

Asian Ventures in New York

Jinyuan Ng

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1. Introduction

Background

New York (NY), is the most populous city in the United States. With an estimated 2019 population of 8,336,817 distributed over about 302.6 square miles (784 km²), New York is also the most densely populated major city in the United States. NY also boasts being the Top 7th Most Visited City in the world, receiving 13.6million international visitors in 2019. This fact alone is enough to entice investors from all around the world to invest in NY, being opening a business or in real estate etc. However, it may seem daunting for Asian investors, as it's hard to predict which of the major 5 boroughs should they open their business in or which area for property investments. Therefore this dataset would be advantageous for them, to predict which borough and their respective neighbourhood would welcome their business as compared to the rest. Using Foursquare API, I'll create a map based on each borough with chosen locations as map markers.

Aims

This project aims to predict the top common venues within each borough, as well as consumer's expenditure preferences.

Stakeholders

Asian investors who's keen to venture into a business/ invest in NYC, as well as Asians who are planning to visit / migrate / study in NYC.

2. Data Acquisition and cleaning

Data Acquisition

I made use of Foursquare API to obtain coordinates of the respective boroughs, their respective neighborhoods and their common venues. I also obtained graphs from NYC Travel & Tourism Report 2019 to understand NYC consumers more as well as statistics of international tourists coming into NYC.

Data Cleaning

It would be too much of a hassle to go through all the common venues per neighborhood, so I decided to find the top 5 common venues per neighborhood first, before consolidating only the neighborhoods which has a Asian restaurant / business in the top 5 common venues per borough. Therefore, it'd be easier for investors to see in a glance how welcoming of the neighborhoods would be with their businesses.

3. Methodology

Using the Foursquare API, I set the limit of number of nearby venues to 100, within a radius of 700m from the centres of each Boroughs, and then compile the top 5 common venues into a data frame. I will use Bronx as an example.

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Allerton	Pizza Place	Donut Shop	Pharmacy	Bus Station	Supermarket
1	Baychester	Donut Shop	Department Store	Discount Store	Bus Station	Supermarket
2	Bedford Park	Deli / Bodega	Pizza Place	Chinese Restaurant	Diner	Sandwich Place
3	Belmont	Italian Restaurant	Pizza Place	Deli / Bodega	Bakery	Coffee Shop
4	Bronxdale	Pizza Place	Italian Restaurant	Sandwich Place	Bank	Ice Cream Shop
5	Castle Hill	Pizza Place	Baseball Field	Photography Studio	Pharmacy	Supermarket
6	City Island	Harbor / Marina	Park	Thrift / Vintage Store	Italian Restaurant	Seafood Restaurant
7	Claremont Village	Pizza Place	Park	Liquor Store	Bakery	Grocery Store
8	Clason Point	Park	Bus Stop	River	South American Restaurant	Pool

After which, I'll locate the Asian restaurants and create a new data frame, only containing neighborhoods with Asian restaurants for each Boroughs. Then, I used the folium.Map function to plot a map with the selected neighborhoods as label markers.

Now, we'll take a look at statistics on international tourists and their respective expenditures.

International Visitors to New York City By Major Countries and Regions

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(Data in thousands)						
	2013	2014	2015	2016	2017	2018
International ¹	9,272	9,775	9,883	10,171	10,510	10,931
Total Overseas ²	7,806	8,283	8,462	8,795	9,074	9,438
United Kingdom	1,108	1,175	1,207	1,239	1,212	1,259
China (PRC) ³	647	746	870	951	1,038	1,107
Canada	1,080	1,068	965	928	970	1,005
Brazil	895	921	877	818	852	906
France	697	734	727	745	767	814
Australia	619	639	665	684	693	714
Germany	607	628	632	648	639	613
Italy	464	509	507	530	532	591
Spain	383	405	407	423	442	517
Mexico	386	424	456	448	466	488
South Korea	293	310	350	386	416	400
Argentina	307	350	359	389	413	401
India	231	259	290	322	349	358
Japan	337	336	306	325	343	341
Ireland	223	222	216	253	294	292
Colombia	167	188	196	206	221	245
Netherlands	204	219	216	227	224	245
Switzerland	215	220	222	228	225	228
Sweden	200	211	206	218	213	210
Israel	209	211	209	203	201	197

