

Introduction

The primary objective of the project is going to determine the best possible location to increase the chance of success of a restaurant located in New York. The name of the restaurant is going to be Ellington's and is going to be a bistro & bar and will have as its main concept a jazz experience.

To determine the best location the Foursquare API will provide information about each neighborhood and its venues.

Considerations:

- Locations that already have a great concentration of the target customer
- People with a high or medium high disposable income
- Zone price not too high (costs)
- Proximity to other businesses with similar characteristics to Ellington's (Foursquare API venues)
 - Jazz Club
 - Piano Bar
 - Mexican Restaurant
 - Paella Restaurant
 - Sushi Restaurant
 - Steakhouse
 - Café
 - Seafood Restaurant
 - Bar
 - Bistro
 - Cocktail Bar
 - Gay Bar
 - Wine Bar
 - Whisky Bar

The venues that are in red are the ones that Ellington will be offering.

Data

By doing some research online it is found that the target customer of these kind of restaurant is people between 25 and 45 yrs. These observations will help narrow the search of locations with a high concentration of these kind of customer.

To find the highest concentration of the target customer the NYC open data webpage will be used. Inside the page we will use the following data frames:

New York City Population by Borough 1950 – 2040 data frame

The data frame contains information about NY boroughs, years population and share of NY population.

Age ...	Boro...	1950	1950 ...	1960	1960 ...	1970	1970 ...	1980	1980 ...	1990	1990 ...
Total Pop...	NYC Total	7,891,957	100%	7,781,984	100%	7,894,862	100%	7,071,639	100%	7,322,564	100%
Total Pop...	Bronx	1,451,277	18.39%	1,424,815	18.31%	1,471,701	18.64%	1,168,972	16.53%	1,203,789	16.44%
Total Pop...	Brooklyn	2,738,175	34.7%	2,627,319	33.76%	2,602,012	32.96%	2,230,936	31.55%	2,300,664	31.42%
Total Pop...	Manhattan	1,960,101	24.84%	1,698,281	21.82%	1,539,233	19.5%	1,428,285	20.2%	1,487,536	20.31%
Total Pop...	Queens	1,550,849	19.65%	1,809,578	23.25%	1,986,473	25.16%	1,891,325	26.75%	1,951,598	26.65%
Total Pop...	Staten Isl...	191,555	2.43%	221,991	2.85%	295,443	3.74%	352,121	4.98%	378,977	5.18%

Projected Population 2010-2040 - Total by Age Groups

The data frame contains information about the age group and years population according to a specific age group.

Borough	Age	2010	2015	2020	2025	2030	2035	2040
NYC Total	0-4	521,990	535,209	545,778	547,336	542,426	540,523	546,426
NYC Total	15-19	539,844	505,783	492,532	519,298	535,024	546,062	546,750
NYC Total	20-24	647,483	646,075	606,203	591,683	625,253	643,728	657,403
NYC Total	25-29	736,105	770,396	763,956	715,824	698,195	740,437	762,757
NYC Total	30-34	667,657	707,726	743,916	740,268	693,684	675,497	715,486
NYC Total	35-39	592,299	611,239	649,594	684,249	682,964	639,237	621,899
NYC Total	40-44	571,825	550,097	569,628	606,185	638,148	637,517	596,493
NYC Total	45-49	570,273	535,998	517,668	537,516	571,723	600,792	600,514
NYC Total	50-54	546,204	552,074	520,597	504,322	523,815	556,586	584,164
NYC Total	55-59	479,661	493,997	501,239	474,319	459,574	477,052	506,390
NYC Total	60-64	418,127	449,279	464,187	472,842	447,688	434,046	450,353
NYC Total	65-69	299,533	353,131	380,864	395,585	403,234	382,256	370,119
NYC Total	70-74	236,401	256,786	304,072	330,132	342,704	350,069	331,544

To get the New York data from the boroughs and neighborhoods the JSON file provided in the **Segmenting and Clustering Neighborhoods in New York City** would be used.

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```

To get the data from the cost and incomes of the boroughs, the United States Census Bureau webpage will be used. From the generated table the data will be pulled.

