SUPPLY CHAIN ANALYTICS: WAREHOUSE STRATEGIC LOCATION

**Maple syrup** is considered the greatest thing made by tree. It is use as a condiment for pancakes, waffles, and French toast.

Canada is the largest maple syrup producer in the world. In fact, 80% of the global supply is coming from Canada.
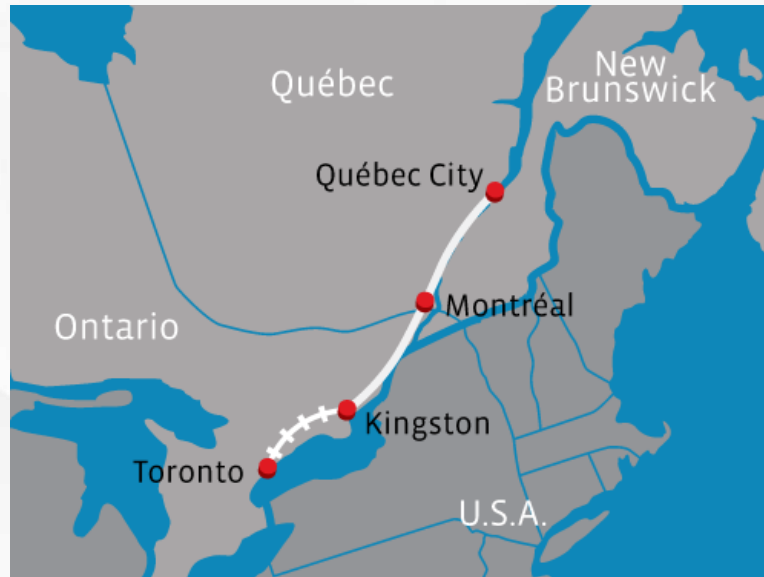
A Canadian company, CAPLE, is planning to invest on this industry. They plan to source and manufacture the maple syrup in Quebec and distribute it to consumers.
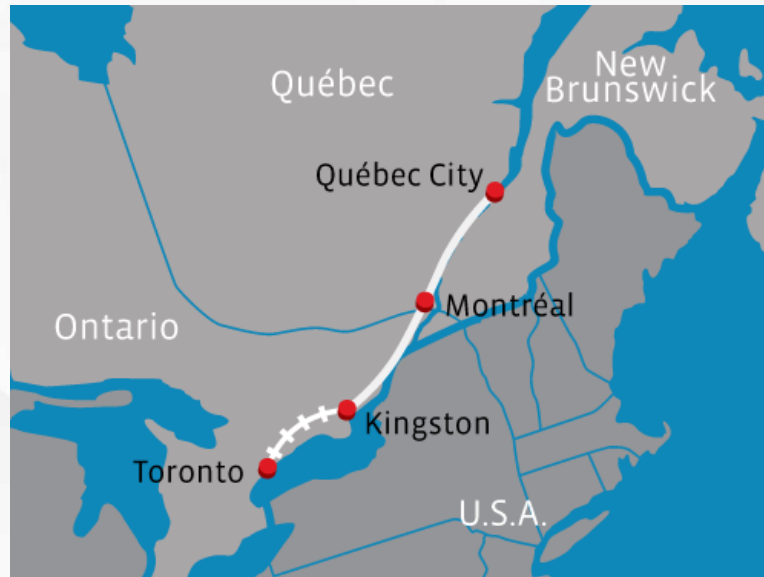
It is crucial that the distribution center is located strategically to minimize the last-mile delivery cost. Hence, it should be within the city center wherein groceries and shopping

	PostalCode	Borough	Neighbourhood	Latitude	Longitude
0	M1B	Scarborough	Malvern / Rouge	43.64869	-79.38544
1	M1C	Scarborough	Rouge Hill / Port Union / Highland Creek	43.64869	-79.38544
2	M1E	Scarborough	Guildwood / Morningside / West Hill	43.64869	-79.38544
3	M1G	Scarborough	Woburn	43.64869	-79.38544
4	M1H	Scarborough	Cedarbrae	43.64869	-79.38544

Coordinates

City	2016 [19]	2011 [20]	2006 [21]	2001 [22]	1996 [23]	1991 [23]
Toronto	5,928,040	5,583,064	5,113,149	4,682,897	4,263,757	3,898,933
Ottawa-Gatineau	1,323,783	1,236,324	1,130,761	1,063,664	1,010,498	941,814
Hamilton	747,545	721,053	692,911	662,401	624,360	599,760
Kitchener-Cambridge-Waterloo	523,894	477,160	451,235	414,284	382,940	356,421
London	494,069	474,786	457,720	432,451	398,616	381,522
St. Catharines-Niagara	406,074	392,184	390,317	377,009	372,406	364,552
Oshawa	379,848	356,177	330,594	296,298	268,773	240,104
Windsor	329,144	319,246	323,342	307,877	278,685	262,075
Barrie	197,059	187,013	177,061	148,480	118,695	97,150
Greater Sudbury	164,689	160,770	158,258	155,601	160,488	157,613
Kingston	161,175	159,561	152,358	146,838	143,416	136,401
Guelph	151,984	141,097	127,009	117,344	105,420	97,667
Brantford	134,203	135,501	124,607	86,417	100,238	97,106
Peterborough	121,721	118,975	|102,423	100,193	98,060	-
Thunder Bay	121,621	121,596	122,907	121,986	125,562	124,925
Belleville	103,472	101,668	91,518	87,395	87,871	-