International Visitation

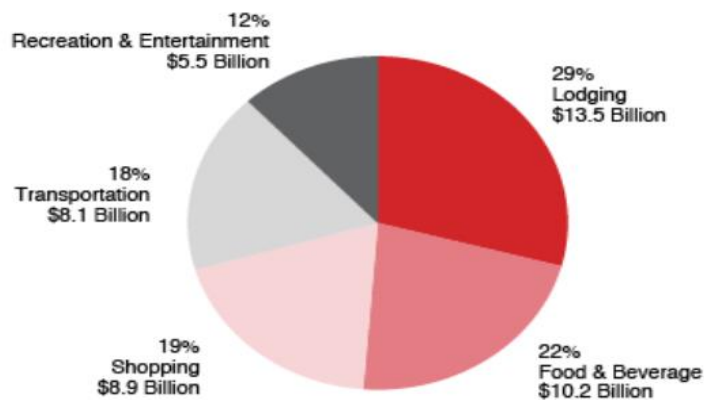
Country (thousands)	2018	2019f	2020f	2021f
UK	1,259	1,308	1,346	1,392
China	1,082	1,126	1,183	1,251
Canada	1,005	1,038	1,066	1,096
Brazil	906	903	902	922
France	814	846	873	899
Australia	714	712	725	740
Germany	613	632	652	672
Italy	591	600	616	631
Spain	517	544	558	572
Mexico	488	503	518	533
South Korea	400	411	424	438
India	358	376	396	416
Argentina	401	367	362	371
Japan	341	350	356	363
Ireland	292	296	301	306
Netherlands	245	254	261	268
Colombia	245	251	257	264
Switzerland	228	231	236	242
Sweden	210	206	212	219
Israel	197	199	205	212

Source: NYC & Company/Tourism Economics . f = forecast

From above, we can observe that China, India, South Korea and Japan are the major 4 Asian countries. Currently, there's a Korea Town as well as a 'Little India' at Manhattan, Chinese Restaurants made up 10% of the total restaurants in NYC just in 2009, and as of 2017, 20% of the Michelin Star Restaurants in NYC were Japanese Restaurants. This shows that there's market and demand for Asian food in NYC.

Next, we'll take a look at the distribution of tourist's expenditure.

NYC Direct Visitor Spending



Source: NYC & Company/Tourism Economics

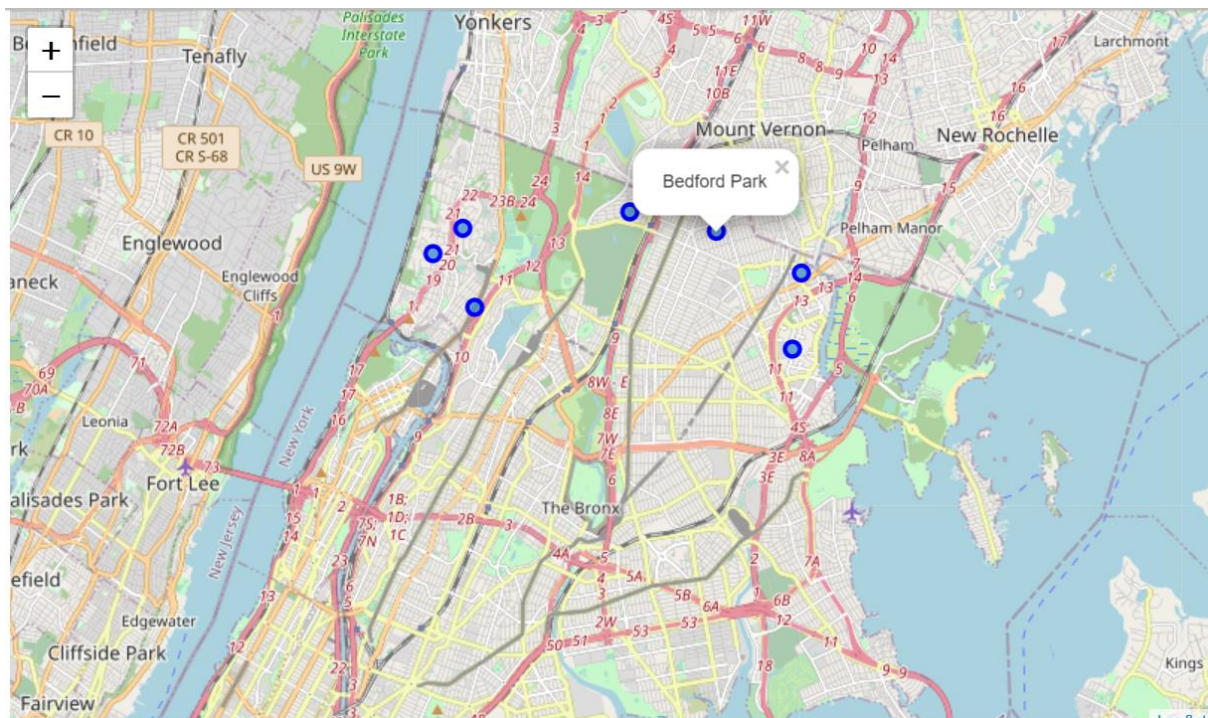
From the above diagram, we can infer that Food & Beverage, as well as Lodging make up more than half of tourist's expenditure, which means it'd be lucrative to invest in either business.