Table

All Topics ▼	New York County (Manhattan Borough), New York	Bronx County (Bronx Borough), New York	Queens County (Queens Borough), New York	Kings County (Brooklyn Borough), New York	Richmond County (Staten Island Borough), New York	New York city, New York
Housing units, July 1, 2019, (V2019)	892,878	537,232	869,400	1,065,399	181,751	X
PEOPLE						
Population						
Population estimates, July 1, 2019, (V2019)	1,628,706	1,418,207	2,253,858	2,559,903	476,143	8,336,817
Population estimates base, April 1, 2010, (V2019)	1,586,381	1,384,580	2,230,619	2,504,721	468,730	8,175,031
Population, percent change - April 1, 2010 (estimates base) to July 1, 2019, (V2019)	2.7%	2.4%	1.0%	2.2%	1.6%	2.0%
Population, Census, April 1, 2020	X	X	X	X	X	X
Population, Census, April 1, 2010	1,585,873	1,385,108	2,230,722	2,504,700	468,730	8,175,133
Age and Sex						
Persons under 5 years, percent	△ 4.7%	△ 7.1%	△ 6.1%	△ 7.1%	△ 5.7%	△ 6.5%
Persons under 18 years, percent	△ 14.3%	△ 24.6%	△ 20.0%	△ 22.7%	△ 21.8%	△ 20.8%
Persons 65 years and over, percent	△ 17.0%	△ 13.3%	△ 16.3%	△ 14.4%	△ 16.7%	△ 14.5%
Female persons, percent	△ 52.6%	△ 52.8%	△ 51.5%	△ 52.6%	△ 51.4%	△ 52.3%
Race and Hispanic Origin						
White alone, percent	△ 64.6%	△ 44.7%	△ 47.8%	△ 49.8%	△ 74.5%	△ 42.7%
Black or African American alone, percent (a)	△ 17.8%	△ 43.6%	△ 20.7%	△ 33.8%	△ 11.6%	△ 24.3%
American Indian and Alaska Native alone, percent (a)	△ 1.2%	△ 2.9%	△ 1.3%	△ 0.9%	△ 0.7%	△ 0.4%
Asian alone, percent (a)	△ 12.8%	△ 4.6%	△ 26.9%	△ 12.7%	△ 10.9%	△ 14.1%
Native Hawaiian and Other Pacific Islander alone, percent (a)	△ 0.2%	△ 0.4%	△ 0.2%	△ 0.1%	△ 0.1%	△ 0.1%

Methodology & Results

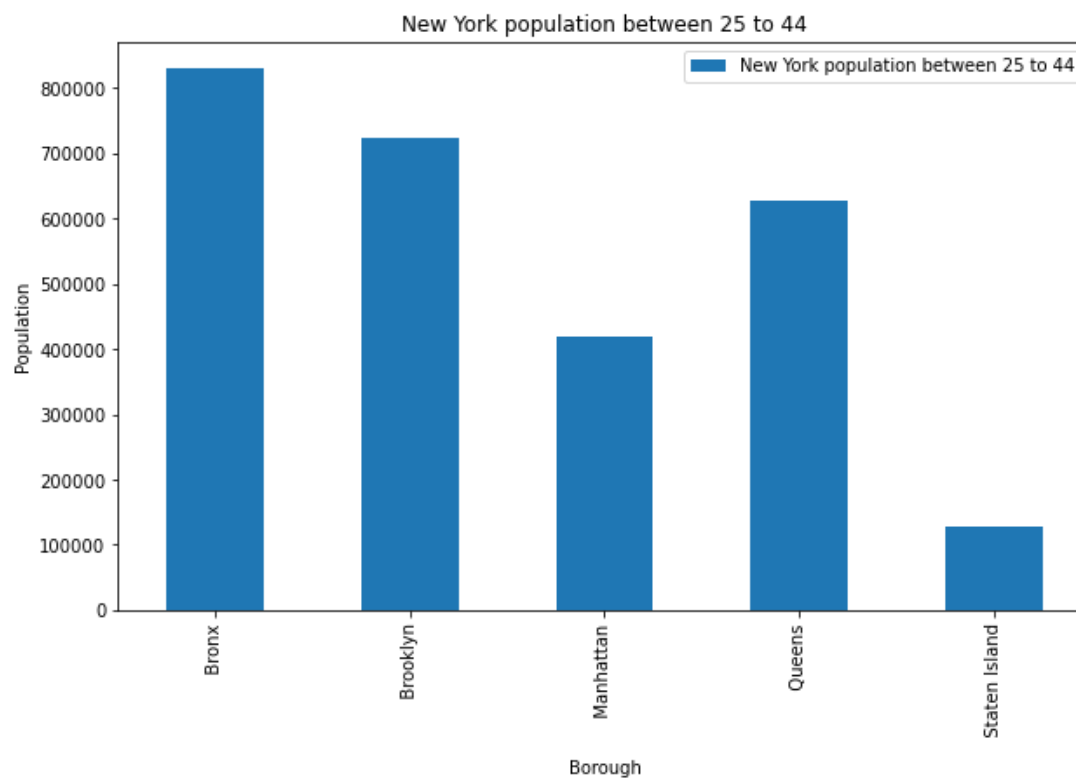
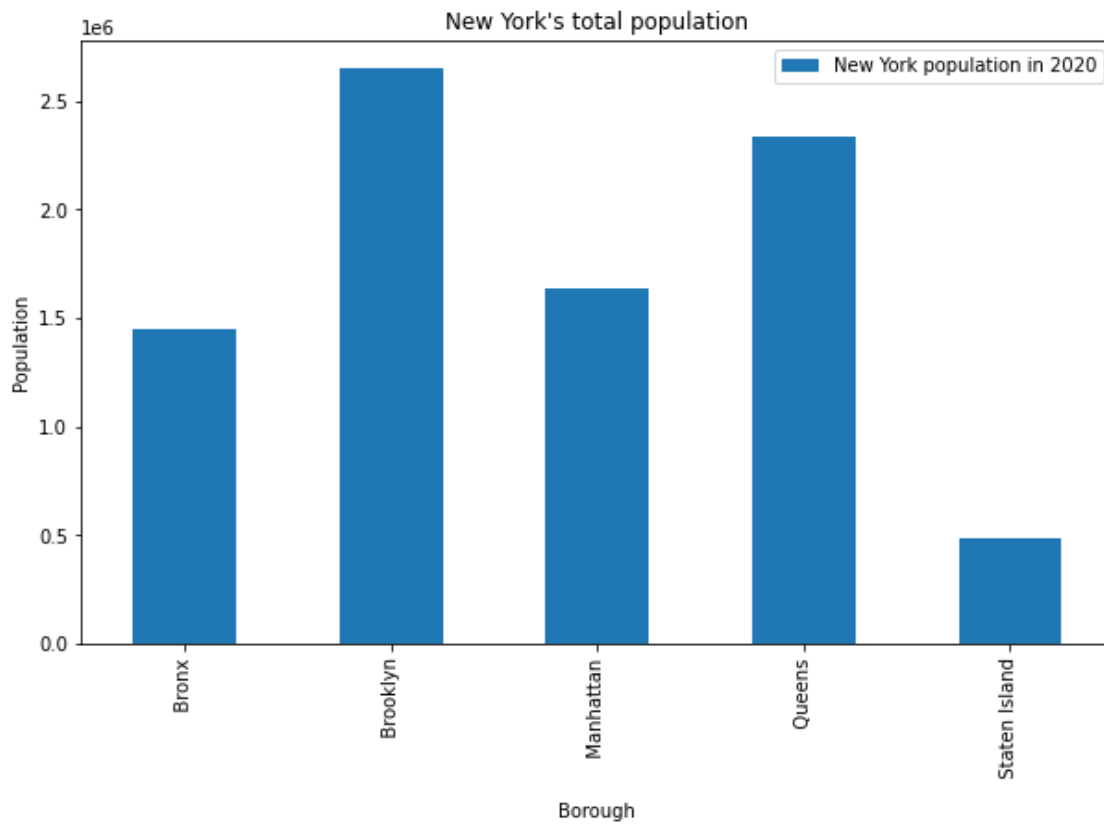
To determine the best possible location, the first thing to do is find the biggest concentration of the target customer, then the income of those customers as well as the costs of the borough and finally with the help of the Foursquare API find the neighborhoods that have the most common venues specified by the stakeholders.

