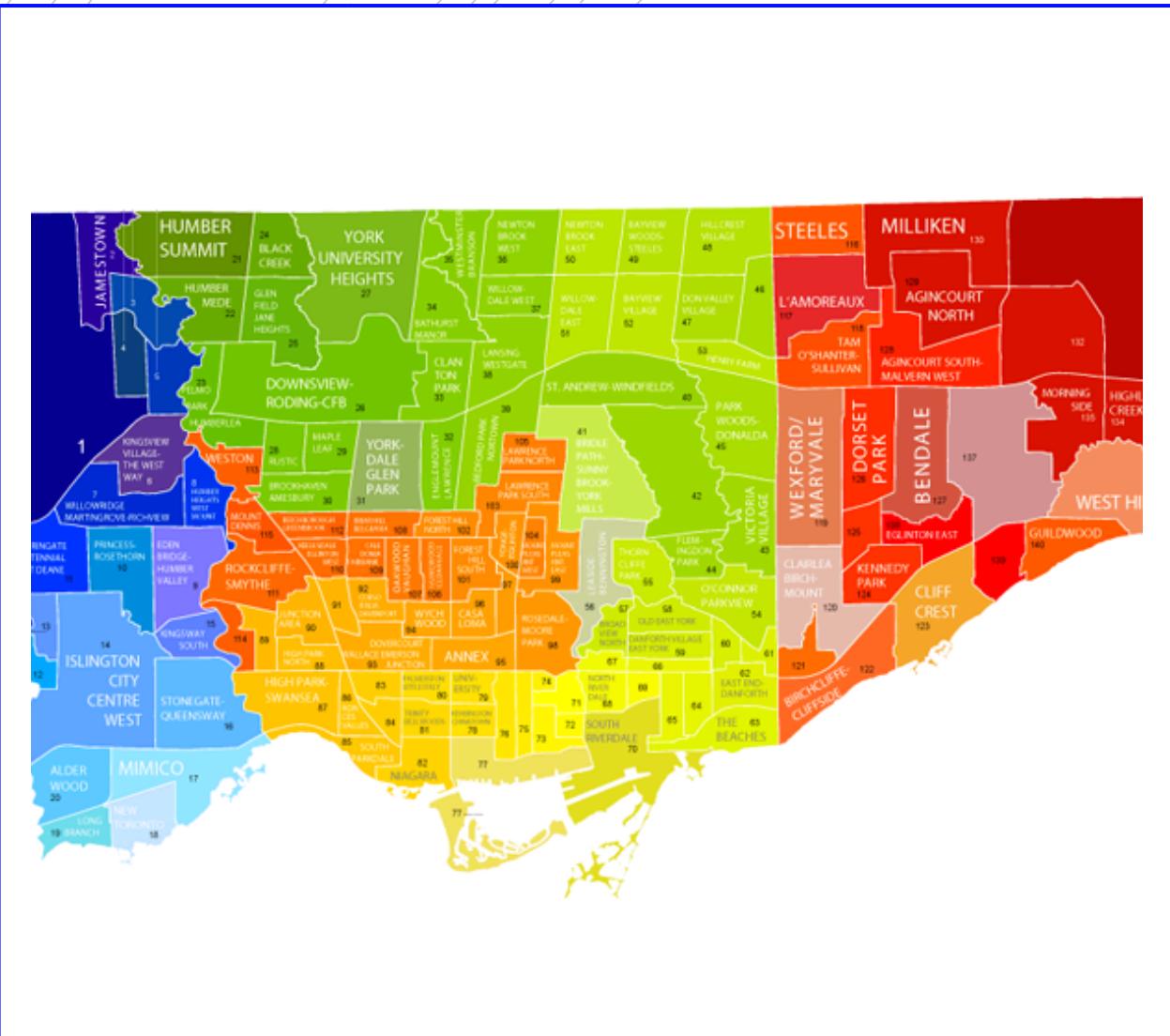


Bike Sharing in Toronto

Selecting the best borough to start the business



Toronto is the biggest city in Canada with population over 2.7 million people.

It have 140 designated neighborhoods in total (https://en.wikipedia.org/wiki/List_of_city-designated_neighbourhoods_in_Toronto)

So starting any kind of business there require careful analysis of it's areas

The problem

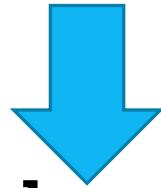
Let's assume that we or our customer wants to start the bike sharing business in one of the boroughs.

But we do not know what is the safest borough and where is our target customers living?

Data acquisition and cleaning

Data Sources:

- Toronto Police Service:
 - Accidents involving cyclists 2007-2017
 - Bicycle thefts 2014-2017
- City of Toronto Open Data Portal
 - Demographic Profile data in Neighborhoods



Datasets prepared:

- Incidents involving cyclists statistic
- Theft statistics by Neighborhoods
- Bikes which more likely to be stolen
- Age statistics
- Commute destinations statistic
- Mode of commute statistic
- Commute duration statistic

Defining the analyze parameters

Based on data we obtain next parameters
were selected:

- *Safety*
- *Demographic commute data*
- *Theft security*

Safety Rating of the Neighborhoods

	Neighbourhood	Incidents
0	Bayview Woods-Steeles (49)	3
1	Birchcliffe-Cliffside (122)	3
2	The Beaches (63)	3
3	Casa Loma (96)	3
4	Mount Pleasant East (99)	3
5	Waterfront Communities-The Island (77)	3
6	Wychwood (94)	3
7	Palmerston-Little Italy (80)	3
8	Agincourt South-Malvern West (128)	3
9	New Toronto (18)	3

