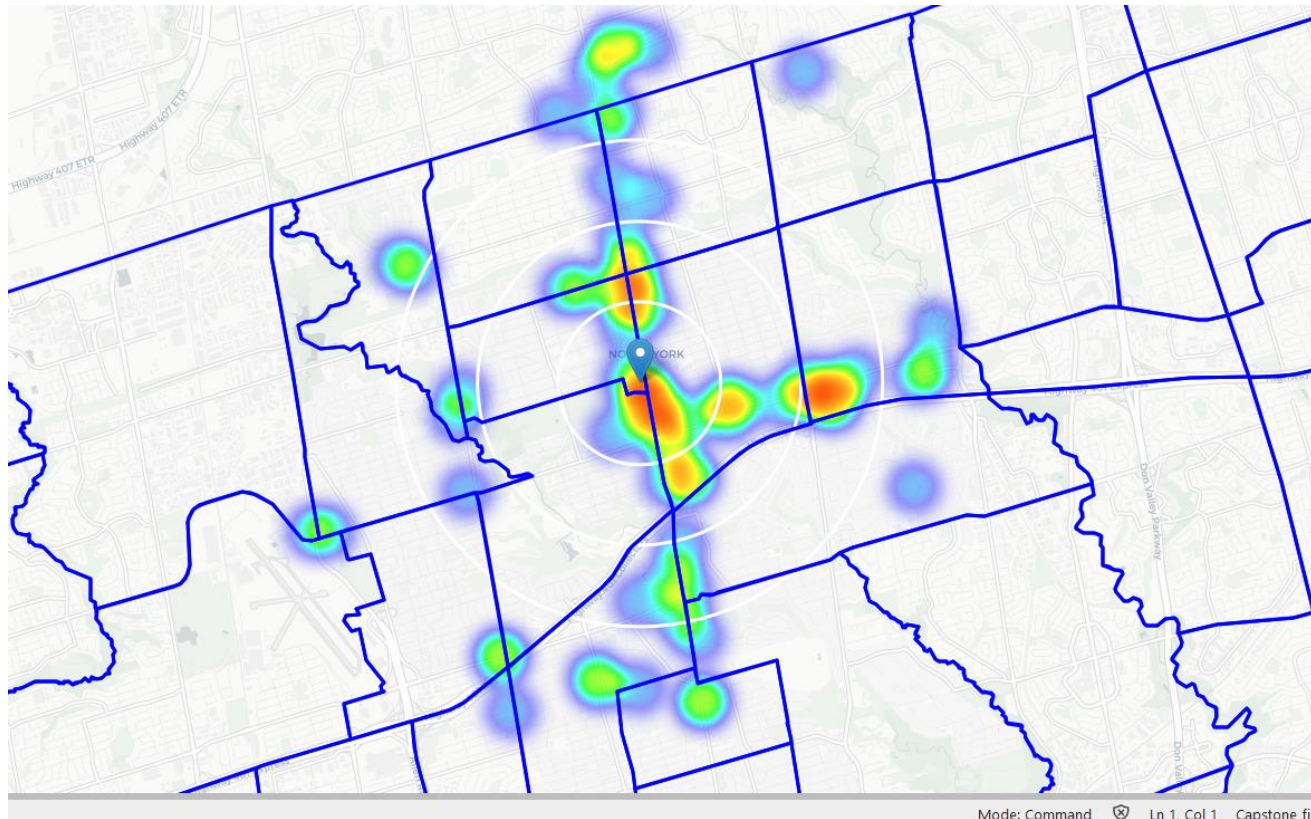
Each white circle marks 1000m distance from the North York City center

Fitness venues - focus on Newtonbrook and Willowdale neighbourhoods

- ▶ Areas of low Fitness Clubs density closest to city center can be found **west from Mel Lastman Square (North York city centre)**

- ▶ Moving the center of the area of interest and reduce it's size to have a radius of **2.5km**. This places location candidates mostly in boroughs **Newtonbrook and Willodale.**

Fitness venues candidates in Newtonbrook and Willowdale neighbourhoods

Selecting candidate locations with no more than one gym in radius of 1000 meters

Each blue dot is a candidate location

Fitness venues candidates in Newtonbrook and Willowdale neighbourhoods - heatmap

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Clustering candidates to narrow down suggestion pull

▶ Addresses of those cluster centers will be a good starting point for exploring the neighborhoods to find the best possible location based on neighborhood specifics.