New York's Population by borough

After having all the considerations for the project, the first part was to extract the necessary data from the **New York City Population by Borough, 1950 – 2040 data frame** and **Projected Population 2010-2040 - Total by Age Groups**.

After obtaining and formatting the data into the following data frame is seen that the highest percentage of New York population is in **Brooklyn** with 30.97% of New York's total population. However, the age group of the target customer is people between 25 to 44 years old and for that case the highest concentration is in **Bronx** even though is the Borough with the fourth place in population with 16.92% of New York's total population.

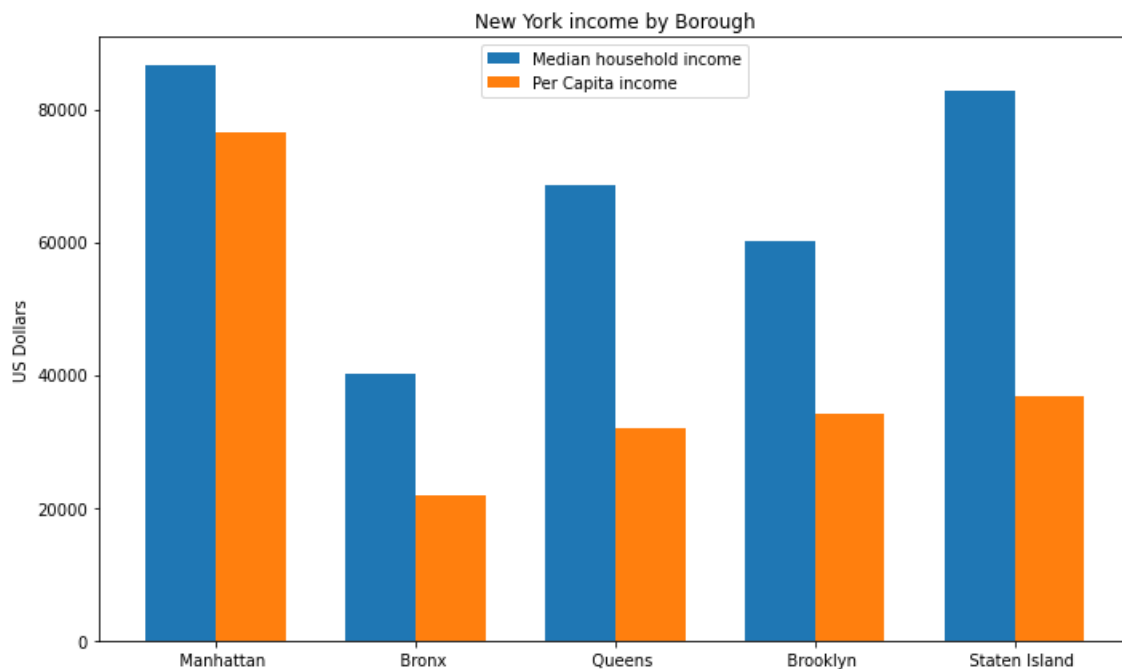
	Borough	New York population in 2020	Percentage of New York population (%)	Population between 25 to 29	Population between 30 to 34	Population between 35 to 39	Population between 40 to 44	New York population between 25 to 44
0	Manhattan	1638281	19.16	127995	109797	93530	87217	418539
1	Bronx	1446788	16.92	221421	221544	205525	181452	829942
2	Queens	2330295	27.25	180070	190129	146480	110439	627118
3	Brooklyn	2648452	30.97	200730	189015	172928	160306	722979
4	Staten Island	487155	5.70	33740	33431	31131	30214	128516