Demographic Ratings of the Neighborhoods Age Characteristics

Characteristic	Youth (15-24 years)	Working Age (25-54 years)	Total
Waterfront Communities-The Island	7840	45105	52945
Willowdale East	6940	25850	32790
Woburn	7660	21945	29605
Niagara	2415	23320	25735
Islington-City Centre West	4695	20640	25335
Rouge	6700	18510	25210
Malvern	6620	17865	24485
Church-Yonge Corridor	5060	18780	23840
Dovercourt-Wallace Emerson-Junction	3925	19790	23715
L'Amoreaux	5730	17210	22940

Demographic Ratings of the Neighborhoods Commute destination

Characteristic	Commute within census subdivision (CSD) of residence
Waterfront Communities-The Island	36345
Niagara	16400
Church-Yonge Corridor	15360
Willowdale East	15020
Woburn	14935
Rouge	14560
Dovercourt-Wallace Emerson-Junction	14285
Mount Pleasant West	13680
Islington-City Centre West	13680
Malvern	12835

Demographic Ratings of the Neighborhoods Commute methods

Characteristic	Public transit	Walked	Other method	Total
Waterfront Communities-The Island	10915	20855	610	32380
Church-Yonge Corridor	7000	7275	190	14465
Niagara	6965	5070	285	12320
Mount Pleasant West	9435	1840	100	11375
Willowdale East	9390	1550	215	11155
Dovercourt-Wallace Emerson-Junction	8950	1215	310	10475
Annex	6200	3200	225	9625
Bay Street Corridor	3540	5840	175	9555
Islington-City Centre West	8205	795	195	9195
Woburn	7635	780	210	8625

Demographic Ratings of the Neighborhoods Commute Time

Characteristic	15 to 29 minutes	30 to 44 minutes	45 to 59 minutes	Total
Waterfront Communities-The Island	18250	9955	3320	31525
Niagara	7395	7030	2530	16955
Willowdale East	5430	7290	4175	16895
Islington-City Centre West	5935	5795	4265	15995
Dovercourt-Wallace Emerson-Junction	5335	6665	3055	15055
Rouge	5120	5145	3335	13600
Woburn	5360	5280	2895	13535
Mount Pleasant West	4655	6380	2295	13330
Mimico (includes Humber Bay Shores)	4330	5620	3185	13135
Church-Yonge Corridor	7310	4060	1445	12815

Thefts statistics by neighborhoods

	Neighbourhood	Incidents
0	Pleasant View (46)	5
1	Rexdale-Kipling (4)	6
2	Beechborough-Greenbrook (112)	7
3	Bayview Woods-Steeles (49)	7
4	Rustic (28)	7
5	Maple Leaf (29)	7
6	Pelmo Park-Humberlea (23)	8
7	Ionview (125)	8
8	Victoria Village (43)	8
9	Milliken (130)	9

Bikes that are most likely to get stolen

	Vendor	Count
0	OT	2399

	Model	Count
0	SIRRUS	19
1	MILANO	19
2	HARDROCK	17
3	ALLEZ	16
4	CLASSICO	12
5	VITA	11
6	VENTURA SPORT	10
7	STOCKHOLM	10
8	CROSSTRAIL	10
9	MODENA	9

	Color	Count
0	BLK	3691
1	BLU	1271
2	WHI	1150

Combination of safety,
secure and
demographic
neighborhoods ratings

	Safety	Security	Age	Commuting destination	Main Commute Mode	Commute Time
0	Palmerston-Little Italy	Pleasant View	Waterfront Communities-The Island	Waterfront Communities-The Island	Waterfront Communities-The Island	Waterfront Communities-The Island
1	Agincourt South-Malvern West	Rexdale-Kipling	Willowdale East	Niagara	Church-Yonge Corridor	Niagara
2	Waterfront Communities-The Island	Bayview Woods-Steeles	Woburn	Church-Yonge Corridor	Niagara	Willowdale East
3	Wychwood	Rustic	Niagara	Willowdale East	Mount Pleasant West	Islington-City Centre West
4	Little Portugal	Maple Leaf	Islington-City Centre West	Woburn	Willowdale East	Dovercourt-Wallace Emerson-Junction
5	Mount Pleasant East	Beechborough-Greenbrook	Rouge	Rouge	Dovercourt-Wallace Emerson-Junction	Rouge
6	Birchcliffe-Cliffside	Ionview	Malvern	Dovercourt-Wallace Emerson-Junction	Annex	Woburn
7	The Beaches	Pelmo Park-Humberlea	Church-Yonge Corridor	Mount Pleasant West	Bay Street Corridor	Mount Pleasant West
8	New Toronto	Victoria Village	Dovercourt-Wallace Emerson-Junction	Islington-City Centre West	Islington-City Centre West	Mimico (includes Humber Bay Shores)
9	Casa Loma	Humbermede	L'Amoreaux	Malvern	Woburn	Church-Yonge Corridor

Conclusion

As we can see from the previous slide the dominating position in most categories taking the

Waterfront Communities-The Island

So if we or our customer want to start the bike sharing business, it should started in this neighborhood

Thank you for your attention!