4. Results

Now, we'll take a look at the selected neighborhoods per Borough and their respective locations on the Map.

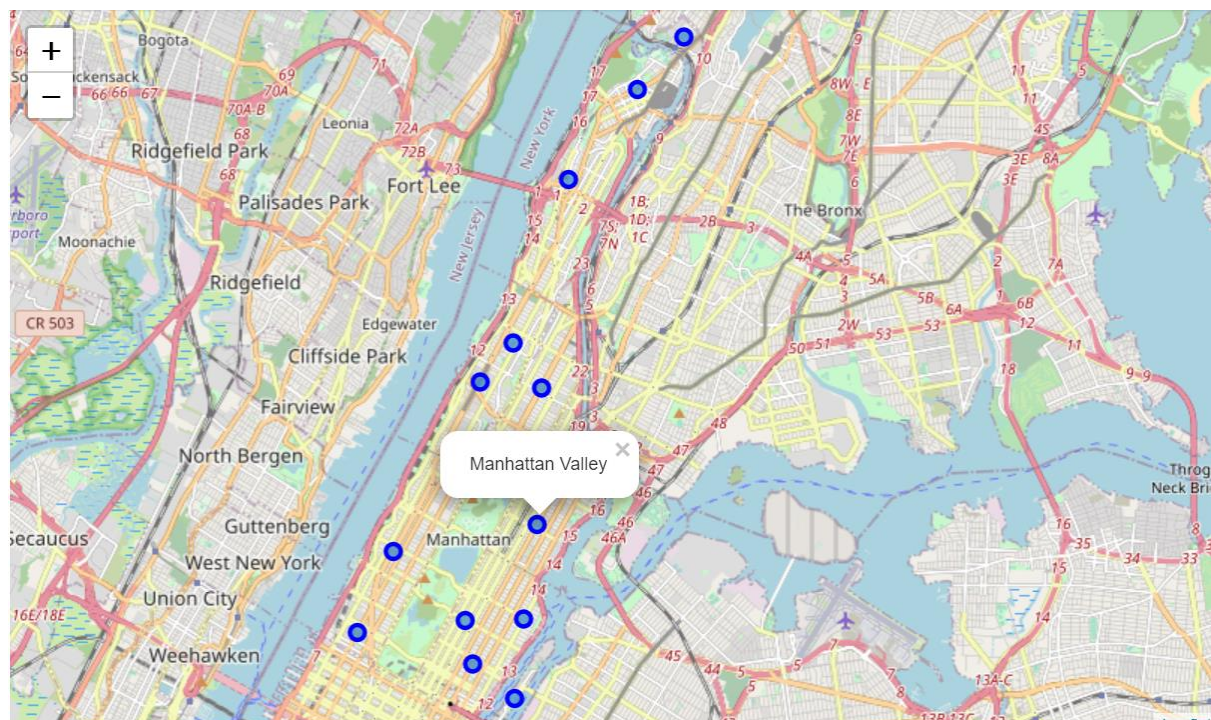
Bronx

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
2	Bedford Park	Deli / Bodega	Pizza Place	Chinese Restaurant	Diner	Sandwich Place
19	High Bridge	Ice Cream Shop	Pharmacy	Pizza Place	Chinese Restaurant	Italian Restaurant
20	Hunts Point	Pool	Gourmet Shop	Park	Restaurant	Chinese Restaurant
34	Parkchester	Pizza Place	Supermarket	Chinese Restaurant	Bakery	Donut Shop
39	Riverdale	Pizza Place	Bank	Park	Japanese Restaurant	Mexican Restaurant
41	Soundview	Pizza Place	Fried Chicken Joint	Deli / Bodega	Clothing Store	Chinese Restaurant
43	Throgs Neck	Italian Restaurant	Chinese Restaurant	Pizza Place	American Restaurant	Asian Restaurant