New York's income by borough

As previously mentioned, one of the considerations is that the customer has a high or medium high income. According to an article published in *the ascent* the **average U.S income was \$87,864** while the **median household income was \$61,937** in 2018. By taken this into consideration only **Manhattan** with \$86,553, **Staten Island** with \$82,783 and **Queens** with \$68,866 are above the average.

	Borough	New York population in 2020	Percentage of New York population (%)	Population between 25 to 29	Population between 30 to 34	Population between 35 to 39	Population between 40 to 44	New York population between 25 to 44	Median household income (USD)	Per Capita income (USD)
0	Manhattan	1638281	19.16	127995	109797	93530	87217	418539	86553	76592
1	Bronx	1446788	16.92	221421	221544	205525	181452	829942	40088	21778
2	Queens	2330295	27.25	180070	190129	146480	110439	627118	68666	31930
3	Brooklyn	2648452	30.97	200730	189015	172928	160306	722979	60231	34173
4	Staten Island	487155	5.70	33740	33431	31131	30214	128516	82783	36907



Income distribution in the United States

Want to know how many Americans are in your income range? Here's how income breaks down in the United States:

Income range	Percentage of households
Less than \$10,000	6.3%
\$10,000 to \$14,999	4.3%
\$15,000 to \$24,999	9.0%
\$25,000 to \$34,999	8.9%
\$35,000 to \$49,999	12.4%
\$50,000 to \$74,999	17.4%
\$75,000 to \$99,999	12.6%
\$100,000 to \$149,999	15.0%
\$150,000 to \$199,999	6.6%
\$200,000 or more	7.6%

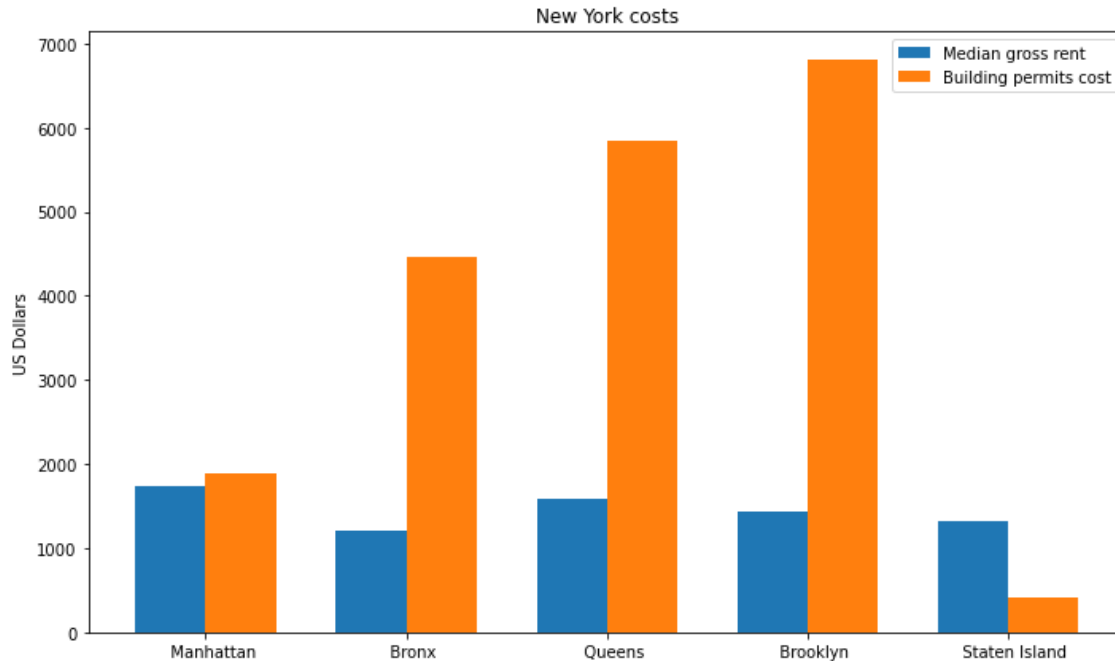
Data source: [U.S. Census Bureau \(2018\)](#).