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Clusters – Newtonbrook neighbourhood

Clusters – Willowdale neighbourhood

The result of the research

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Addresses of centers of areas recommended for further analysis
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124 Red Robinway, M2R 1N6 Toronto         => 3.8km from the Mel Lastman Square
21 Dallas Road, M2R 2N1 Toronto           => 3.3km from the Mel Lastman Square
42 Elynhill Drive, M2R 1P6 Toronto        => 2.0km from the Mel Lastman Square
55 Caines Avenue, M2R 2N1 Toronto         => 3.5km from the Mel Lastman Square
62 Lurgan Drive, M2R 1K1 Toronto          => 2.5km from the Mel Lastman Square
208 Goulding Avenue, M2R 2R1 Toronto      => 4.2km from the Mel Lastman Square
407 Patricia Avenue, M2R 2N1 Toronto      => 4.1km from the Mel Lastman Square
46 Devondale Avenue, M2R 1K1 Toronto      => 3.2km from the Mel Lastman Square
205 Betty Ann Drive, M2R 1P6 Toronto      => 1.5km from the Mel Lastman Square
286 Finch Avenue West, M2R 1K1 Toronto    => 3.3km from the Mel Lastman Square
188 Churchill Avenue, M2N 1Z5 Toronto     => 1.6km from the Mel Lastman Square
31 Manadon Drive, M2M 1E3 Toronto         => 3.3km from the Mel Lastman Square
133 Goulding Avenue, M2R 2R1 Toronto      => 4.0km from the Mel Lastman Square
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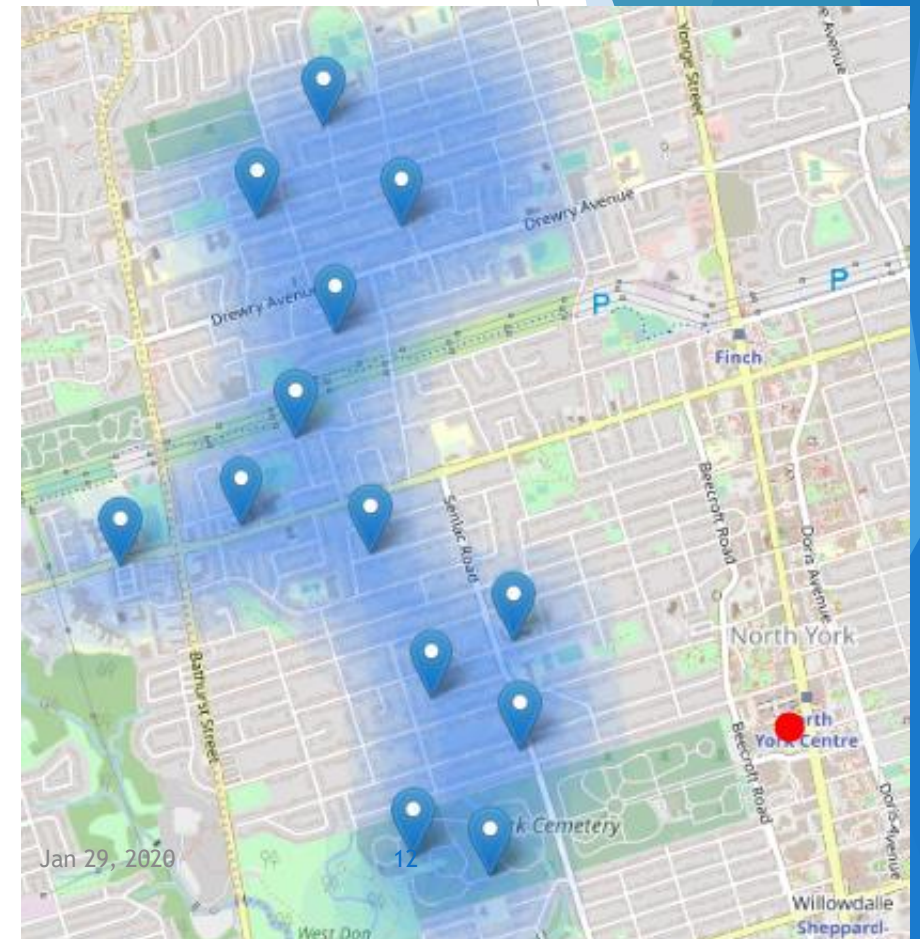
Conclusion and future directions

▶ Built a useful model to find location candidate for a new gym in North York, Toronto, ON.

▶ This is only a start and final decision on optimal fitness club location will be made by stakeholders based on specific characteristics of neighborhoods and locations in every recommended zone, taking into consideration additional factors like attractiveness of each location (proximity to park), proximity to major roads, real estate availability, prices, social and economic dynamics of every neighborhood etc.

▶ This model can be used to find location for venues in other simple groups (that is those without venue subgroups or top group venues)