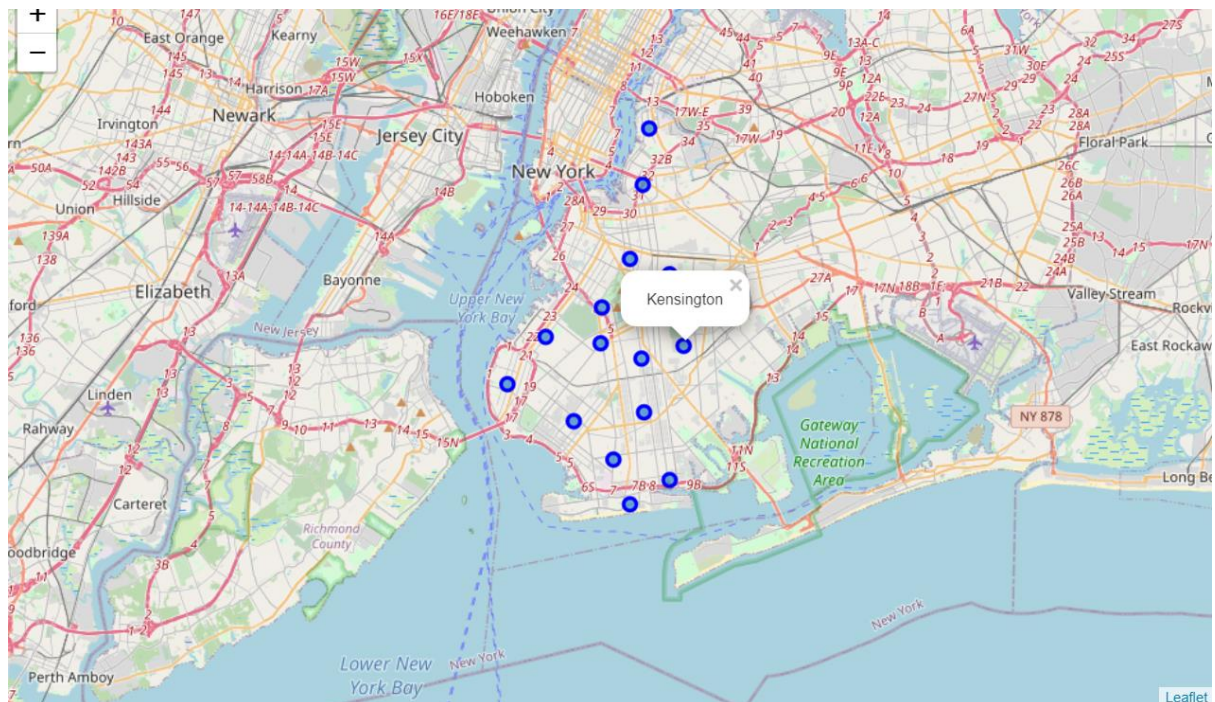
Manhattan

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
2	Central Harlem	Chinese Restaurant	African Restaurant	Juice Bar	Southern / Soul Food Restaurant	Bar
4	Chinatown	Chinese Restaurant	Bakery	Cocktail Bar	Ice Cream Shop	Bar
7	East Harlem	Mexican Restaurant	Bakery	Thai Restaurant	Deli / Bodega	Café
12	Greenwich Village	Italian Restaurant	Coffee Shop	Sandwich Place	Bakery	Sushi Restaurant
13	Hamilton Heights	Coffee Shop	Deli / Bodega	Bar	Mexican Restaurant	Chinese Restaurant
16	Lenox Hill	Sushi Restaurant	Italian Restaurant	Café	Coffee Shop	Gym / Fitness Center
19	Lower East Side	Cocktail Bar	Italian Restaurant	Café	Chinese Restaurant	Mexican Restaurant
20	Manhattan Valley	Coffee Shop	Park	Chinese Restaurant	Pizza Place	Grocery Store
21	Manhattanville	Coffee Shop	Park	Italian Restaurant	Seafood Restaurant	Chinese Restaurant
24	Midtown South	Korean Restaurant	American Restaurant	Gym / Fitness Center	Hotel	Dessert Shop
25	Morningside Heights	Park	Chinese Restaurant	Sandwich Place	Bookstore	Coffee Shop
26	Murray Hill	Korean Restaurant	Hotel	Coffee Shop	Pizza Place	Sandwich Place
33	Tudor City	Coffee Shop	Park	Burger Joint	Japanese Restaurant	Bar
36	Upper West Side	Park	Italian Restaurant	Dessert Shop	Indian Restaurant	American Restaurant