As seen on the table 58.3% of households are below the average. Considered that one of the considerations was that the customer has medium high or high income this only left a 29.2% of the households.

New York's costs by borough

	Borough	New York population in 2020	Percentage of New York population (%)	Population between 25 to 29	Population between 30 to 34	Population between 35 to 39	Population between 40 to 44	New York population between 25 to 44	Median household income (USD)	Per Capita income (USD)	Median gross rent (USD)	Building permits (USD)
0	Manhattan	1638281	19.16	127995	109797	93530	87217	418539	86553	76592	1740	1896
1	Bronx	1446788	16.92	221421	221544	205525	181452	829942	40088	21778	1212	4461
2	Queens	2330295	27.25	180070	190129	146480	110439	627118	68666	31930	1583	5840
3	Brooklyn	2648452	30.97	200730	189015	172928	160306	722979	60231	34173	1426	6802
4	Staten Island	487155	5.70	33740	33431	31131	30214	128516	82783	36907	1319	408



By visualizing the graph is seen that **Brooklyn** and **Queens** have the highest costs for the Building Permits with costs of \$6,802 and \$5,840 as opposed to **Manhattan** and **Staten Island** with costs of \$1,896 and \$408.

In terms of rent all the boroughs are around the same price with the **Bronx** being the lowest one with a Median Gross rent of \$1,212 and **Manhattan** with a Median Gross rent of \$1,740.

Clustering New York venues by borough

To find the neighborhoods that have the selected venues as the most common venues a similar clustering to the **Segmenting and Clustering Neighborhoods in New York City project will be performed**. These will exclude the neighborhoods with venues that are not necessarily the ones Ellington's will be offering. Nevertheless, one of the considerations was having other similar types of venues around Ellington's.

To separate the neighborhoods for each borough a clustering algorithm was required, in this case a K-mean algorithm was used. Since the number of neighborhoods and venues are different for each borough a different k was used for the number of clusters in each borough to have the most homogenous clusters possible.

Manhattan Venues

Venue Category	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude
Bar	54	54	54	54	54	54
Bistro	6	6	6	6	6	6
Café	83	83	83	83	83	83
Cocktail Bar	53	53	53	53	53	53
Gay Bar	1	1	1	1	1	1
Jazz Club	6	6	6	6	6	6
Mexican Restaurant	52	52	52	52	52	52
Paella Restaurant	2	2	2	2	2	2
Piano Bar	1	1	1	1	1	1
Seafood Restaurant	36	36	36	36	36	36
Steakhouse	21	21	21	21	21	21
Sushi Restaurant	49	49	49	49	49	49
Whisky Bar	3	3	3	3	3	3
Wine Bar	37	37	37	37	37	37

Selected Cluster

Neighborhood	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	11th Most Common Venue	12th Most Common Venue	13th Most Common Venue	14th Most Common Venue
29 Upper East Side	6	Sushi Restaurant	Bar	Jazz Club	Mexican Restaurant	Seafood Restaurant	Bistro	Café	Cocktail Bar	Gay Bar	Paella Restaurant	Piano Bar	Steakhouse	Whisky Bar	Wine Bar
30 Sutton Place	6	Mexican Restaurant	Steakhouse	Bar	Seafood Restaurant	Sushi Restaurant	Wine Bar	Bistro	Café	Cocktail Bar	Gay Bar	Jazz Club	Paella Restaurant	Piano Bar	Whisky Bar
31 Battery Park City	6	Bar	Bistro	Mexican Restaurant	Seafood Restaurant	Steakhouse	Café	Cocktail Bar	Gay Bar	Jazz Club	Paella Restaurant	Piano Bar	Sushi Restaurant	Whisky Bar	Wine Bar
32 Murray Hill	6	Bar	Sushi Restaurant	Steakhouse	Café	Cocktail Bar	Mexican Restaurant	Bistro	Gay Bar	Jazz Club	Paella Restaurant	Piano Bar	Seafood Restaurant	Whisky Bar	Wine Bar
33 Manhattanville	6	Bar	Mexican Restaurant	Seafood Restaurant	Café	Sushi Restaurant	Bistro	Cocktail Bar	Gay Bar	Jazz Club	Paella Restaurant	Piano Bar	Steakhouse	Whisky Bar	Wine Bar
34 Manhattan Valley	6	Bar	Mexican Restaurant	Café	Cocktail Bar	Bistro	Gay Bar	Jazz Club	Paella Restaurant	Piano Bar	Seafood Restaurant	Steakhouse	Sushi Restaurant	Whisky Bar	Wine Bar
35 Gramercy	6	Bar	Café	Cocktail Bar	Mexican Restaurant	Sushi Restaurant	Bistro	Gay Bar	Jazz Club	Paella Restaurant	Piano Bar	Seafood Restaurant	Steakhouse	Whisky Bar	Wine Bar
36 East Village	6	Bar	Wine Bar	Mexican Restaurant	Cocktail Bar	Seafood Restaurant	Bistro	Café	Jazz Club	Sushi Restaurant	Gay Bar	Paella Restaurant	Piano Bar	Steakhouse	Whisky Bar
37 Central Harlem	6	Bar	Seafood Restaurant	Café	Cocktail Bar	Jazz Club	Bistro	Gay Bar	Mexican Restaurant	Paella Restaurant	Piano Bar	Steakhouse	Sushi Restaurant	Whisky Bar	Wine Bar
38 Stuyvesant Town	6	Bar	Bistro	Cocktail Bar	Café	Gay Bar	Jazz Club	Mexican Restaurant	Paella Restaurant	Piano Bar	Seafood Restaurant	Steakhouse	Sushi Restaurant	Whisky Bar	Wine Bar
39 Yorkville	6	Bar	Mexican Restaurant	Sushi Restaurant	Café	Bistro	Wine Bar	Cocktail Bar	Gay Bar	Jazz Club	Paella Restaurant	Piano Bar	Seafood Restaurant	Steakhouse	Whisky Bar