Demographics

SUPPLY CHAIN ANALYTICS: WAREHOUSE STRATEGIC LOCATION METHODOLOGY

Data Gathering
- Coordinates
- Demographics

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Cluster to determine the number of distribution centers

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Determine the area based on population/con sumers

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Strategic Location
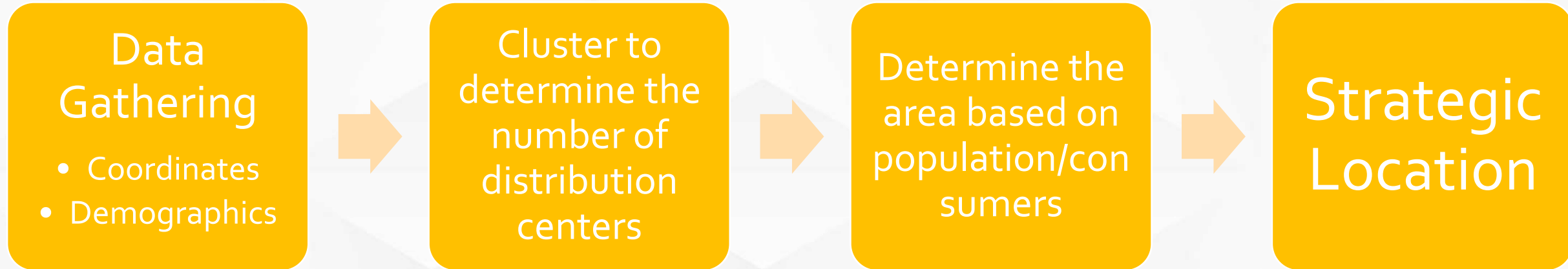
SUPPLY CHAIN ANALYTICS: WAREHOUSE STRATEGIC LOCATION RESULTS