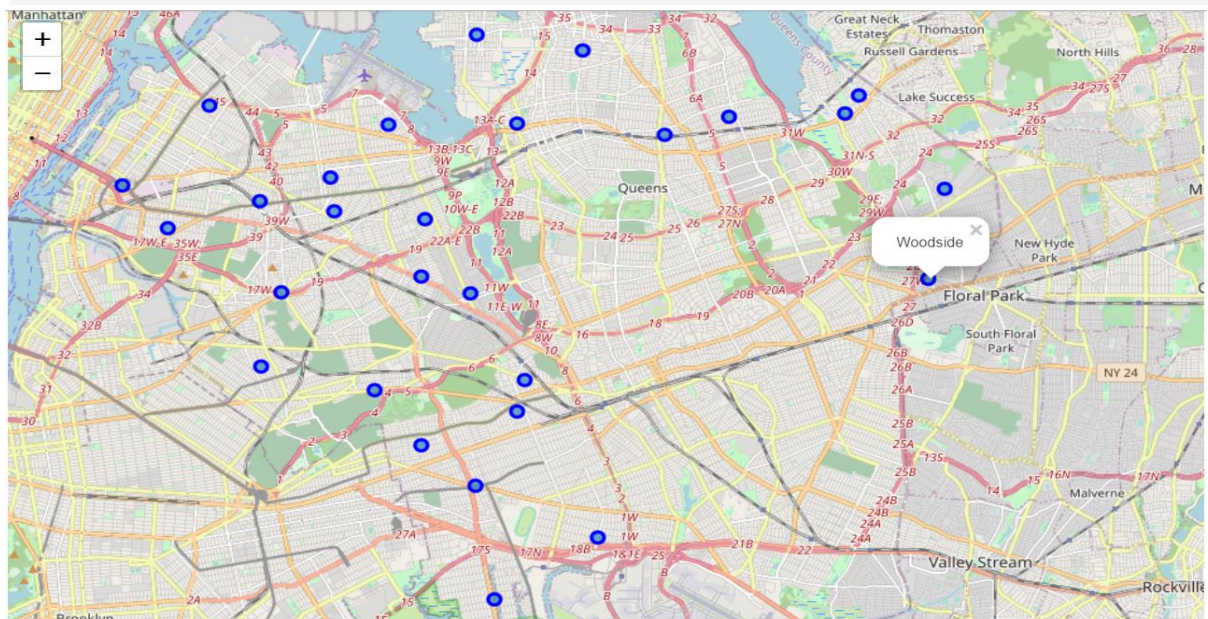
Brooklyn

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Bath Beach	Pizza Place	Bank	Chinese Restaurant	Cantonese Restaurant	Bakery
2	Bedford Stuyvesant	Deli / Bodega	Pizza Place	Coffee Shop	Chinese Restaurant	Wine Shop
3	Bensonhurst	Bakery	Chinese Restaurant	Donut Shop	Italian Restaurant	Bagel Shop
10	Brownsville	Pizza Place	Discount Store	Fried Chicken Joint	Liquor Store	Chinese Restaurant
15	Clinton Hill	Coffee Shop	Italian Restaurant	Mexican Restaurant	Yoga Studio	Japanese Restaurant
27	Erasmus	Caribbean Restaurant	Pizza Place	Chinese Restaurant	Juice Bar	Ice Cream Shop
28	Flatbush	Caribbean Restaurant	Mexican Restaurant	Lounge	Pizza Place	Indian Restaurant
29	Flatlands	Pharmacy	Chinese Restaurant	Lounge	Fast Food Restaurant	Fried Chicken Joint
31	Fort Hamilton	Pizza Place	Italian Restaurant	Gym / Fitness Center	Cocktail Bar	Japanese Restaurant
36	Gravesend	Pizza Place	Chinese Restaurant	Italian Restaurant	Bakery	Grocery Store
40	Kensington	Pizza Place	Thai Restaurant	Grocery Store	Gas Station	Ice Cream Shop
41	Madison	Bus Station	Deli / Bodega	Sushi Restaurant	Pizza Place	Donut Shop
44	Marine Park	Athletics & Sports	Ice Cream Shop	Pharmacy	Park	Chinese Restaurant
45	Midwood	Pizza Place	Deli / Bodega	Bank	Gift Shop	Sushi Restaurant
46	Mill Basin	Pizza Place	Chinese Restaurant	Pharmacy	Bakery	Japanese Restaurant
52	Paerdegat Basin	Harbor / Marina	Asian Restaurant	Moving Target	Gym / Fitness Center	Bus Line