For the borough of Manhattan, the number of clusters were 6. The venues that predominate are Café, Bar, Mexican Restaurant.

Bronx Venues

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude
Venue Category						
Bar	15	15	15	15	15	15
Café	8	8	8	8	8	8
Mexican Restaurant	27	27	27	27	27	27
Piano Bar	1	1	1	1	1	1
Seafood Restaurant	7	7	7	7	7	7
Sushi Restaurant	2	2	2	2	2	2

Selected Clusters

	Neighborhood	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue
0	Allerton	0	Mexican Restaurant	Bar	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant
1	Pelham Bay	0	Mexican Restaurant	Bar	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant
2	Parkchester	0	Mexican Restaurant	Bar	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant
3	Norwood	0	Mexican Restaurant	Bar	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant
4	Melrose	0	Mexican Restaurant	Bar	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant
5	Concourse Village	0	Mexican Restaurant	Bar	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant
6	Longwood	0	Mexican Restaurant	Bar	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant
7	Baychester	0	Mexican Restaurant	Bar	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant
8	Bedford Park	0	Mexican Restaurant	Bar	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant
9	Bronxdale	0	Mexican Restaurant	Bar	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant
10	Woodlawn	1	Bar	Café	Mexican Restaurant	Piano Bar	Seafood Restaurant	Sushi Restaurant
11	Throgs Neck	1	Bar	Café	Mexican Restaurant	Piano Bar	Seafood Restaurant	Sushi Restaurant
12	Edgewater Park	1	Bar	Café	Mexican Restaurant	Piano Bar	Seafood Restaurant	Sushi Restaurant
13	Port Morris	1	Bar	Café	Mexican Restaurant	Piano Bar	Seafood Restaurant	Sushi Restaurant
14	Morris Park	1	Bar	Café	Mexican Restaurant	Piano Bar	Seafood Restaurant	Sushi Restaurant
15	Williamsbridge	1	Bar	Café	Mexican Restaurant	Piano Bar	Seafood Restaurant	Sushi Restaurant
16	City Island	2	Seafood Restaurant	Bar	Café	Mexican Restaurant	Piano Bar	Sushi Restaurant
17	East Tremont	3	Café	Bar	Mexican Restaurant	Piano Bar	Seafood Restaurant	Sushi Restaurant
18	Fordham	3	Café	Bar	Mexican Restaurant	Piano Bar	Seafood Restaurant	Sushi Restaurant
19	Kingsbridge	4	Bar	Mexican Restaurant	Café	Seafood Restaurant	Piano Bar	Sushi Restaurant
20	Belmont	4	Bar	Mexican Restaurant	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant
21	Mount Eden	4	Bar	Café	Mexican Restaurant	Piano Bar	Seafood Restaurant	Sushi Restaurant
22	Morrisania	5	Seafood Restaurant	Bar	Café	Mexican Restaurant	Piano Bar	Sushi Restaurant
23	High Bridge	5	Seafood Restaurant	Bar	Café	Mexican Restaurant	Piano Bar	Sushi Restaurant
24	Eastchester	5	Seafood Restaurant	Bar	Café	Mexican Restaurant	Piano Bar	Sushi Restaurant
25	Unionport	5	Seafood Restaurant	Bar	Café	Mexican Restaurant	Piano Bar	Sushi Restaurant
27	Hunts Point	7	Café	Mexican Restaurant	Bar	Piano Bar	Seafood Restaurant	Sushi Restaurant
28	Kingsbridge Heights	7	Mexican Restaurant	Café	Bar	Piano Bar	Seafood Restaurant	Sushi Restaurant
30	Schuylerville	9	Mexican Restaurant	Bar	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant
31	Westchester Square	9	Mexican Restaurant	Bar	Café	Piano Bar	Seafood Restaurant	Sushi Restaurant

For the borough of Bronx, the number of clusters were 10. The venues that predominate are: Mexican Restaurant, Bar, Café.