Top 10 Populated Neighbourhoods in Toronto
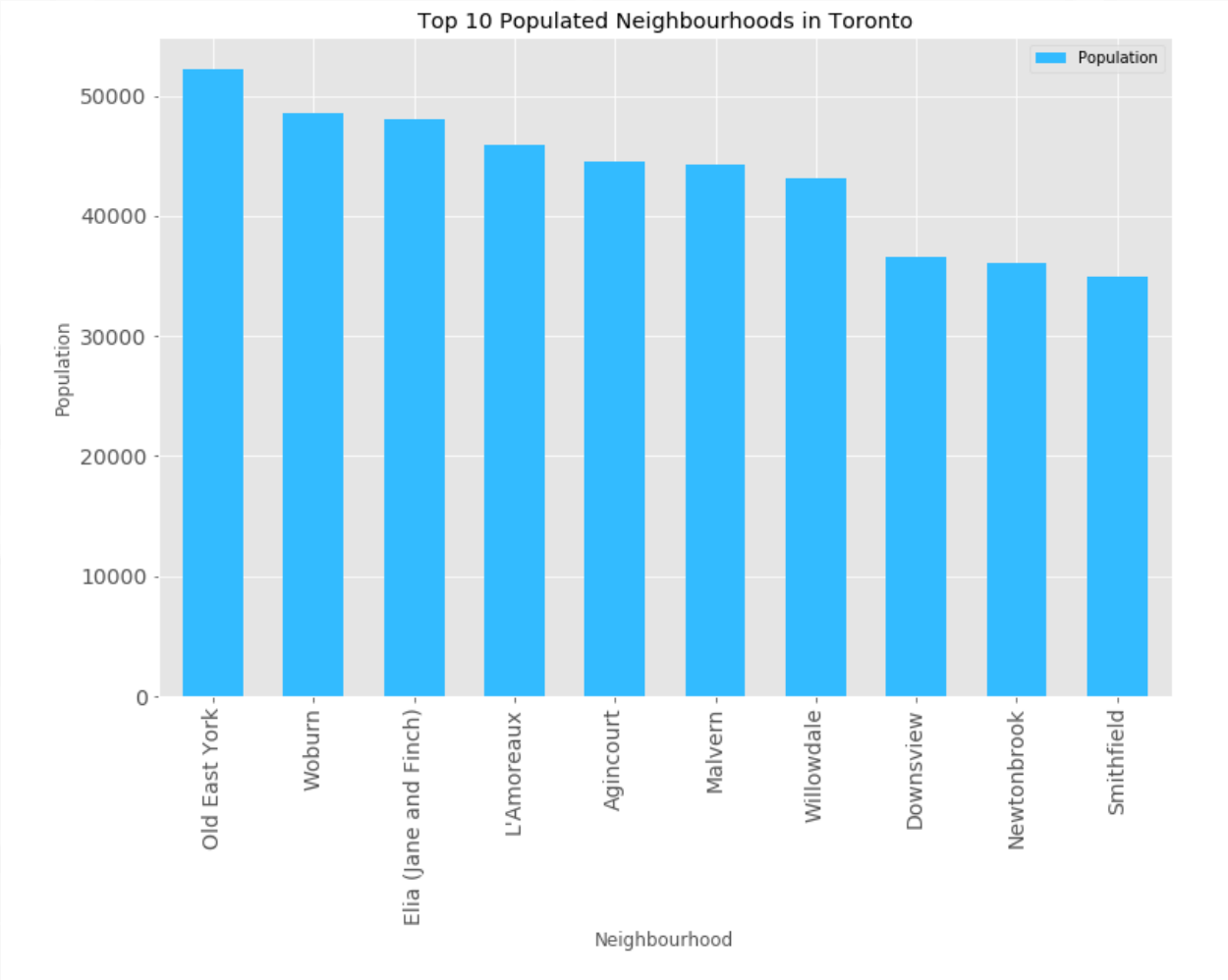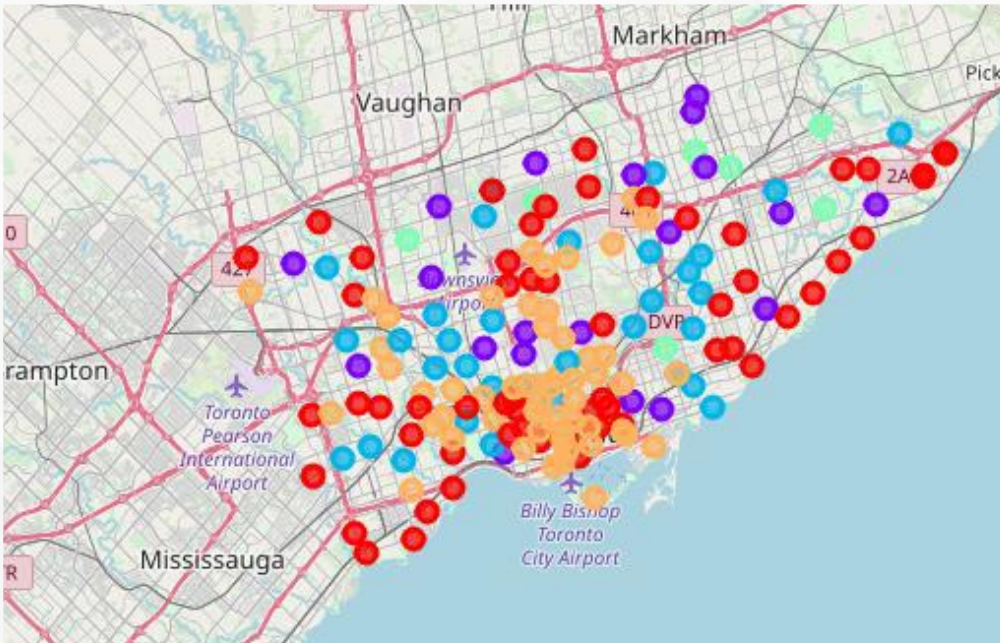
SUPPLY CHAIN ANALYTICS: WAREHOUSE STRATEGIC LOCATION DISCUSSION

Based on the analysis, we found out that intra-cluster distance in 3rd cluster (orange) are shorter. Thus, high number of similar neighborhoods are situated in one area. In this cluster, Humbermade is the most populated neighborhood. Thus, higher demand for their service offering, more shopping centers and lesser last mile delivery cost

	Neighbourhood	Population	Income	Commuting	2nd Language	2nd Language %	Latitude	Longitude	Population Score	Venue Score	Total Score
60	Humbermede	14778	24,297	11.8	Punjabi (9.7%)	09.7% Punjabi	43.7421	-79.5407	0.611729	0.0	0.305865
61	St. James Town	14666	22,341	27.4	Filipino (8.1%)	08.1% Filipino	43.6709	-79.3733	0.607093	0.0	0.303547
62	Cliffcrest	14531	38,182	12.5	Tamil (1.5%)	01.5% Tamil	43.7249	-79.2263	0.601505	0.0	0.300752
63	Humber Valley Village	14453	80,618	12.0	Ukrainian (3.9%)	03.9% Ukrainian	43.6671	-79.528	0.598276	1.0	0.799138
64	Harbourfront / CityPlace	14368	69,232	16.0	Unspecified Chinese (2.4%)	02.4% Unspecified Chinese	43.6416	-79.3902	0.594758	0.6	0.597379

SUPPLY CHAIN ANALYTICS: WAREHOUSE STRATEGIC LOCATION CONCLUSION

It is strategic to place the distribution center in Humbermede wherein there's a large population and high number of similar neighbors in the area. This would lessen the last mile delivery cost for the company.