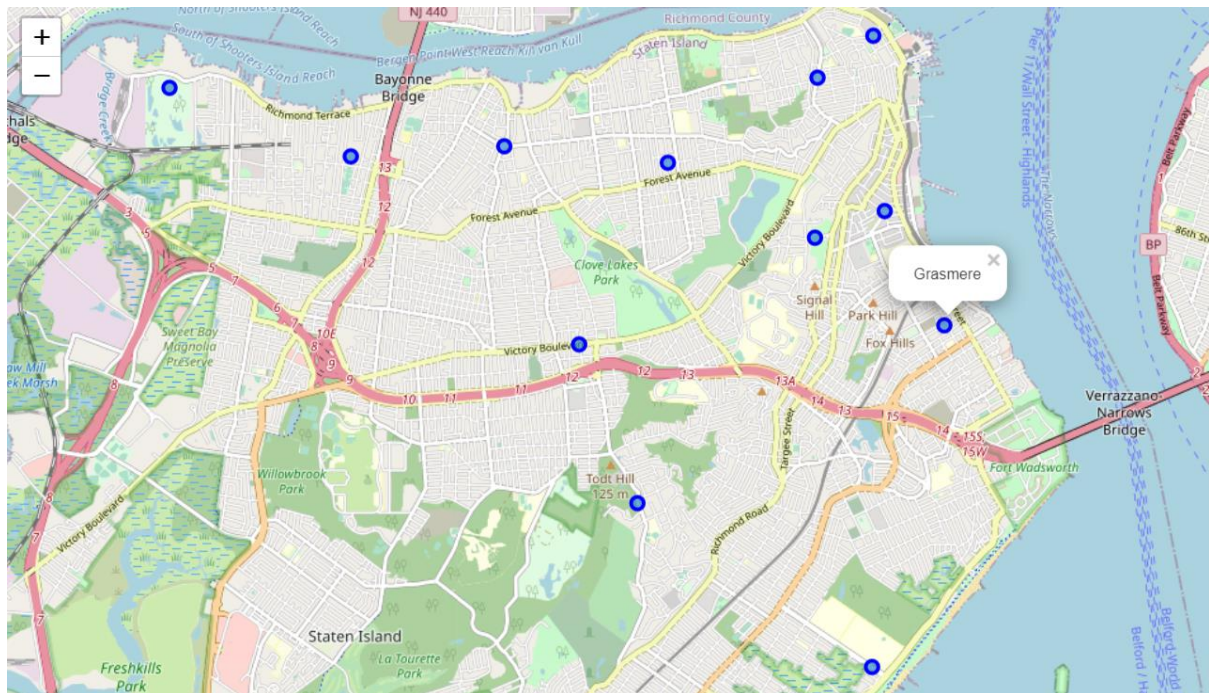
Queens

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
3	Auburndale	Korean Restaurant	Pizza Place	Sushi Restaurant	Cosmetics Shop	Pharmacy
5	Bayside	Bar	Pizza Place	Sushi Restaurant	Indian Restaurant	Pub
8	Bellaire	Pizza Place	Chinese Restaurant	Fast Food Restaurant	Convenience Store	Bus Station
17	College Point	Pizza Place	Donut Shop	Chinese Restaurant	Deli / Bodega	Bakery
19	Douglaston	Chinese Restaurant	Deli / Bodega	Italian Restaurant	Spa	Shanghai Restaurant
21	Edgemere	Metro Station	Pizza Place	Asian Restaurant	Gift Shop	Seafood Restaurant
22	Elmhurst	Thai Restaurant	Chinese Restaurant	Mexican Restaurant	South American Restaurant	Supermarket
23	Far Rockaway	Chinese Restaurant	Pizza Place	Bank	Deli / Bodega	Fried Chicken Joint
24	Floral Park	Indian Restaurant	Ice Cream Shop	Food Truck	Grocery Store	Pizza Place
25	Flushing	Bubble Tea Shop	Chinese Restaurant	Hotpot Restaurant	Bakery	Korean Restaurant
28	Fresh Meadows	Pizza Place	Pharmacy	Chinese Restaurant	American Restaurant	Kids Store
29	Glen Oaks	Pharmacy	Gift Shop	Indian Restaurant	Farm	Bagel Shop
32	Hillcrest	Pizza Place	Mobile Phone Shop	Sandwich Place	Coffee Shop	Japanese Restaurant
41	Kew Gardens	Chinese Restaurant	Deli / Bodega	Supermarket	Pizza Place	Indian Restaurant
45	Lindenwood	Chinese Restaurant	Bank	Italian Restaurant	Pizza Place	Moving Target
46	Little Neck	Chinese Restaurant	Bank	Italian Restaurant	Coffee Shop	Korean Restaurant
49	Maspeth	Pizza Place	Chinese Restaurant	Diner	Deli / Bodega	Bank
50	Middle Village	Playground	Pizza Place	Discount Store	Chinese Restaurant	Sandwich Place
51	Murray Hill	Korean Restaurant	Supermarket	Japanese Restaurant	Coffee Shop	Bakery
54	Oakland Gardens	Chinese Restaurant	Bank	Korean Restaurant	Pharmacy	Sushi Restaurant