Queens Venues

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude
Venue Category						
Bar	43	43	43	43	43	43
Bistro	2	2	2	2	2	2
Café	27	27	27	27	27	27
Cocktail Bar	5	5	5	5	5	5
Gay Bar	1	1	1	1	1	1
Mexican Restaurant	32	32	32	32	32	32
Seafood Restaurant	17	17	17	17	17	17
Steakhouse	6	6	6	6	6	6
Sushi Restaurant	23	23	23	23	23	23
Wine Bar	4	4	4	4	4	4

Selected Clusters

	Neighborhood	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
11	Corona	2	Mexican Restaurant	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Seafood Restaurant	Steakhouse	Sushi Restaurant	Wine Bar
12	Elmhurst	2	Mexican Restaurant	Bar	Seafood Restaurant	Sushi Restaurant	Bistro	Café	Cocktail Bar	Gay Bar	Steakhouse	Wine Bar
13	Queens Village	2	Mexican Restaurant	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Seafood Restaurant	Steakhouse	Sushi Restaurant	Wine Bar
14	North Corona	2	Mexican Restaurant	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Seafood Restaurant	Steakhouse	Sushi Restaurant	Wine Bar
15	Cambria Heights	2	Mexican Restaurant	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Seafood Restaurant	Steakhouse	Sushi Restaurant	Wine Bar
16	Belle Harbor	2	Mexican Restaurant	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Seafood Restaurant	Steakhouse	Sushi Restaurant	Wine Bar
17	Jamaica Center	2	Mexican Restaurant	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Seafood Restaurant	Steakhouse	Sushi Restaurant	Wine Bar
29	Bellerose	7	Seafood Restaurant	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Mexican Restaurant	Steakhouse	Sushi Restaurant	Wine Bar
30	Edgemere	7	Seafood Restaurant	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Mexican Restaurant	Steakhouse	Sushi Restaurant	Wine Bar
34	Rockaway Beach	10	Seafood Restaurant	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Mexican Restaurant	Steakhouse	Sushi Restaurant	Wine Bar
35	Rockaway Park	10	Bar	Seafood Restaurant	Bistro	Café	Cocktail Bar	Gay Bar	Mexican Restaurant	Steakhouse	Sushi Restaurant	Wine Bar
36	Sunnyside	10	Bar	Mexican Restaurant	Seafood Restaurant	Bistro	Café	Cocktail Bar	Gay Bar	Steakhouse	Sushi Restaurant	Wine Bar

For the borough of Queens, the number of clusters were 14. The venues that predominate are Bar, Mexican Restaurant, Café.

Brooklyn Venues

Venue Category	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude
Bar	78	78	78	78	78	78
Bistro	1	1	1	1	1	1
Café	45	45	45	45	45	45
Cocktail Bar	36	36	36	36	36	36
Gay Bar	1	1	1	1	1	1
Jazz Club	3	3	3	3	3	3
Mexican Restaurant	47	47	47	47	47	47
Seafood Restaurant	20	20	20	20	20	20
Steakhouse	7	7	7	7	7	7
Sushi Restaurant	27	27	27	27	27	27
Whisky Bar	3	3	3	3	3	3
Wine Bar	23	23	23	23	23	23

Selected Clusters

	Neighborhood	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	11th Most Common Venue	12th Most Common Venue
16	Georgetown	5	Mexican Restaurant	Seafood Restaurant	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Jazz Club	Steakhouse	Sushi Restaurant	Whisky Bar	Wine Bar
34	Manhattan Terrace	11	Jazz Club	Steakhouse	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Mexican Restaurant	Seafood Restaurant	Sushi Restaurant	Whisky Bar	Wine Bar
36	Rugby	13	Seafood Restaurant	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Jazz Club	Mexican Restaurant	Steakhouse	Sushi Restaurant	Whisky Bar	Wine Bar
48	Prospect Park South	21	Mexican Restaurant	Bar	Bistro	Café	Cocktail Bar	Gay Bar	Jazz Club	Seafood Restaurant	Steakhouse	Sushi Restaurant	Whisky Bar	Wine Bar

For the borough of Brooklyn, the number of clusters were 22. The venues that predominate are Bar, Cafe, Mexican Restaurant.