56	Pomonok	Chinese Restaurant	Pizza Place	Japanese Restaurant	Halal Restaurant	Restaurant
57	Queens Village	Pharmacy	Mexican Restaurant	Bank	Pizza Place	Chinese Restaurant
58	Queensboro Hill	Chinese Restaurant	Park	Bank	Bakery	Vegetarian / Vegan Restaurant
62	Richmond Hill	Indian Restaurant	Pizza Place	Bank	Lounge	Diner
72	Springfield Gardens	Fast Food Restaurant	Donut Shop	Chinese Restaurant	Fried Chicken Joint	Grocery Store
74	Steinway	Italian Restaurant	Sushi Restaurant	Café	Bakery	Donut Shop
76	Sunnyside Gardens	Pizza Place	Sushi Restaurant	Bar	Grocery Store	Coffee Shop
80	Woodside	Thai Restaurant	Grocery Store	Bar	Bakery	Pub



Staten Island

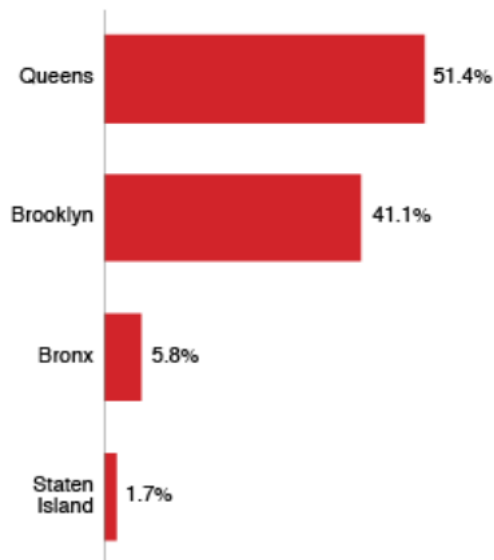
	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
13	Dongan Hills	Italian Restaurant	Pizza Place	Fast Food Restaurant	Sandwich Place	Chinese Restaurant
16	Eltingville	Pizza Place	Sushi Restaurant	Bagel Shop	Pharmacy	Sandwich Place
20	Grant City	Convenience Store	Asian Restaurant	Fast Food Restaurant	Pizza Place	Mexican Restaurant
21	Grasmere	Italian Restaurant	Bagel Shop	Bus Stop	Intersection	Japanese Restaurant
22	Great Kills	Italian Restaurant	Bar	Pizza Place	Pharmacy	Japanese Restaurant
29	Manor Heights	Donut Shop	Liquor Store	Sandwich Place	Chinese Restaurant	Sushi Restaurant
31	Midland Beach	Baseball Field	Beach	Deli / Bodega	Asian Restaurant	Liquor Store
33	New Dorp	Italian Restaurant	Mexican Restaurant	Sushi Restaurant	Coffee Shop	Convenience Store
42	Prince's Bay	Pizza Place	Italian Restaurant	Pet Store	Sushi Restaurant	Tanning Salon
43	Randall Manor	Bus Stop	Chinese Restaurant	Bar	Italian Restaurant	Bank
60	Westerleigh	Chinese Restaurant	Convenience Store	Asian Restaurant	Pizza Place	Mediterranean Restaurant
61	Willowbrook	Bus Stop	Chinese Restaurant	Spa	Pizza Place	Home Service



From the diagrams above, we notice that Queens has more Asian restaurants than the other Boroughs. Furthermore, from statistics in 2019, Queens also has the greatest profit compared to the rest.

H1 2019 Borough Share of Sales

(as % of total)

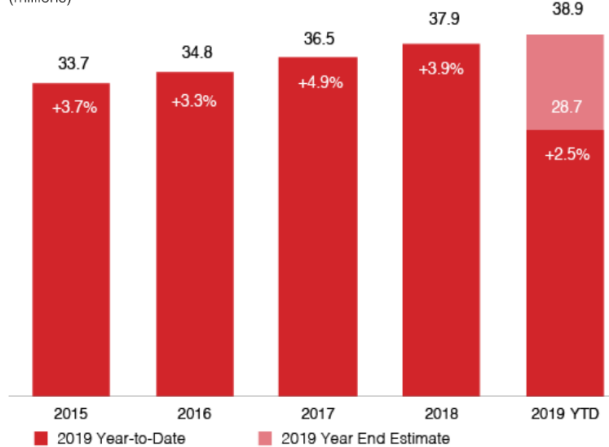


Source: NYC & Company/Visa Vue Travel

Lastly, we'll take a look at the demographics for Lodging.

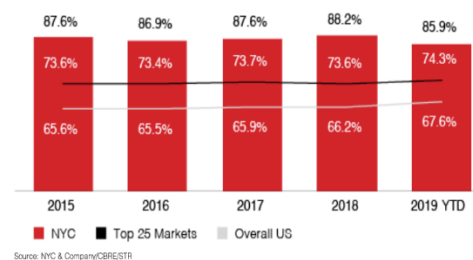
Total Room Nights Sold 2015-2019 YTD

(millions)



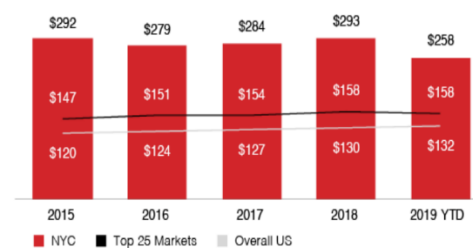
Source: NYC & Company/CBRE/STR

Hotel Occupancy 2015-2019 YTD



Source: NYC & Company/CBRE/STR

ADR 2015-2019 YTD



5. Discussion

I performed data analysis with the information found from Foursquare API and visualized the data via a data frame and its respective locations on a folium Map. Just from the above information, we could see that besides from the big 4 (Korea, Japan, India & China), there are also a few Thai restaurants. It'd be nice to see more of a variety, like Indonesian, Vietnamese cuisines etc. I also did some research online to observe expenditure preferences of tourists and NYC locals, and chose the relevant diagrams above for this project.

This dataset can also be expanded to fit in respective age population per neighbourhood in each borough or other variables investors might find important for their businesses.

6. Conclusion

I believe this dataset will be helpful for those who plans to bring over more Asian influences. I have also attached relevant links below such as rental pricing per neighborhood in each borough, social demographics per borough (Male, Female % etc), as well as NYC consumer expenditure.

Despite the situation now with COVID, I believe the economy will rebound back slowly and businesses will get back on track. Therefore investors should remain optimistic as well.

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