Staten Island Venues

Venue Category	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude
Bar	18	18	18	18	18	18
Café	8	8	8	8	8	8
Mexican Restaurant	13	13	13	13	13	13
Seafood Restaurant	2	2	2	2	2	2
Steakhouse	1	1	1	1	1	1
Sushi Restaurant	12	12	12	12	12	12

Selected Clusters

	Neighborhood	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue
3	West Brighton	1	Bar	Café	Mexican Restaurant	Seafood Restaurant	Steakhouse	Sushi Restaurant
4	Castleton Corners	1	Bar	Mexican Restaurant	Café	Seafood Restaurant	Steakhouse	Sushi Restaurant
5	Dongan Hills	1	Bar	Sushi Restaurant	Café	Mexican Restaurant	Seafood Restaurant	Steakhouse
6	Stapleton	1	Bar	Mexican Restaurant	Seafood Restaurant	Café	Steakhouse	Sushi Restaurant
7	Grant City	1	Bar	Mexican Restaurant	Café	Seafood Restaurant	Steakhouse	Sushi Restaurant
8	Great Kills	1	Bar	Mexican Restaurant	Café	Seafood Restaurant	Steakhouse	Sushi Restaurant
9	Rosebank	1	Bar	Mexican Restaurant	Café	Seafood Restaurant	Steakhouse	Sushi Restaurant
10	Tottenville	2	Mexican Restaurant	Bar	Café	Seafood Restaurant	Steakhouse	Sushi Restaurant
11	Richmond Valley	2	Mexican Restaurant	Bar	Café	Seafood Restaurant	Steakhouse	Sushi Restaurant
12	New Springville	2	Mexican Restaurant	Bar	Café	Seafood Restaurant	Steakhouse	Sushi Restaurant
13	Clifton	2	Mexican Restaurant	Bar	Café	Seafood Restaurant	Steakhouse	Sushi Restaurant
14	Chelsea	3	Steakhouse	Bar	Café	Mexican Restaurant	Seafood Restaurant	Sushi Restaurant
15	Richmond Town	4	Café	Bar	Mexican Restaurant	Seafood Restaurant	Steakhouse	Sushi Restaurant
16	Lighthouse Hill	4	Café	Bar	Mexican Restaurant	Seafood Restaurant	Steakhouse	Sushi Restaurant
17	Bulls Head	4	Café	Sushi Restaurant	Bar	Mexican Restaurant	Seafood Restaurant	Steakhouse
18	Midland Beach	4	Café	Bar	Mexican Restaurant	Seafood Restaurant	Steakhouse	Sushi Restaurant
24	Oakwood	6	Bar	Café	Mexican Restaurant	Seafood Restaurant	Steakhouse	Sushi Restaurant
25	Port Ivory	6	Bar	Café	Mexican Restaurant	Seafood Restaurant	Steakhouse	Sushi Restaurant
26	Shore Acres	6	Bar	Café	Mexican Restaurant	Seafood Restaurant	Steakhouse	Sushi Restaurant
27	St. George	6	Bar	Café	Mexican Restaurant	Seafood Restaurant	Steakhouse	Sushi Restaurant

For the borough of Staten Island, the number of clusters were 7. The venues that predominate are Bar, Mexican Restaurant, Sushi Restaurant.

After analyzed all the venues of all boroughs a common pattern appears in all of them. The most three common venues are Café, Bar and Mexican Restaurant.

Discussion

Several factors have been analyzed to determine which location would be suitable for Ellington to open.

After analyzed several factors such as population, income, costs and venues I have conclude that the best borough would be **Brooklyn**. This decision is based on several factors.

- One is that Brooklyn has the second biggest concentration of the target customer.
- Brooklyn may not have the highest salary of all the boroughs but is still near the median household income average and is the category in which a high group of Us citizens also are (17.4% of all US population).
- In terms of rent is in the same range as the other boroughs however Brooklyn has the highest cost for the building permits.
- For all the boroughs of New York, only in Brooklyn is found a neighborhood that has a jazz club as its most common venue, as well as having the highest number of bars with a total of 78, besides having the highest number of Cafes and Mexican Restaurants.

Conclusion

After all my analysis I would recommend **Manhattan Terrace** as the neighborhood that would help Ellington's succeed. However, I will still recommend that some surveys are made to assure that people are really interested in Ellington's concept.

- Georgetown
- Rugby
- Prospect Park South

Data Resources

- <https://www.census.gov/quickfacts/fact/table/newyorkcountymanhattanboroughnewyork,bronxcountybronxboroughnewyork,queenscountyqueensboroughnewyork,kingscountybrooklynboroughnewyork,richmondcountystatenislandboroughnewyork,newyorkcitynewyork/HSG010219>
- <https://data.cityofnewyork.us/City-Government/New-York-City-Population-by-Borough-1950-2040/xywu-7bv9>
- <https://data.cityofnewyork.us/City-Government/Projected-Population-2010-2040-Total-By-Age-Groups/97pn-acdf>

RESOURCES

- <https://ranktoday.com/20-things-to-consider-before-opening-a-restaurant/>
- <https://www.entrepreneur.com/article/73384>
- <https://www.inc.com/jeff-haden/how-to-find-the-perfect-location-for-a-new-restaurant-6-ways.html>
- <https://fitsmallbusiness.com/choose-a-restaurant-location/>
- <https://www.fool.com/the-ascent/research/average-us-income/>